

## 8.2 Biological Resources

### 8.2.1 Introduction

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

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

The following subsections and Table 8.2-1 (due to size, tables are located at the end of this subsection) describe the primary LORS that apply to potential impacts on biological resources in the project area, and list the agencies responsible for enforcing the regulations.

#### 8.2.2.1 Federal

##### 8.2.2.1.1 Federal Endangered Species Act (FESA, 16 USC 153 et seq.)

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

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

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

#### 8.2.2.2 State

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

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

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

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

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

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

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

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

**California Fish and Game Code (Sections 1601 through 1607)** prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. The limit of CDFG jurisdiction is subject to the judgment of the department, up to the 100-year flood level. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the project.

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

**Warren Alquist Act** is a CEQA-equivalent process implemented by the California Energy Commission (CEC). Preparation of this application will result in an assessment prepared by the CEC staff to fulfill the requirements of CEQA.

### **8.2.2.3 Local and Other Jurisdictions**

#### **8.2.2.3.1 Applicable Habitat Conservation Plans and Critical Habitat Designations**

The project is not located in an existing habitat conservation Plan. The project is in the broad area addressed by the *Recovery Plan for Upland Species of the San Joaquin Valley* (USFWS 1998). This plan was developed using the San Joaquin kit fox as an “umbrella species” and has the goal of preserving habitat for 11 threatened and endangered species in the Central Valley. After analyses of the project location and potential impacts from construction and operation, it is unlikely that the proposed project would significantly affect any of the species targeted in the plan.

Critical habitat has been designated under the FESA in Stanislaus County (County) for several listed species. The closest critical habitat unit for the California red-legged frog (*Rana aurora draytonii*) is located approximately 25 miles west of the project in the East Bay-Diablo

Range. Critical habitat designations for the Central Valley steelhead (*Oncorhynchus mykiss*) evolutionarily significant unit and the Central Valley fall/late fall chinook salmon (*Oncorhynchus tshawytscha*) are in the San Joaquin River and its tributaries – chiefly, the Stanislaus and Tuolumne rivers. Approximately 7 miles to the west, the San Joaquin River is the closest of these water bodies to the project. The critical habitat for the steelhead was withdrawn in April 2002 for further review. Critical habitat was proposed September 24, 2002 for 4 vernal pool crustaceans and 11 vernal pool plants. Of these, conservation units for the vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), Hoover’s spurge (*Chamaesyce hooveri*), Colusa grass (*Neostapfia colusana*), hairy orcutt grass (*Orcuttia pilosa*), Greene’s tuctoria (*Tuctoria greenei*), and succulent owl’s clover (*Castilleja campestris* ssp. *succulenta*) are located in Stanislaus County; however, none are within several miles of Turlock. The proposed project disturbance areas do not fall in any designated or proposed critical habitat areas.

#### **8.2.2.3.2 Stanislaus County General Plan**

The Conservation/Open Space Element of the County General Plan (Stanislaus 2001) contains specific objectives to preserve water quality (see Subsection 8.14) and open space (see Subsection 8.9) that have benefits to biological resources. It also contains specific policies and goals for protecting areas of sensitive plant and wildlife habitat and for assuring compatibility between natural areas and development. Conservation policies applicable to the project are summarized in Table 8.2-2.

#### **8.2.2.3.3 City of Turlock General Plan**

The General Plan states that no lands in the Planning Area, which includes the WEC project site, are designated specifically for the purpose of preserving natural resources. It further asserts that no state- or federal-listed species is “known to exist with certainty in the Planning Area (City of Turlock 1993a).” The Open Space and Conservation Element mentions that agricultural land classified as Open Space for Resource Management may serve as habitat or foraging areas for a variety of species. The plan also states that there are no riparian areas or vernal pools in the Planning Area. Policies described in the plan focus on increasing efforts to identify biological resources and creating suitable habitats with the design of new open spaces such as large community parks. The Turlock City General Plan was subject to review and revision in 2002. Conservation policies applicable to the project are summarized in Table 8.2-2.

### **8.2.3 Environmental Setting**

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

#### **8.2.3.1 Regional Overview**

The proposed WEC site is located in the northern part of the San Joaquin Valley in Stanislaus County. The San Joaquin Valley is situated in the southern half of California’s Central Valley, between the Sierra and Coast ranges, extending from Stockton south to Bakersfield. The foothills that rise to the Sierra Nevada are 50 miles east of the project. The

Diablo Range portion of the Coast Range is 25 miles to the west. The San Joaquin River drains the northern half of the Valley and is approximately 7 miles west of the site. The San Joaquin River flows north and drains to the Sacramento-San Joaquin River delta, approximately 50 miles northeast of Turlock. The Tuolumne and Merced rivers are approximately 9 miles to the north and south of the site, respectively (Figure 8.2-1). The San Luis National Wildlife Refuge is approximately 12 miles south of the site, south of the Merced River.

The WEC site and water supply lines lie in the City of Turlock's (City's) urban service area with the electric transmission line and natural gas pipeline extending from the site into Stanislaus County jurisdiction. The site is bordered on the north by the Foster Farms Foster Commodities – West Main facility, on the west by South Washington Road, and on the south and east by cornfields. Figures 8.2-2a through 8.2-2h include project feature locations and biological resources identified on aerial photos at 1:6,000 scale.

The primary land uses in the project vicinity are farming and industrial. The project site is zoned industrial and is temporarily used to grow field corn in the summer months and winter wheat or oats during the fall/winter seasons. The site is at 85 feet in elevation. The primary water conveyance features in the project area include irrigation canals and drainages that are managed by individual farmers through Improvement Districts that are overseen by the Turlock Irrigation District. There are no Significant Natural Areas or Designated Ecological Reserves in the project area.

The region's climate is arid, characterized by hot, dry summers and moderate, wet winters. Summer temperatures frequently exceed 100 degrees Fahrenheit (°F) and winter temperatures are generally mild, with fewer than 10 freezing days per year. Rainfall averages 12 inches per year, most of which falls between November and April.

The following subsections describe the types of habitat found in the project impact areas. Special-status species that are known or have the potential to occur in the project impact areas are listed in Table 8.2-3 and described in Subsection 8.2.3.3. A comprehensive list of special-status species obtained from USFWS, CDFG, and local experts that was used to evaluate project impacts to sensitive biological resources is included in Appendix 8.2-A.

### **8.2.3.2 Habitat and Vegetation Communities**

Habitat types potentially affected in the project area comprise agricultural fields, irrigation canals and drainages, fragmented riparian habitat, ruderal roadsides, industrial, commercial, landscape, and small residential farms (see Figures 8.2-1 and 8.2-2a through 8.2-2h).

#### **8.2.3.2.1 Agricultural Fields**

Agriculture dominates both the project site and habitat along the linear project features. Habitat on the project site is intensively farmed for corn and winter oats/wheat. Surrounding areas and most of the linear corridors are adjacent to fields of corn, alfalfa, hay, and row crops. There are also smaller areas of grapes and orchards. Farming is intensive, resulting in the removal of native vegetation, and farm fields are plowed or graded up to the edge of rural roads and highways. Irrigation ditches are either cement-lined or shallow, temporary structures formed by a tractor-mounted plow and rarely support any vegetation.

Vegetation species present are almost exclusively agricultural crop, maintained in a weed-free state. Special-status plant species known from the vicinity are primarily vernal pool species and are not expected to occur at the site or along the linears.

The wildlife species that commonly use corn, alfalfa, hay, and row crops are generally wide-ranging species that are highly adaptable. American crows, Brewer's blackbirds, mourning dove, Northern mockingbird, house finch, and house sparrows are common in the area. Large, soaring raptors (e.g., red tail hawks and Swainson's hawks) often forage in alfalfa, hay, and row-crop fields. California hare, coyote, and striped skunks are also relatively common. Mallard ducks, American coot, and pied-billed grebes use tailwater ponds and slow-moving irrigation ditches. This habitat type is regionally abundant and the species that occur there are generally widely distributed and common.

#### **8.2.3.2.2 Irrigation Canals and Drainages**

A significant factor in converting the arid San Joaquin Valley for intensive agriculture was the implementation of widespread irrigation. These canals both supply water to agricultural fields and drain tailwater back to detention basins or to canals and drainages that lead to Lateral No. 5, Harding Drain, and the San Joaquin River. Upstream of Prairie Flower Road along Harding Road, the Harding Drain is cement-lined and referred to as Lateral No. 5. Drainage ditches in the proposed construction areas vary in size from approximately 3 to 6 feet wide and do not support fish because they are seasonally dry. These ditches are primarily found along roadsides and are generally kept clear of aquatic and riparian vegetation. There are several irrigation canals and drainage ditches along the county roads that are operated by individual Improvement Districts, which are overseen by TID. Some are cement-lined and others are excavated in soil. There are cement-lined canals along W. Linwood Avenue and Commons Road that drain to Lateral No. 5 and Harding Drain. Water for agricultural activities in the project area is diverted from the Tuolumne River and used for irrigation prior to being discharged through a series of canals and ditches into Harding Drain. Harding Drain empties into the San Joaquin River by gravity flow through flap gates approximately 7 miles west of the site. Sacramento splittail and anadromous fish (e.g., salmon and steelhead) could potentially enter the lower dirt-lined portion of Harding Drain through the flap gates; however, a water-flow control and measuring device at Prairie Flower Road probably precludes fish from entering upstream reaches in Lateral No. 5, including the proposed location of the gas pipeline crossing at Commons Road.

Wildlife that may use vegetated portions of irrigation ditches/canals include giant garter snake, egrets, herons, song birds, raccoon, opossum, and coyotes that feed on crayfish, tadpoles, and mosquito fish. Mallard ducks and other migratory waterfowl may use ditches that have some remaining cover, and red-winged blackbirds could use patches of cattails in the ditches as nest sites. None of the canals in the project impact areas contain suitable vegetation for significant wildlife use.

None of the farmer-maintained irrigation/drainage canals would be considered jurisdictional wetlands by the United States Army Corps of Engineers (USACE), since they were most likely excavated in upland soils (lack hydric characteristics), lack vegetation (no hydrophytic vegetation), and are maintained solely for manmade water supplies (i.e., no natural hydrology). No special-status species were observed or are known or expected to inhabit the drainages in the project impact areas.

### **8.2.3.2.3 Fragmented Riparian Communities**

A small, fragmented riparian habitat occurs immediately north of the WEC site and south of the Foster Farms railroad track. The riparian habitat encompasses approximately 0.5 acres and includes Fremont cottonwood, black walnut, mulberry, and tree-of-heaven. Riparian trees are adapted to wet areas and require a significant water supply. The fragmented habitat is adjacent to an isolated 5-foot-deep, 10-foot-wide channel that is used to irrigate the crops on the site. This area is maintained by water released to irrigate the corn fields to the east and west of the riparian patch. Tall trees in the area provide potential nest sites for raptors (e.g., Swainson's hawk, Cooper's hawk, white-tailed kite, and red-tailed hawk). None of the irrigation or drainage canals in the project area support riparian communities.

### **8.2.3.2.4 Ruderal Roadside Communities**

The dominant habitat type in the county road rights-of-way is bare ground with ruderal (weedy) plant species. This sparse non-native habitat includes areas in which grasses and/or ruderal plant species form the dominant plant cover. Roadside ruderal habitats are found at the edges of farmed fields, in open fallow fields, or along railroad and highway rights-of-way with compacted substrates. These areas are typically kept free of vegetation (purposely or from continual disturbance) and used for farm equipment access, drainage ditches, utility line rights-of-way, or other activities related to industrial and agricultural use. Habitat along the railroad tracks typically contains ruderal vegetation communities. Ground squirrels, hares, and other small mammals often construct underground burrows in the friable soils of the railroad berms. These burrows can subsequently provide shelter habitat for other wildlife, including lizards, snakes, amphibians, or burrowing owls.

### **8.2.3.2.5 Industrial, Commercial, Landscaped, and Small Residential Farm Communities**

The City of Turlock supports residences and industrial, commercial, and urban uses east of the project site. Houses, streets, and parking lots tend to be planted with garden plants (e.g., prickly pear, azalea, oleander, bottlebrush, rose, eucalyptus, and other ornamental species). The availability of water, shady cover, and insects makes the yards and landscaping around urban areas attractive to certain adaptable species, but these tend not to include many natives. Dominant wildlife in these areas include common species (e.g., house sparrow, house finch, Northern mockingbird, yellow-billed magpie, western meadowlark, mourning dove, American crow, and American robin). There are mammal species (e.g., raccoon, opossum, house mice, Norway rats, California ground squirrels, and domestic or feral cats and dogs). These species tend to be those that are highly adaptable, widespread, and common. Landscape and urban habitats dominate the eastern portion of the proposed water pipeline alignment.

The residential farms primarily support pasture for livestock (e.g., cows, goats, and poultry). Several cattle dairies are located along the water and gas pipeline alignments. Pastures contain suitable habitat to support prey species (e.g., lizards, field mice, rats, gophers, ground squirrels, and black-tailed hare for predators). Predators that could occur in the project area include raptors, coyote, and domestic dogs and cats. Special-status raptors (e.g., Swainson's hawk and burrowing owl) are found in the area and pasture habitats could provide suitable forage habitat for them.

### 8.2.3.3 Special-Status Species

A list of special-status plant and animal species was compiled for the project area based upon the following references: the CDFG California Natural Diversity Data Base (CNDDDB); California Native Plant Society's (CNPS) Electronic Inventory; a USFWS species list requested for Stanislaus County; informal consultations with agency personnel; and project-specific onsite field surveys. A comprehensive list of special-status species compiled from the agency lists is provided in Appendix 8.2-A. The list includes species listed as threatened or endangered that have special requirements under the FESA and California Endangered Species Acts (CESA) and other non-listed special-status species that could become listed in the future. The table includes the habitat types that could support these species as well as the potential for occurrence in the project area.

Preliminary surveys, habitat evaluations, and aerial photographs suggest that the site and proposed linear project features are not located in important sensitive areas. Table 8.2-3 presents a pared-down list of the special-status species that were evaluated as potentially occurring in the project area. Table 8.2-3 also includes any special-status species whose habitat(s) and/or known distribution are present in the WEC project area evaluated for potential impacts from construction and WEC operations. Other special-status species that were included on the USFWS, CDFG, and CNPS lists whose habitats or known distribution do not occur in the project area are included in Appendix 8.2-A, but were not evaluated further. Species with suitable habitat, that may be seasonally present in the area, and that require further analysis to determine presence were included in Table 8.2-3 until further analysis is complete. Sensitive biological resources that may require additional surveys and project analysis include vernal pool crustaceans and plants, presence of winter migratory birds, and active Swainson's hawk and burrowing owl nesting sites. Results of these surveys will provide additional guidance for final placement of project features and appropriate avoidance and/or minimization measures, if necessary.

The reference information is based on known occurrences, historical records, or the presence of suitable habitat for any given life stage of a particular species. The known locations of special-status species identified in the CNDDDB records for the associated Turlock U.S. Geological Survey (USGS) quadrangle are shown on Figure 8.2-1.

Initial field surveys were performed by CH2M HILL biologists on September 3 and October 2, 17, and 30, 2002. Additional surveys will be conducted for specific species during the appropriate seasons. The qualifications of field biologists are provided in Appendix 8.2B.

#### 8.2.3.3.1 Special-Status Plants

Information acquired from the CNDDDB, CNPS, and other sources resulted in a list of 13 special-status plants species that could occur in Stanislaus County (Appendix 8.2-A). Most of these species are associated with natural habitats that were once prevalent in the project vicinity but have since been lost to extensive agricultural development. Habitat modification, weed control, and irrigation practices have forced these species into remnant pockets of marginal habitat. They are primarily associated with grassland, vernal pool, and wetland habitats. Recent records indicate no observations of special-status plant species in the proposed project work areas. The absence of historical records may be due to the lack of previous surveys performed in the area. Project-specific field surveys will be conducted during the appropriate blooming periods for the special-status plants to determine if they

occur in the project impact areas and to further characterize the potential of available habitat in the vicinity. Potential habitat may be found along the ruderal margins of fields, roads, and railroad corridors where sandy soils and ponding areas (e.g., vernal pools) may persist. There may also be potential habitat for wetland plant species along agricultural ditches. Only one of the 13 species, Merced monardella (*Monardella leucocephala*), was considered to have any potential to occur in the existing project area (Table 8.2-3), although it is most likely extinct. Additional botanical surveys to look for vernal pool associated plant species will be conducted in Spring 2003.

#### **8.2.3.3.2 Special-Status Animals**

Information acquired from the CNDDDB, USFWS, and other sources resulted in a list of 67 special-status wildlife species whose occurrence has been previously recorded in Stanislaus County (Appendix 8.2-A). Of these, none have been recorded or observed in the project disturbance areas, although 36 may have the potential to occur in the project area (Table 8.2-3). Their potential for occurrence is dependent on available suitable habitat on the project site or along the project linears. The potential for occurrence is low due to the predominance of intensive agriculture that characterizes the area. The following paragraphs briefly describe the potential for special-status animals to occur in the project disturbance areas.

#### **Vernal Pool Crustaceans and Plants**

Vernal pools provide habitat for a number of special-status plant and wildlife species in the Central Valley. This includes four federal threatened or endangered vernal pool branchiopod species that have been recently recorded in Stanislaus County, including vernal pool fairy shrimp (*Branchinecta lynchi*), Conservancy fairy shrimp (*Branchinecta conservatio*), longhorn fairy shrimp (*Branchinecta longiantenna*), and vernal pool tadpole shrimp (*Lepidurus packardi*). Vernal pools and seasonal wetlands can form on soil surfaces where ponded water forms for at least 2 weeks during the wet season. Road shoulders, railroad corridors, non-irrigated pastures, and fallow fields in the project vicinity provide potential locations for the formation of vernal pools. No evidence of vernal pools was observed during the dry season surveys; however, these areas will be investigated following winter and early spring rains in order to identify potential fairy-shrimp habitat. Critical habitat was proposed by the USFWS on September 24, 2002, for listed vernal pool branchiopods and plants. The WEC project area does not fall in critical habitat for vernal pool fairy shrimp or plants (Federal Register 2002).

#### **Fish Species**

The project area is not adjacent to significant natural aquatic features. This includes tributaries to creeks and rivers that would provide habitat for Sacramento splittail (*Pogonichthys macrolepidotus*), a federal threatened species, or anadromous fish. Anadromous fish (e.g., Central Valley steelhead [*Oncorhynchus mykiss*], a federal threatened evolutionarily significant unit [ESU], and chinook salmon [*Oncorhynchus tshawytscha*]) migrate from the Pacific Ocean to fresh water spawning grounds in the Sacramento, San Joaquin, and Stanislaus rivers. California's Central Valley contains habitat for four runs (races) of chinook salmon: spring-run, fall-run, late-fall run, and winter-run. The river system supports all freshwater life stages of chinook salmon during all months of the year.

Agricultural irrigation and drainage water in the project area flows to the San Joaquin River through the Harding Drain. Harding Drain empties into the San Joaquin River approximately 7 miles west of the site. Water drains to the river by gravity flow through

flap gates. Although Harding Drain is not considered habitat for spawning fish, fish can enter through the flap gates (Ford 2002). Fish that enter the drain most likely do not thrive due to unfavorable water temperatures and lack of spawning substrate in the drain. Water for agricultural activities in the project area is diverted from the Tuolumne River and used for irrigation prior to being discharged through a series of canals and ditches into Harding Drain (Baysinger 2002). The confluence of the Tuolumne River with the San Joaquin River is downstream of Harding Drain. Stray fish in Harding Drain could be vulnerable to sedimentation and changes in water quality from construction activities, including the potential for drilling mud to enter the drain during (HDD) processes.

### **Western Pond Turtle**

The project area contains irrigation ditches that may provide marginal habitat for common and special-status reptile and amphibian species. There is a CNDDDB account of a western pond turtle (*Clemmys marmorata*), a federal Species of Concern, within three miles of the project area (Figure 8.2-1). This individual was observed in an irrigation canal. Canals and other water features in the project area could support western pond turtle. This species is highly aquatic but lays eggs in upland areas. Because agriculture activities extend to the canal banks, it is unlikely that construction activities adjacent to these artificial habitats would significantly impact turtles or other aquatic wildlife.

### **Giant Garter Snake**

Another such reptile species is the giant garter snake (*Thamnophis gigas*), a federal and state threatened species. There are no recent CNDDDB records of this snake in the project vicinity. The closest occurrence was recorded in 1987 from the Kesterson Wildlife Refuge, approximately 19 miles from the project area. This highly aquatic snake can be found in artificial water features that support wetland plants used for cover and prey species (e.g., small fish, frogs, and tadpoles). They are actively foraging in warm months from May through September, hibernate in underground burrows (hibernacula) from October through April, and are highly susceptible to earthmoving equipment during this time. It is unlikely that giant garter snakes would occupy the concrete-lined and primarily vegetation-free irrigation canals in the project vicinity. Potential giant garter snake habitat may occur in the downstream portion of Harding Drain and near Gomes Lake approximately 8 miles northwest of the project site.

### **Amphibians**

Other species that depend on aquatic resources for portions of their life history have a similar limited potential to occur in the project vicinity, including amphibian species (e.g., California tiger salamander [*Ambystoma californiense*] and western spadefoot toad [*Scaphiopus hammondi*] that inhabit vernal pool habitats, and the California red-legged frog [*Rana aurora draytonii*] that inhabits riparian areas along streams with side pools). Available natural habitat for these species is marginal or nonexistent in the project vicinity. Tiger salamanders and spadefoot toads take cover while in open areas and rely on ephemeral pools that last at least 3 months for breeding. They use underground burrows as aestivation habitat. The highly modified and frequently maintained ruderal character of the project vicinity is not conducive to occupation of these species, and sludge ponds at dairies are high in nitrogen and contaminants that could adversely affect amphibians. The same is true for the California red-legged frog, which is associated with significant aquatic and riparian areas not present in the project area. Frog and salamander populations have also been associated with constructed stock ponds and other artificial standing water habitats with

vegetation cover; however, no such habitats have been identified in the project area. Although federally designated critical habitat is in Stanislaus County within approximately 25 miles of the site, no Critical Habitat occurs in the affected area and no required habitat elements are present.

### **Swainson's Hawk**

The Swainson's hawk (*Buteo swainsoni*), a state threatened species, is found throughout the agricultural areas of the Central Valley, including Stanislaus County. Swainson's hawks often nest in trees adjacent to crop fields (e.g., alfalfa, hay, and row crops) where prey species provide forage for Swainson's hawks. Swainson's hawks are known to forage up to 10 miles from a nest tree. Nest locations have been previously recorded within approximately 7 miles of the project area and several isolated, potential nest trees are present along farm roads, perimeters of fields, in residential landscape areas, and in the small riparian habitat north of the site. Most of these trees are landscape shade trees associated with residences and farms. No trees are expected to be removed as part of the project; however, noise during construction activities could disrupt and potentially cause the failure of nesting efforts.

### **Western Burrowing Owl**

The Western burrowing owl (*Athene cunicularia*), a federal and state species of concern, could potentially forage over the agricultural fields and nest in underground burrows in the project area. Although intensive agricultural practices make the habitat marginally suitable for nesting, burrowing owls may find nesting opportunities along the margins of agricultural fields, in open fallow fields, or along the railroad corridor where ground squirrel burrows provide nesting sites and shelter. While they occur from Canada to South America, their habitat in California and western states is being reduced by land conversion for urban and agricultural uses. Most burrowing owls in this region are residents; but some owls are migratory, spending winters nearby or in Southern California or Mexico and appearing in the San Joaquin Valley to breed in summer. Burrowing owls use mammal burrows dug by ground squirrels, skunks, and hares for shelter and nesting. Appropriately sized burrows are nearly absent from agricultural areas due to frequent soil disturbance and pest control measures. Ground squirrels are often poisoned in agricultural areas and poison bait stations were observed along the railroad tracks northwest of the site. Although no active nest sites appeared in the CNDDDB records and no owl sign was observed during reconnaissance-level surveys of the project area, additional nesting-season surveys will be conducted in potentially suitable areas (e.g., the railroad berm). Dispersing owls may later colonize burrows in suitable habitats that have not been used before. Historically, burrowing owls were observed near Gomes Lake approximately 8 miles northwest of the project site (Ford 2002).

### **Resident and Migratory Birds**

California horned lark (*Eremophila alpestris*), and tricolored blackbird (*Agelaius tricolor*) could potentially forage over the agricultural fields in the project area. Horned larks are a California species of concern and are resident birds in California, where they are often associated with open areas with low vegetation. This species is a ground nester whose nesting habitat would be limited to pastures, as well as the margins of field and transportation corridors. None were observed during field surveys. Tricolored blackbird nesting colonies are associated with densely vegetated wetland areas, including stock ponds and other artificial wet areas in the Central Valley. There are no wetland habitats in the

project area; however, the surrounding agricultural fields do provide potential forage for tricolored blackbirds.

The project area is not adjacent to wetland or riparian areas where bird species (e.g., snowy egret [*Egretta thula*], great egret [*Ardea alba*], and great blue heron [*Ardea herodias*]) would be found nesting. These birds are colonial nesters that set up rookeries in tall trees near water, typically in remote riparian habitats. They are likely to forage in the adjacent fields and pastures on mammal and reptile species, as well as on fish and amphibians in the irrigation canals.

### **Mammals**

The San Joaquin pocket mouse (*Perognathus inornatus inornatus*), a California species of concern, occurs in sandy soils at the base of shrubs in open grassland and scrub areas with little disturbance. The project disturbance areas are routinely disturbed from farm equipment and the San Joaquin pocket mouse is not expected to occur in the project area; however, railroad berms may provide marginally poor habitat. Additional field surveys for potential habitat and occurrences will be included in spring 2003 nest surveys for burrowing owls.

San Joaquin kit fox (*Vulpes macrotis mutica*), a federal-listed endangered and state-listed threatened species, occurs primarily in open grasslands and farm land in the Central Valley. There are no known records within 10 miles of the project site. The potential for resident San Joaquin kit fox is low due to the limited availability of den site opportunities and the limited availability of small mammal prey. USFWS confirmed the low probability of kit fox occurring in the project area (Johnson 2002 and Zerrenner 2002).

### **8.2.3.4 Biological Surveys**

Biological resources evaluated for project impacts include vegetation communities, wetlands, wildlife, and wildlife habitats in all the temporary and permanent project impact locations. The surveyed areas include the proposed 18-acre plant site, the 51-acre temporary laydown area, an area one mile out from the plant site, and the areas within 1,000 feet of either side of the proposed natural gas pipeline route, recycled water and potable water supply pipeline routes, and the electric transmission line connection area. Construction of the utilities requires a construction zone of 50 to 75 feet; therefore, a 2,150-foot wide corridor was surveyed along the routes. The field surveys focused on a 75-foot construction zone along either side of the utility routes and immediate construction areas on the site and laydown area. The general project vicinity is dominated by agricultural use, so survey efforts concentrated on "edge" areas where natural habitat may persist or where native species may persist. The field surveys were aided by aerial photographs, which helped identify land uses. The presence, or potential presence, of sensitive biological resources was determined from information gathered during field surveys conducted for the project, published and unpublished literature, and natural resource agency databases.

Biological surveys for the project area and general vicinity were performed by biologists from CH2M HILL on September 3, and October 2, 17, and 30, 2002. Surveyors' qualifications are provided in Appendix 8.2B. Additional surveys will be conducted for specific species during the appropriate seasons, including the wet season for vernal pool species and spring/summer for flowering plants and nesting raptors.

## 8.2.4 Environmental Consequences

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of project construction, operation, maintenance, and decommissioning of the WEC project and supporting facilities. A summary of potential project impacts is presented in Table 8.2-4.

### 8.2.4.1 Standards of Significance

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

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

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

Construction of the WEC plant site and access roads would permanently remove up to 18 acres of land farmed in corn and oats/wheat. Temporary impacts would occur on 51 acres for the construction laydown area (Figure 8.2-2c). The quality of the land as wildlife habitat is marginal but could be used seasonally by foraging birds and small mammals. The parcel has been designated for industrial development by the City of Turlock and is planned for development, with or without the project.

#### 8.2.4.2.1 Special-Status Species

No threatened or endangered plants or animals were observed in the agricultural field or fragmented riparian habitat on site during the field surveys. No records of historical sightings were included in the CNDDDB for the area. The following paragraphs describe the potential for some species to occur.

The site and laydown areas are dominated by agricultural development and, although the area most likely does not support habitat for any special-status plant species, additional botanical surveys will be conducted during the spring/summer 2003 blooming period to verify these results.

The project site and laydown areas do not include preferred forage habitat for Swainson's hawk; however, potential nest trees may occur in the fragmented riparian habitat immediately north of the site. No stick nests were observed in these trees during surveys in

Fall 2002; however, hawks could potentially nest in any large tree within 10 miles of suitable forage habitat in any given year. Tall trees along roads and field edges in association with residences and farms could also provide suitable nest sites. Preconstruction field surveys (conducted under CDFG guidelines) to identify active nest sites will be conducted in the spring (April, May, and June), before construction begins. If nest sites are found within 0.5 mile of a project activity, the designated biologist or appropriate representative identified by the designated biologist will monitor the behavior of the nesting birds in relation to project activities. The designated biologist, in conjunction with the CDFG warden, will postpone work in that area if it appears the activities will obviously impede reproductive success.

Although no burrowing owls or burrowing owl signs were observed during Fall 2002 field surveys, the railroad berm north and east of the site contains small mammal burrows that could provide suitable nesting sites for burrowing owls. The burrowing owl nesting season is typically from February 1 through August 15. Preconstruction field surveys (conducted under CDFG guidelines) to identify active nest sites will be conducted in the spring (February, March, April, May, and June) before construction begins. If active nest sites are found, protection measures will be implemented (see Subsection 8.2.5).

There is no evidence that San Joaquin kit fox occur on or near the project site. The USFWS and Caltrans biologists confirmed the low probability of kit fox occurring in the project area (Zerrenner 2002 and Johnson 2002).

No evidence of vernal pools was observed on site during the dry season surveys; however, this area will be investigated following winter and early spring rains to identify potential fairy shrimp habitat.

#### ***Wetlands and Waters of the U.S.***

No jurisdictional wetlands or waters are present on the project site. The project would not cause loss or fill of any wetlands. Irrigation and drainage canals that support wetland or riparian vegetation (e.g., in the fragmented riparian area north of the site) could be considered habitat for wildlife by CDFG and could require a streambed alteration agreement if affected.

There would be no operational cooling water discharge from WEC, as it is a zero-discharge plant, and therefore no adverse impact to wetlands or water quality is expected to occur from this source.

Water will be applied to the site for dust control during construction. Erosion and sediment washed into surface waters would be potentially harmful to water quality of adjacent drainage canals and species that occupy them. The Applicant would be required to have a Stormwater Pollution Prevention Plan (SWPPP) as part of compliance with a construction National Pollutant Discharge Elimination System (NPDES) permit. The permit specifies best management practices (BMPs) to avoid sediment runoff and erosion that would cause water quality degradation.

#### ***Cooling Tower Drift***

Cooling tower drift is the fine mist of water droplets that escape the cooling tower's mist eliminators and are emitted into the atmosphere. Cooling towers concentrate the particulates (total dissolved solids) during the cooling process and produce a salt mist. Salts can physically damage leaf cells, which affects the photosynthetic ability of the plant. Other

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

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

Assuming a particulate deposition rate of 2 centimeters per second and a maximum salt concentration of 0.0895 micrograms per cubic meter (the cooling tower particulate matter deposition rate), the expected deposition rate is  $0.056 \text{ g}/\text{m}^2/\text{year}$ , which is significantly less than levels expected to cause barely perceptible effects to the most sensitive crop plants.

### ***Cooling Effluent***

Water for the WEC power plant operations will be recycled water supplied by the Turlock Waste Water Treatment Plant (WWTP). Since the WEC project will draw recycled water, there will be no mechanism to affect fish or other biota from securing water for operations.

### ***Noise and Lights from Plant Operations***

The WEC site is zoned industrial. Although the site is currently in agriculture, there are several industrial facilities adjacent to the site. These facilities typically operate 24 hours per day, 7 days per week and have standard industrial lighting and significant noise. Operation of the plant would produce some noise, as described in Subsection 8.5. Noise and construction activities could temporarily prevent wildlife from foraging and nesting adjacent to the site. Generally, noise from operations would not adversely impact wildlife, as wildlife usually becomes accustomed to routine background noise.

Bright night lighting could disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). Night lighting is also suspected to attract migratory birds to areas and, if the lights are on tall buildings or heat recovery steam generator (HRSG) stacks, collisions could occur. However, the HRSG stack height is below the height of Foster Farms silos and the existing electric transmission lines and lighting, if required, will be pointed down to minimize impacts.

### ***Impacts to Trees***

A small patch of riparian trees comprising approximately 0.5 acres is located in the northwest corner adjacent to the project site. These trees were established by agricultural runoff and represent a mixture of native and nonnative species. Since these trees are not on the project site, they will not be removed during construction. None of the trees are heritage tree species. The City of Turlock tree ordinance only applies to street trees.

### ***Potential for Collision and Electrocutation Hazard to Birds***

The project would construct two HRSG stacks, as high as 132 feet, and electric transmission lines that could potentially result in bird collisions. Most bird collisions involve nocturnal migrants flying at night in inclement weather and low-visibility conditions, colliding with

tall guyed television or radio transmission towers (CEC 1995; Kerlinger 2000 in *Final Staff Assessment for Contra Costa Power Plant*). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features (e.g., ridge tops) or when inclement weather forces them down closer to the ground. The project area is not known to be a path for nocturnally migrating birds. There are no topographic or ecological features that would attract birds to this location or “funnel” them into the vicinity of exhaust stacks or other elevated features of the project. Bird collisions with the new 1,950-foot-long 115-kV and 670-foot-long 69-kV electrical transmission connections are expected to be rare due to relatively low pole heights (approximately 70-110 feet) and the lack of proximity to migratory pathways, ridgetops and concentrations of waterfowl. Because of the relatively low structure height and lack of guy wires, the potential for bird collisions with stacks, poles, electric conductor wires, structures, and towers of the project is considered less than significant.

Large raptors, herons, and egrets can be electrocuted by transmission lines when a bird’s wings simultaneously contact two conductors of different phases, or a conductor and a ground. The installation of transmission lines and poles will be constructed according to “raptor-friendly” guidelines (Avian Power Line Interaction Committee [APLIC 1996]). The 69-kV and 115-kV electrical transmission lines for the project will be constructed with at least a 5.5-foot span between conductor wires similar to the existing 69-kV and 115-kV lines south and west of the site. The additional segments would not increase avian electrocutions in the area. Risk of electrocution is not expected to be significant since the area does not attract large numbers of birds. In addition, the “raptor-friendly” design would reduce potential impacts to less than significant.

#### **8.2.4.3 Impacts of Natural Gas Pipeline Construction and Operation**

The proposed gas pipeline alignment is 3.6 miles long and follows county roads from the Pacific Gas & Electric (PG&E) Line 215 connection on Bradbury Road, north on Commons Road, and east along the railroad tracks to the site.

The primary method of construction includes excavation of an open trench approximately 4 feet deep and 3 to 7 feet wide, depending on site-specific soil type. A 250-foot pipeline construction corridor will be used to provide the flexibility to locate the pipeline on either side of Commons Road and the railroad tracks. During construction, however, only an area 50 to 75 feet wide will be disturbed. The specific location of the pipeline will be determined based upon the avoidance of any sensitive environmental resources, ability to obtain right-of-way, and the location of existing pipelines. The temporary construction corridor will be used to store the excavated soil, provide access for equipment and vehicles, and space for welding the pipeline prior to installation and backfill.

The Lateral No. 5 canal will be crossed by the pipeline on Commons Road. It will be crossed during the dry season or a trenchless construction method (such as jack-and-bore or horizontal directional drilling [HDD]) will be used.

Construction would require temporary impacts on the corridor (e.g., vegetation clearing, trench excavation, compaction, dust generation, and restoration). There are no significant habitats present that would be adversely affected by temporary use. The temporary construction disturbance area encompasses a maximum of 33 acres of roadside ruderal

habitat. The temporary construction corridor would be restored to preconstruction conditions after construction and therefore would sustain no long-term adverse impacts.

A cement-lined canal parallels a portion of Commons Road on the west side approximately 5 to 6 feet from the road pavement. The pipeline would be constructed in this 5- to 6-foot wide area adjacent to the pavement or on the east side of the road and the temporary construction corridor would extend into one lane of the roadway.

The impacts from construction would be temporary and less than significant.

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

Construction of the gas pipeline is confined to rural road shoulders adjacent to agricultural fields and residences. Potential impacts on biological resources are minimized by locating the pipeline in a previously disturbed and relatively unvegetated (from farming and residential activities) roadside shoulder. The work area may be adjacent to marginal habitat for special-status species (e.g., Swainson's hawk and burrowing owls). Burrowing owls could occur along the road and railroad berms where burrows may be present. Swainson's hawks may establish nests in nearby trees. If active nest sites are found in the project area, approved CDFG protection measures will be implemented. Implementation of environmental awareness training, preconstruction surveys, and seasonal avoidance as described in Subsection 8.2.5 would reduce impacts to nesting birds to less-than-significant.

Special-status species (e.g., giant garter snake, western pond turtle, Sacramento splittail, Central Valley steelhead, and chinook salmon) could be found downstream of the crossing of Lateral No. 5 at Commons Road. If the HDD construction method is used and a frac-out occurs, these species could be affected if excessive amounts of drilling mud enter the waterway. Implementing the contingency plan for a frac-out would minimize and contain drilling mud prior to reaching downstream reaches in Harding Drain. The drilling mud would be vacuumed into a frac truck and disposed off site in an approved landfill. Because the roadside areas, drainages, and Lateral No. 5 do not represent high-quality wildlife habitat, construction of the gas pipeline would not result in significant impacts to biological resources.

No evidence of vernal pools was observed during the dry season surveys and none was recorded for the area; however, the road edges and other suitable areas will be investigated following winter and early spring rains in order to identify potential fairy shrimp habitat.

### ***Wetlands and Waters***

The gas pipeline will not cross any jurisdictional wetlands or navigable water features but will be located adjacent to irrigation and drainage canals and would cross under Lateral No. 5. Construction of the gas pipeline would parallel and cross arterial and minor irrigation ditches and drainages that are managed by TID and individual farmers. These drainages receive flow from manmade sources, including irrigation supply, irrigation tailwater, and stormwater. Although small, some of these ditches may retain wetland features in some years (when farmers have not cleared vegetation annually) that could provide marginal habitat to certain biological resources (e.g., mosquito fish, raccoon, opossum, herons, and egrets).

Such water bodies are generally discontinuous and are often dry for 4 to 6 months per year (generally in early winter months), with the exception of Harding Drain, which contains agricultural and city runoff flows year round. Construction of the pipeline would

potentially disrupt wildlife species that may forage along the canals. TID proposes to construct in these locations either by using trenchless (jack-and-bore or HDD) methods, or by trenching through the drainage during the dry season when most significant biological resources are absent. A Nationwide Permit 12 from USACE and/or a Streambed Alteration Agreement from CDFG, with conditions to reduce potential adverse impacts to wildlife and water quality downstream of the crossing, may be required to cross water features in the area. Temporary potential impacts to aquatic species downstream of the construction area could also occur if inadvertent return of drilling mud (most often referred to as a “frac-out”) escapes through a fissure in the soil structure or seams in the cement lining to the surface. The drilling mud (normally bentonite) is a non-toxic clay material often used as an impervious layer in wetland construction and by farmers as a soil enhancement. When drilling mud enters a waterway, it can smother benthic invertebrates, aquatic plants, fish eggs, and young fish. If the HDD construction method is used, a contingency plan will be developed for the WEC HDD activities prior to construction as part of any permit applications. The plan outlines how an inadvertent return of drilling mud will be minimized, contained, and cleaned up. It also presents emergency contact numbers and a spill response team to contact in case of excessive spills. Because the roadside areas, drainages, and Lateral No. 5 do not represent high-quality wildlife habitat, construction of the gas pipeline would not result in significant impacts to biological resources.

The pipeline will require pressure testing after construction to ensure welds are tight and to remove any accumulated dust or welding residue from the pipeline. To do this, the pipe is filled with water and pressurized, resulting in a potentially large volume of water. If disposed improperly this water could cause adverse effects on wetlands and the water quality of receiving waters. TID proposes to dispose pipe-testing water to an approved temporary detention basin structure on the project site. A typical detention basin could consist of a depression constructed and lined with haybales or wattles and geomembrane. Water disposed into the top of the basin is filtered thoroughly through the bales before percolating into the ground. The method effectively prevents local erosion and significant sedimentation of surface waters. Disposal to such a detention basin, or to an alternate facility by agreement of CEC, would ensure impacts of wastewater disposal are less than significant.

#### **8.2.4.4 Impacts of Recycled and Potable Water Supply Pipeline Construction and Operation**

The project will use recycled water for the majority of its water needs. The water will be provided from the WWTP, located 1.6 miles east of the project site (Figure 8.2-2d). The alignment is in roadside habitats along Ruble Road (a dirt road), Tegner Road, and farm roads. A new 12- to 24-inch-diameter pipeline will be constructed to serve the WEC plant with recycled water. The City is in the process of developing a Title 22 tertiary water treatment facility at its WWTP. The City intends to have the tertiary treatment plant on line by May 1, 2006. However, since the WEC project is anticipated to be online by fourth quarter 2005, the City will provide the WEC with a “bridge supply” of water from its existing facilities to meet the water needs of the WEC until the Title 22 facility is operational. A new 0.9-mile pipeline along Ruble and Tegner roads will connect the WEC to the City’s water supply for this purpose and for the project’s potable, plant service, and fire protection needs. Once the project is served with recycled water, the pipeline will be used to provide potable water to serve the project’s potable water plant service needs.

The recycled and potable water supply pipelines will be constructed in parallel trenches, with adequate spacing between them. This construction will temporarily disturb a 50- to 75-foot-wide area. However, TID is requesting approval of a 100-foot pipeline construction corridor to provide flexibility in locating the pipeline. Impacts in this area would consist of temporary vegetation clearing, trench excavation, compaction, dust generation, and restoration. The temporary construction disturbance area encompasses a maximum of 19 acres of roadside and agricultural habitat. This corridor will be used to store the excavated soil, provide access for equipment and vehicles, and space for assembling the pipeline prior to installation and backfill. There are no significant habitats present that would be adversely affected by temporary use. The primary method of construction includes excavation of two open trenches approximately 4 feet deep, and 3 to 7 feet wide. Construction at the WWTP would be adjacent to settling ponds that support wetland plant species and waterfowl. Construction is not expected to disturb the ponds.

The temporary construction area would be restored to preconstruction conditions after construction and therefore would sustain no long-term adverse impacts. The impacts from construction would be temporary and less than significant.

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

Construction of the recycled and potable water pipelines is confined to rural road shoulders adjacent to agricultural fields and residences. The work area is adjacent to marginal yet potential habitat for special-status species such as Swainson's hawk and burrowing owls. Potential impacts on biological resources are minimized by locating the pipelines in previously disturbed and relatively unvegetated roadside shoulders. Burrowing owls could be present along the road berms. Swainson's hawks may establish nests in nearby trees. Implementation of environmental awareness training, preconstruction surveys, and seasonal avoidance would reduce impacts to nesting birds to less than significant.

### ***Wetlands and Waters***

The water pipeline will not cross any wetland or navigable water features. The pipeline will require pressure testing after construction to ensure welds are tight and to remove any accumulated dust or welding residue from the pipeline. This process was described previously in the gas pipeline and water supply pipelines sections.

#### **8.2.4.5 Conflict With Regional Habitat Conservation Plans**

There are no countywide or regional Habitat Conservation Plans in Stanislaus County. The project region is in the area addressed by the *Recovery Plan for Upland Species of the San Joaquin Valley* (USFWS 1998), but there are no preserves or limitations associated with this plan that are affected by the project. Therefore, construction of the project would not conflict with goals of any Habitat Conservation Plan or other regional conservation plan.

#### **8.2.4.6 Cumulative Impacts**

The WEC project would permanently convert up to 18 acres of agricultural fields to industrial uses. Because the site has already been zoned and planned for industrial uses, this conversion would eventually occur with or without the project. Irrigated agricultural lands in Stanislaus County are not universally considered significant beneficial habitat for wildlife, although they provide seasonal forage for some species. The implementation of widespread irrigation resulted in massive conversion of natural habitat for agriculture and

subsequent loss of habitat for native species. Numerically, many more species have been “lost” than have become established in agricultural habitats. Widespread irrigation has also resulted in soil salination and drainage problems, to the extent that agricultural land is being retired from production, but now no longer supports the habitats necessary for the native species (U.S. Bureau of Reclamation [USBR] 1979).

Agricultural production has also fragmented the available natural habitat supporting special-status species, leaving only roadside edges, drainage sloughs and narrow fencelines as available corridors for movement and migration.

In this context, where agricultural habitat is of minimal value to native wildlife, the land proposed for development is already zoned to become industrial, and agricultural habitats are dominant in the landscape, the conversion of 18 acres of agricultural land with minimum habitat value, when with other loss of wildlife habitat in this region, is considered less than significant with respect to biological resources.

The associated gas pipeline and water pipelines for the project are located in areas that would not result in permanent loss of habitat or cause significant adverse impacts to biological resources individually or cumulatively.

## **8.2.5 Proposed Mitigation and Monitoring**

The following subsections describe proposed mitigation intended to avoid and minimize effects or compensate for potential adverse effects of the project on biological resources, and to monitor and document the effectiveness of mitigation and protection measures.

### **8.2.5.1 General Project Construction**

The following measures would be implemented in all WEC construction areas:

- Provide worker environmental awareness training for all construction personnel that identifies the sensitive biological resources and measures required minimizing project impacts during construction and operation.
- Provide mitigation construction monitoring by a qualified Designated Biologist and onsite Biological Monitors during construction activities near sensitive habitats.
- Prepare a Biological Resources Mitigation and Monitoring Plan (BRMIMP) that outlines how the Applicant would implement the mitigation measures developed in order to maintain any action authorized, funded, or carried out by state or federal lead agencies and is not likely to jeopardize the continued existence of endangered or threatened species. The BRMIMP outline is presented in Appendix 8.2-C.
- Avoid sensitive habitats and species during construction by developing construction exclusion zones and fencing around sensitive areas.
- Conduct additional preconstruction surveys for sensitive species in potential impact areas during the spring before construction begins, particularly within 500 feet of potential burrowing owl burrows or within 0.5 mile of potential Swainson’s hawk nests.
- Prepare construction monitoring and compliance reports that analyze the effectiveness of the mitigation measures.

- All areas not required for permanent easements and development would be restored to preconstruction conditions, including topography, hydrology, topsoil, and, if appropriate, revegetation that focuses on erosion control.

### **8.2.5.2 Worker Environmental Awareness Training**

A site-specific Worker Environmental Awareness Training (WEAT) program will be designed to inform all onsite personnel of the sensitive biological resources, restrictions, protection measures, and individual responsibilities associated with the project. The WEAT will be administered in an onsite and/or classroom setting and will include an oral, video, and written materials presentation. The presentation will include the types of construction activities that could impact biological resources and the measures developed to avoid such impacts. It will also include appropriate contact procedures and personnel information. The program includes information regarding encounters with wildlife and dealing with situation involving biological resources. Special emphasis will be placed on explaining the protection measures developed for the project and the consequences of noncompliance.

### **8.2.5.3 Special-Status Species**

Special-status species are not likely to occur on the project site or on the highly modified (agricultural) portions of the gas and water alignments that extend offsite. Specific mitigation/protective measures were developed that focus on providing environmental awareness training, avoiding sensitive habitats, and avoiding seasonal disruption of particular special-status species critical life history events. The following are mitigation and protective measures that would be implemented if sensitive species are found during preconstruction surveys and construction monitoring activities.

#### **8.2.5.3.1 Burrowing Owl Protection Measures**

The following measures were developed under guidance from CDFG mitigation guidelines (CDFG 1995).

1. Conduct preconstruction surveys in the spring to determine if any habitat in construction areas is occupied by burrowing owls.
2. Implement mitigation measures that protect burrowing owls by passive relocation and/or restriction of construction activities within 150 feet during non-breeding season or 250 feet of active burrowing owl nest burrows during breeding season (February 1 through August 31).

#### **8.2.5.3.2 Swainson's Hawk Protection Measures**

Construction of the natural gas pipeline line will occur in areas with isolated trees near agricultural crops that are potentially suitable as Swainson's hawks nest trees. Swainson's hawks nest from March 1 through August 15 in the project area and migrate to Central or South America for the winter. Construction in areas 0.5 mile from active nests should be postponed until after August 15 or until the fledglings are no longer dependent on the nest tree (CDFG 1994). If construction cannot be scheduled outside the Swainson's hawk nesting season, CDFG may require substantial additional monitoring of active nest sites within 0.5 mile of construction activities. The designated biologist, or appropriate representative identified by the designated biologist, will monitor the behavior of the birds during courtship, nest building, incubation, and the period while raising their young in relation to

project activities. The designated biologist will stop work if it appears the activities will impede reproduction. Additional measures may include:

1. Create potential offsite habitat compensation for loss of potential nest trees (only if trees have been removed).
2. Establish a fund with appropriate agencies to purchase and manage the replacement habitat if necessary.
3. Remove potential nest trees before nesting season.
4. Provide Worker Environmental Awareness Training.
5. Revegetate habitats temporarily disturbed by construction.

#### **8.2.5.3.3 Western Pond Turtle Protection Measures**

Pond turtles may occur in the irrigation/drainage canals in the project area. The following protection measures will be implemented during construction activities.

1. Complete preconstruction surveys in project construction zones to find and relocate individual animals prior to ground disturbance activities.
2. Set up construction zone limits in the vicinity of any potential western pond turtle habitat using silt fencing and signage indicating the area is protected and not accessible to construction equipment and materials.
3. Relocate western pond turtles or other wildlife encountered in the construction zone to safe areas outside the construction zone limits.
4. Provide a qualified Biological Monitor during construction in potential western pond turtle habitat.

#### **8.2.5.2.4 Foraging and Migratory Raptors, Herons, Egrets, and Waterbirds**

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

1. Design “raptor-friendly” 115-kV and 69-kV electric transmission lines, as described in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996* (APLIC 1996) with conductor wire spacing greater than the wingspans of large birds (43 inches on the vertical and 60 inches on the diagonal) to prevent electrocutions.
2. Provide safety lighting that points downward on the HRSG stacks to reduce avian collisions.

#### **8.2.5.3.5 Fish Protection Measures**

The following protective measures are proposed to avoid impacts to the potential habitats of biological resources in the Lateral No. 5 and Harding Drain, including special-status species (e.g., giant garter snake, western pond turtle, Sacramento splittail, Central Valley steelhead, and chinook salmon):

1. Avoid Lateral No. 5 and downstream reaches of Harding Drain habitats with modifications to gas pipeline design that include use of a trenchless construction method (HDD or jack-and-bore) or constructing during the dry season.
2. If deemed necessary by CDFG or Regional Water Quality Control Board, obtain a Streambed Alteration Agreement and water quality certification for the HDD activities (if that construction method is used) that includes protection measures for biological resources downstream. Develop a contingency plan for the potential inadvertent return of drilling mud (often referred as frac-outs) into waterways during drilling activities.
3. Implement erosion control in the temporary impact areas, especially near drainages and waterways.
4. Revegetate temporary disturbance areas with like species (i.e., grassland species in grassland areas).

### **8.2.6 Involved Agencies and Agency Contacts**

Involved agencies and agency contacts are listed in Table 8.2-5.

### **8.2.7 Required Permits and Permit Schedule**

Required permits and permit schedule are listed in Table 8.2-6.

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**TABLE 8.2-1**

Laws, Ordinances, Regulations, and Standards Applicable to WEC Biological Resources.

<b>LORS</b>	<b>Purpose</b>	<b>Regulating Agency</b>	<b>Permit or Approval</b>	<b>Applicability (AFC Section Explaining Conformance)</b>
<b>Federal</b>				
Endangered Species Act of 1973 and implementing regulations, Title 16 United States Code (USC) §1531 et seq. (16 USC 1531 et seq.), Title 50 Code of Federal Regulations (CFR) §17.1 et seq. (50 CFR 17.1 et seq.)	Designates and protects federally threatened and endangered plants and animals and their critical habitat.	USFWS and NMFS	Issues, Biological Opinion, or Authorization with Conditions after review of project impacts	Applicant has sited facility to avoid habitat for endangered species. No critical habitats has been designated in the project area. Potential habitat for special-status species is marginal. Implementation of protection measures will reduce impacts to less than significant (Subsections 8.2.3.2, 8.2.4. and 8.2.5).
Section 404 of Clean Water Act of 1977	Requires permit to fill jurisdictional wetlands.	USACE	Section 404 Permit	Applicant will avoid waters by using HDD or jack-and-bore, or will open trench in compliance with Nationwide Permit (NWP) 12 (Subsections 8.2.3.2, 8.2.4.2).
Section 401 of Clean Water Act of 1977	Requires the Applicant to conduct water quality impact analysis for the project when using 404 permits and for discharges to waterways.	RWQCB	Water Quality Certification	Applicant will obtain 401 Certification if required (Subsection 8.2.4.3).
Migratory Bird Treaty Act 16 USC §§703-711	Prohibits the non-permitted take of migratory birds.	USFWS and CDFG	CEC Conditions	Applicant will avoid take of migratory birds by implementing Swainson's Hawk and Burrowing Owl protection measures (Subsection 8.2.4.2 and 8.2.5).
<b>State</b>				
California Endangered Species Act of 1984, Fish and Game Code, §2050 through §2098	Protects California's endangered and threatened species.	CDFG	Comments as cooperating agency on Section 7 or Issues 2081 incidental take permit for state-listed species.	No state-listed species will be "taken" as a result of the project (Subsection 8.2.4.2 and 8.2.5).
Title 14, California Code of Regulations (CCR) §§670.2 and 670.5	Lists plants and animals of California declared to be threatened or endangered.	CDFG	N/A	

**TABLE 8.2-1**

Laws, Ordinances, Regulations, and Standards Applicable to WEC Biological Resources.

<b>LORS</b>	<b>Purpose</b>	<b>Regulating Agency</b>	<b>Permit or Approval</b>	<b>Applicability (AFC Section Explaining Conformance)</b>
Fish and Game Code Fully Protected Species §3511: Fully Protected birds §4700: Fully Protected mammals §5050: Fully Protected reptiles and amphibians §5515: Fully Protected fishes	Prohibits the taking of listed plants and animals that are Fully Protected in California.	CDFG	N/A	Applicant will avoid take of state-listed plants and wildlife species (Subsections 8.2.4.2 and 8.2.5)
Fish and Game Code §1930, Significant Natural Areas (SNA)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitats. Listed in the CNDDDB.	CDFG		There are no SNAs in the project area (Subsection 8.2.3.1).
Fish and Game Code §1580, Designated Ecological Reserves	The CDFG commission designates land and water areas as significant wildlife habitats to be preserved in natural condition for the general public to observe and study.	CDFG		There are no DERs in the project area (Subsection 8.2.3.1).
Fish and Game Code §1600, Streambed Alteration Agreement (SAA)	Reviews projects for impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions, and other disturbances.	CDFG	Issues conditions of the SAA that reduces and minimizes effects on vegetation and wildlife downstream of construction areas.	Applicant will apply for SAA to put pipelines under irrigation canals if required to do so by CDFG (Subsection 8.2.4).
Native Plant Protection Act of 1977, Fish and Game Code, §1900 et seq.	Designates state rare and endangered plants and provides specific protection measures for identified populations.	CDFG	Reviews mitigation options if there will be significant project effects on threatened or endangered plant species	No rare or endangered plants on project site (Subsections 8.2.4.2 and 8.2.5).

**TABLE 8.2-1**

Laws, Ordinances, Regulations, and Standards Applicable to WEC Biological Resources.

<b>LORS</b>	<b>Purpose</b>	<b>Regulating Agency</b>	<b>Permit or Approval</b>	<b>Applicability (AFC Section Explaining Conformance)</b>
Public Resource Code §§25500 & 25527	Siting of facilities in certain areas of critical concern for biological resources, such as ecological preserves, wildlife refuges, estuaries, and unique or irreplaceable wildlife habitats of scientific or educational value, is prohibited, or when none alternative, strict criteria is applied.	USFWS and CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts	No areas of critical biological concern in project area (Subsection 8.2.4).
Title 20 CCR §§1702 (q) and (v); and	Protects “areas of critical concern” and “species of special concern” identified by local, state, or federal resource agencies in the project area, including the California Native Plant Society (CNPS).	USFWS and CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts.	No areas of critical concern in project area (Subsection 8.2.4).
Title 14 CCR Section 15000 et seq.	Describes the types and extent of information required to evaluate the effects of a proposed project on biological resources of a project site.	USFWS and CDFG	Review and comment on AFC.	AFC provides this information (Subsection 8.2.4).
Suggested Guidelines for Raptor Protection (APLIC, 1996)	Describes design measures to avoid and reduce impacts to raptors from electrical transmission and other facilities.	CEC	CEC Conditions of Approval	Applicant will implement design measures to protect raptors from collision and electrocution (Subsection 8.2.3.2, 8.2.4.3, and 8.2.7).

**TABLE 8.2-2**  
Applicable Conservation Policies

Element	Goal/Policy	Conformance
<b>Stanislaus County General Plan</b>		
Conservation/Open Space	Policy 2 The County shall assure compatibility between natural areas and development. This is achieved by reviewing zoning regulations for compatibility between proposed development and natural areas. Furthermore, the County must review all development requests to ensure that sensitive areas are left undisturbed or that mitigation measures acceptable to appropriate state and federal agencies are included in the project.	The WEC site is not in a sensitive natural area and protection and mitigation measures were developed to avoid and minimize impacts to sensitive areas.
Conservation/Open Space	Policy 3 Areas of sensitive wildlife habitat and plant life including those habitats and plant species listed in the General Plan Support Document or by state or federal agencies shall be protected from development. The County shall review all development requests to ensure that sensitive areas are left undisturbed or that mitigation measures acceptable to appropriate state and federal agencies are included in the project. In known sensitive areas, the state Department of Fish and Game shall be notified as required by the California Native Plant Protection Act. The U.S. Fish and Wildlife Service must also be notified. All discretionary projects that will potentially impact riparian habitat and/or vernal pools or other sensitive areas shall include mitigation measures for protecting that habitat. Implementation of this policy shall not be extended to the level of an unconstitutional “taking” of property.	The project will involve informal consultation with CDFG and USFWS. Protection and mitigation measures were developed to avoid and minimize impacts to sensitive areas.
Conservation/Open Space	Policy 4 The County will protect and enhance oak woodlands and other native hardwood habitat. This policy requires all projects that will potentially impact oak woodlands and other native hardwood habitat, including but not limited to hardwood rangelands identified in the General Plan, to include a management plan for the protection and enhancement of oak woodlands and other native hardwood habitat. The County will consider adoption of a tree ordinance to promote the conservation of native trees or trees with historical significance.	The project will avoid oak woodland and native hardwood habitat.
Conservation/Open Space	Policy 6 The County shall preserve vegetation to protect waterways from bank erosion and siltation. All development proposals including or in the vicinity of waterways and/or wetlands shall be closely reviewed to ensure that destruction of riparian habitat and vegetation is minimized. The County will continue to encourage best management practices for agriculture and coordinate with soil and water conservation efforts of Stanislaus County Farm Bureau, Resource Conservation Districts, the U.S. Soil Conservation Service, and local irrigation districts.	The project will avoid removal of vegetation in riparian areas, wetlands, and waterways.
Conservation/Open Space	Policy 29 The County shall maintain adequate water flows to allow salmon migration.	The project will not affect flows to local waterways.

**TABLE 8.2-2**  
Applicable Conservation Policies

Element	Goal/Policy	Conformance
Conservation/Open Space	Policy 30 The County shall insure that habitats of rare and endangered fish and wildlife species shall be protected. The County shall utilize the CEQA process to ensure that development does not occur that would be detrimental to fish, plant life, or wildlife species. The County shall protect sensitive wildlife habitat and plant life through strategies identified in Policy 3.	The analysis of biological resources in the AFC process is equivalent to CEQA. The project has been located to avoid habitats of special-status species. Mitigation and protection measures were developed to avoid impacts to sensitive areas.
<b>City of Turlock General Plan</b>		
Open Space and Conservation	Policy 6.5-a Make efforts to enhance the diversity of Turlock's flora and fauna.	Project landscaping may result in the enhancement of habitat for local flora and fauna.
Open Space and Conservation	Policy 6.5-c Consider establishment of special environmental review procedures, such as site reconnaissance and certification by a biologist, as part of the project development application process if new information to support existence of a Rare, Endangered, or Threatened species becomes available.	Project includes comprehensive analysis of biological resources by qualified biologists along with consultation with appropriate resource agencies.

Sources: Stanislaus County General Plan (2001) and City of Turlock General Plan (1993).

**TABLE 8.2-3**  
Special-Status Species Potentially Occurring in WEC Project Area.

Common Name	Scientific Name <sup>a</sup>	Status <sup>b</sup>	Season <sup>c</sup>	Primary Habitat <sup>d</sup>	Potential Occurrence in Project Area	Comments
<b>Plants</b>						
Merced monardella	<i>Monardella leucocephala</i>	FSC, CNPS	May-Aug	Associated with sandy areas in grassland communities.	Unlikely to occur due to heavy agricultural disturbance. Low likelihood in ruderal fields and field, road, and railroad margins.	Annual herb. Possibly extinct.
<b>Insects and Crustacea</b>						
California linderiella	<i>Linderiella occidentalis</i>	CSC	RES	Associated with vernal pools in grassland communities. These pools are often formed in rock depressions.	Low likelihood to occur due to lack of vernal pool habitat.	Cysts hatch and shrimp become active when pools fill during the winter rainy season.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FT	RES	Associated with a variety of artificial and natural vernal pools in grassland communities.	Low likelihood to occur due to lack of vernal pool habitat.	Cysts hatch and shrimp become active when pools fill during the winter rainy season.
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE	RES	Associated with turbid, ephemeral swales and vernal pools in grassland communities.	Low likelihood to occur due to lack of vernal pool habitat.	Cysts hatch and shrimp become active when pools fill during the winter rainy season.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FE	RES	Associated with ephemeral swales and vernal pools in grassland communities.	Low likelihood to occur due to lack of vernal pool habitat.	Cysts hatch and shrimp become active when pools fill during the winter rainy season.
Longhorn fairy shrimp	<i>Branchinecta longiantenna</i>	FE	RES	Associated with ephemeral swales and vernal pools in grassland communities.	Low likelihood to occur due to lack of vernal pool habitat.	Cysts hatch and shrimp become active when pools fill during the winter rainy season.
Midvalley fairy shrimp	<i>Branchinecta mesovallensis</i>	FSC	RES	Associated with vernal pools communities in the Central Valley.	Low likelihood to occur due to lack of vernal pool habitat.	Cysts hatch and shrimp become active when pools fill during the winter rainy season.

**TABLE 8.2-3**  
Special-Status Species Potentially Occurring in WEC Project Area.

Common Name	Scientific Name <sup>a</sup>	Status <sup>b</sup>	Season <sup>c</sup>	Primary Habitat <sup>d</sup>	Potential Occurrence in Project Area	Comments
<b>Fishes</b>						
Central Valley steelhead	<i>Oncorhynchus mykiss</i>	FT	WNTR	Steelhead subspecies native to the Sacramento-San Joaquin River system. Includes small populations in the Stanislaus, Tuolumne, and Merced rivers.	Rare occurrences in Harding Drain downstream of Prairie Flower Road. Habitat 7 miles from the WEC site and gas line HDD in the San Joaquin, Tuolumne, and Merced rivers. ESU boundary is located approximately 7.5 miles to the north of the project site in the San Joaquin and Tuolumne rivers.	Spawning typically begins in late December and can extend into April.
Central Valley fall/late fall-run chinook salmon	<i>Oncorhynchus tshawytscha</i>	FC	WNTR	Spawns in the Sacramento-San Joaquin River system.	Rare occurrences in Harding Drain downstream of Prairie Flower Road. Habitat 7 miles from the WEC site and gas line HDD in the San Joaquin, Tuolumne, and Merced rivers.	Spawns from October through February.
Sacramento splittail	<i>Pogonichthys macrolepidotus</i>	FT	RES	Primarily in San Francisco Bay Delta and lower Sacramento River. Historic range includes Sacramento River to Redding and San Joaquin River to Friant Dam. Associated with river backwaters, pools, sloughs, shallow bays, and slow moving shallow water with aquatic vegetation.	Potential rare occurrences in Harding Drain downstream of Prairie Flower Road. Habitat 7 miles from the WEC site and gas line HDD in the San Joaquin, Tuolumne, and Merced rivers	Peak spawning period March through May.
<b>Reptiles</b>						
Giant garter snake	<i>Thamnophis gigas</i>	FT, CT	RES	Endemic to the Central Valley. Highly aquatic and associated with drainages with pools and a dense riparian corridor. May also be found in artificial situations such as flooded rice fields. Utilize mammal burrows or crevices for hibernation and cover.	Low likelihood due to lack of appropriate habitat. Local water features are limited to irrigation canals and stock ponds. These lack significant vegetation and other habitat features important to giant garter snake natural history.	Most vulnerable during hibernation underground from October 1 to May 1. Active above ground May - September.

**TABLE 8.2-3**  
Special-Status Species Potentially Occurring in WEC Project Area.

Common Name	Scientific Name <sup>a</sup>	Status <sup>b</sup>	Season <sup>c</sup>	Primary Habitat <sup>d</sup>	Potential Occurrence in Project Area	Comments
Western pond turtle	<i>Clemmys marmorata</i>	CSC	RES	The only native freshwater turtle in the Pacific Coast states. Highly aquatic and associated with riparian habitat including streams, rivers, sloughs, ponds, and artificial water bodies. Deep pools, basking sites, and aquatic vegetation are important habitat components.	Moderate likelihood to occur due to lack of optimal habitat. Local habitat limited to irrigation canals and stock ponds that lack significant vegetation and other habitat features important to pond turtle natural history. Observed in canal within 3 miles of the project site.	Breeding season is typically between April to August. Eggs laid in an excavated chamber in upland habitat as much as 100 meters from the water. Hatchlings emerge in late summer or fall or over-winter in the nest to emerge the following spring. Adults hibernate in the winter by burying themselves in muddy bottoms underwater or in upland soil and vegetative litter.
<b>Birds</b>						
Aleutian Canada goose	<i>Branta canadensis leucopareia</i>	FD, MB	WNTR	California winter range is associated with wetlands, agriculture fields, flooded fields, and open land.	Moderate likelihood of forage in crop land in project area. Has been recorded near Delhi approximately 8 miles away from the main site and along the San Joaquin River.	Breeds in Aleutian Islands and winters in the Central Valley.
Swainson's hawk	<i>Buteo swainsoni</i>	CT, MB	SUMR/ RES	Nests primarily in riparian trees adjacent to grassland, and agricultural areas with scattered trees. Primarily associated with the Central Valley during the breeding season, migrating to Central and South America in the fall/winter.	High likelihood to find a Swainson's hawk nest in project vicinity. Previous records include nest sites along the San Joaquin River approximately 6 miles from the main project site. Surveys for breeding hawks will take place in the spring.	The breeding season is from March through September. Migrating to Central or South America in fall/winter.
Ferruginous hawk	<i>Buteo regalis</i>	FSC, MB	WNTR	Associated with a variety of habitats but commonly found in open grassland areas.	Low likelihood to find ferruginous hawks wintering in the project area.	Uncommon winter resident in California. Breeding typically from March-July. Use large stick nests in trees.
White-tailed kite	<i>Elanus leucurus</i>	FSC, FP, MB	RES	Abundant in California's Central Valley where it is commonly associated with riparian and open habitats.	Moderate likelihood to find nesting in trees adjacent to the main project site and linears. More likely to occur in riparian corridors of San Joaquin, Tuolumne, and Merced rivers.	Typically breed between January and August. Their platform nests are located in trees or shrubs. Primarily a local resident and is known to form communal roosts in the fall and winter.

**TABLE 8.2-3**  
Special-Status Species Potentially Occurring in WEC Project Area.

Common Name	Scientific Name <sup>a</sup>	Status <sup>b</sup>	Season <sup>c</sup>	Primary Habitat <sup>d</sup>	Potential Occurrence in Project Area	Comments
Western burrowing owl	<i>Athene cunicularia hypugaea</i>	FSC, CSC, MB	RES	Habitats includes open grassland habitat with fossorial mammal burrows, often associated with ground squirrels.	Low to moderate habitat for burrowing owl burrows along the railroad corridor and in fallow fields adjacent to the project linears. Spring surveys will be conducted to indentify active nest sites.	Utilize small mammal burrows for cover and natal dens. Breeding season is typically from February through August.
Greater sandhill crane	<i>Grus canadensis tabida</i>	CT, FP, MB	WNTR	Habitat includes open land near riparian, wetland, and agricultural areas.	Moderate potential for foraging in agricultural fields near project site.	Winters in Central Valley. Breeding range includes the tundra, wetland, and grassland habitats of central Canada and areas in the northern US, including northeastern California.
Snowy egret (rookery)	<i>Egretta thula</i>	FP, MB	RES	Found throughout California. Associated with estuaries, wetlands, ponds, rivers, irrigation ditches, and flooded agricultural fields. Nest communally in dense marshes and trees.	No nesting habitat in the project vicinity. May forage in nearby fields and irrigation ditches where they feed on fish, amphibians, reptiles, and small mammals.	Breeding season is from March-May.
Great (Common) egret	<i>Ardea alba</i>	MB	RES	Primary habitat associated with marshes, lagoons, streams, lakes, and ponds. Also found in fields and meadows.	No nesting habitat in the project vicinity. May forage in nearby fields and irrigation ditches where they feed on fish, amphibians, reptiles, and small mammals.	Typically nest communally in tall trees near water. Breeding typically begins in March.
Great blue heron	<i>Ardea herodias</i>	MB	RES	Primary habitat associated with marshes, lagoons, streams, lakes, and ponds. Also found in fields and meadows.	Low probability of nesting habitat in the project vicinity due to lack of significant wetland features. May forage in nearby fields and irrigation ditches where they feed on fish, amphibians, reptiles, and small mammals.	Typically nest communally in tall trees near water. Breeding typically begins in March.
Long-billed curlew	<i>Numenius americanus</i>	FSC, CT, MB	WNTR	Winter habitat is primarily open land near, wetland, and agricultural fields in the Central Valley.	Moderate potential to occasionally forage in agricultural fields near the project area.	Winters in Central Valley.

**TABLE 8.2-3**  
Special-Status Species Potentially Occurring in WEC Project Area.

Common Name	Scientific Name <sup>a</sup>	Status <sup>b</sup>	Season <sup>c</sup>	Primary Habitat <sup>d</sup>	Potential Occurrence in Project Area	Comments
White-faced ibis	<i>Plegadis chihi</i>	FSC, CSC, MB	RES	Breeding and forage habitat in open land near wetland and agricultural areas.	Low probability of nesting habitat in the project vicinity due to lack of significant wetland features. May forage in nearby fields and along irrigation ditches.	Nest in low tree or dense tule thickets near wetland areas. Breeding season typically begins in mid-April.
Mountain plover	<i>Charadrius montanus</i>	PT, MB	WNTR	Winter habitat include open areas with low growing or harvested vegetation where they primarily forage on a variety of insects.	Nesting habitat absent. Low probability of occasionally forage in nearby fields during winter migration.	This migratory bird breeds in the central US. Wintering grounds include areas of central and southern California. They generally arrive in California in October and leave in the early spring.
Tricolored blackbird	<i>Agelaius tricolor</i>	CSC, MB	RES	Found throughout the Central Valley where it is associated with wetland areas with dense vegetation such as cattails, tule, bulrush. Forage in grassland and agricultural fields.	Dense tall wetland vegetation growth for nesting is absent from project vicinity. May forage in nearby fields.	Nest in large colonies. Breeding season is April-July. However has also been reported breeding in October and November.
California horned lark	<i>Eremophila alpestris actia</i>	CSC, MB	RES	A resident in California. Associated with a variety of open habitats.	Unlikely to breed in the project vicinity due to the lack of significant undisked open areas. May forage in nearby fields.	Nests on the ground. Breeding season is from March to July.
Grasshopper sparrow	<i>Ammodramus savannarum</i>	FSC, MB	SUMR	Habitat includes relatively undisturbed agricultural fields.	Unlikely to breed in the project area due to the lack of significant undisked open areas. May forage in nearby fields.	Breeding season typically begins in mid-April. A neotropical migrant that primarily winters in Central America.
Loggerhead shrike	<i>Lanius ludovicianus</i>	FSC, CSC, MB	RES	Typically associated with open lowland and foothill scrub or riparian woodland habitats with adequate hunting perches.	Observed in project area during September 2002 reconnaissance visit. Moderate potential for nesting in vicinity trees.	Largely nonmigratory and has been known to defend year-round territories. Nests are typically well-concealed and built in dense shrubs or trees. In California the breeding period typically begins in March and may extend into August.

**TABLE 8.2-3**  
Special-Status Species Potentially Occurring in WEC Project Area.

Common Name	Scientific Name <sup>a</sup>	Status <sup>b</sup>	Season <sup>c</sup>	Primary Habitat <sup>d</sup>	Potential Occurrence in Project Area	Comments
<b>Mammals</b>						
San Joaquin pocket mouse	<i>Perognathus inornatus inornatus</i>	FSC, CSC	RES	Associated with dry, open grasslands or scrub areas in the Central and Salinas valleys.	Low likelihood to occur in project vicinity. May be found in marginal habitat along rail road, irrigation, and road corridors.	Dig burrows for dormancy, natal, and cover dens. Breeding occurs during the spring and early summer.
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE, CT	RES	Primarily associated with the grassland, woodland, and scrub communities of the Central Valley.	Low probability of kit fox along the railroad corridor and in fallow fields adjacent to the project linears. No areas of significant ground squirrel or other prey base activity.	Utilize underground or artificial burrows for cover and natal dens. Den locations are frequently moved. Natal den preparation often begins in September. Mating typically takes place in December to March. Pups are born in February to March. Young then disperse in August to September.

Notes:

<sup>a</sup> Scientific names are based on the following sources: AOU (1983); Jennings (1983); Zeiner *et al.* (1990a-c).

<sup>b</sup> Status. Status of species relative to the Federal and California State Endangered Species Acts and Fish and Game Code:

Federal Status

FE Federally listed as endangered.

FT Federally listed as threatened.

FPE Proposed endangered.

FPT Proposed threatened.

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

FD Delisted from Federal threatened or endangered status.

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

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

California Status

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

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

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

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

Other Status

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

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

<sup>c</sup> Season. Blooming period for plants. Season of use for animals. RES = Resident; SUMR = Summer; WNTR = Winter.

<sup>d</sup> Primary Habitat. Most likely habitat association.

SOURCE: California Dept. of Fish and Game, California Natural Diversity Database, July 2002; California Native Plant Society, Inventory of Rare and Endangered Vascular Plants of California, 2001.

**TABLE 8.2-4**  
Summary of Permanent and Temporary WEC Project Impacts on Biological Resources During Construction.

Location	Project Work	Construction Zone Size	Time Requirements	Habitat Type	Sensitive Biological Resources	Impacts	
						Temporary	Permanent
Power plant site	Grading for footprint construction	16 acres	Start First Quarter 2004	Intensively farmed agricultural field	Crops may provide marginally suitable for foraging songbirds and mammals.	None	Loss of 16 acres of agricultural land
Access roads (main and emergency access)	Grading and pavement for road access)	1.9 acres	Start First Quarter 2004	Intensively farmed agricultural field	Crops may provide marginally suitable for foraging songbirds and mammals. The riparian trees north of site may be used by nesting raptors.	None	Loss of 1.9 acres of agricultural land
Construction laydown area	Construct compacted gravel pad	51 acres	Start First Quarter 2004	Intensively farmed agricultural field	Crops may provide marginally suitable for foraging songbirds and mammals.	Temporary disturbance of 51 acres of agricultural land	None. Agricultural use will be restored following project completion.
Natural gas pipeline	Open pipeline trench and selected HDD or jack and bore	3.6 miles of trench; 75 feet of temporary construction right-of-way; 25 feet of permanent easement; trenchless construction method under Lateral No. 5 or construct when dry.	Start Fourth Quarter 2004, HDD should be restricted to dry season.	Ruderal road shoulder, railroad corridor, irrigation canals	Ruderal margins may provide burrowing opportunities for burrowing owl. Nearby trees may provide nesting habitat for Swainson's hawk Fish, turtles, snakes downstream in Harding Drain.	Temporary disturbance of 33 acres of ruderal habitat	None. Will be restored to original condition following project completion.
Potable water supply line	Open pipeline trench	0.9 mile of pipeline trench; 100-foot construction corridor; no permanent corridor	Start Fourth Quarter 2004	Ruderal road shoulder	Ruderal margins may provide burrowing opportunities for burrowing owl. Nearby trees may provide nesting habitat for Swainson's hawk	Temporary disturbance of 10.9 acres of ruderal habitat	None. Will be restored to original condition following project completion

**TABLE 8.2-4**  
Summary of Permanent and Temporary WEC Project Impacts on Biological Resources During Construction.

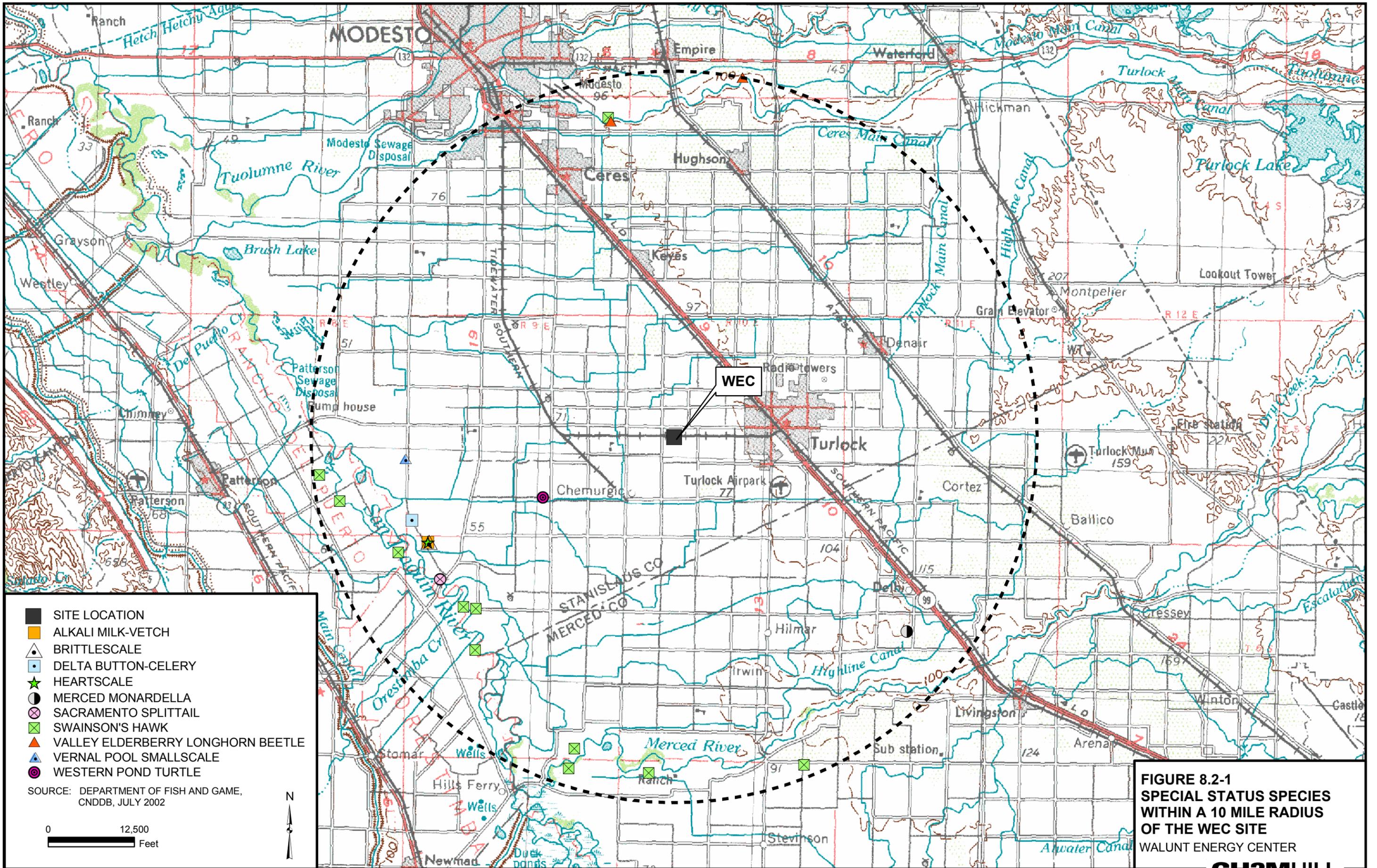
Location	Project Work	Construction Zone Size	Time Requirements	Habitat Type	Sensitive Biological Resources	Impacts	
						Temporary	Permanent
Recycled water supply line	Open pipeline trench	1.6 miles of pipeline trench; 100-foot construction corridor; no permanent corridor (0.9 miles of pipeline will be in same trench as potable water supply pipeline)	Start Fourth Quarter 2004	Ruderal road shoulder	Ruderal margins may provide burrowing opportunities for burrowing owl. Nearby trees may provide nesting habitat for Swainson's hawk	Temporary disturbance of an additional 8.5 acres of ruderal habitat	None. Will be restored to original condition following project completion
69kv and 115kv transmission lines	Transmission tower footings, construction and maintenance	0.1 acre. 69-kv is 670-feet long, 115-kv is 1,950-feet long; construction corridor 100-feet wide; permanent easement 25-feet wide	Start First Quarter 2004	Agricultural corn and wheat/oat field	Crops may provide marginally suitable for foraging songbirds and mammals. Migratory and resident birds.	Temporary disturbance of areas between towers for stringing wire.	Conversion of 0.1 acres for transmission tower footings. Remainder will be restored to original condition following project completion. New transmission lines may increase the potential for bird collisions with wires.

**TABLE 8.2-5**  
Contacts for the WEC Project

<b>Biological Resource Agency</b>	<b>Person Contacted</b>	<b>Issue</b>	<b>Phone</b>
U.S. Fish and Wildlife Service	Cheryl Johnson and Adam Zerrenner (SJKF), Karen Harvey (fairy shrimp)	Federal threatened or endangered species	916-414-6600
California Department of Fish and Game	Dan Applebee	California threatened or endangered species	209-558-1879
California Department of Fish and Game; 1600	Craig Kindlin and Annette Jennings	Streambed Alteration Agreement	559-243-4593
Regional Water Quality Control Board	Brian Erlandsen	Potential need of a RWQCB 401 permit	559-445-5116
U.S. Army Corps of Engineers	Kathy Norton	Waters of the U.S. and wetland impacts	916-557-7724

**TABLE 8.2-6**  
Required Permits and Schedule

<b>Permit/Authorization</b>	<b>What Is Required to Complete Consultations</b>	<b>Date Application Submitted</b>
Biological Opinion pursuant to Section 7 of the ESA, issued by USFWS Letter of Concurrence, from CDFG	Not likely needed for federally listed plant or animal species. Informal consultation with USFWS in process concerning potential fairy shrimp habitat. Associated vernal pool surveys will be conducted during the 2003 winter and early spring rainy season.	
CDFG Streambed Alteration Agreement potentially required for pipeline construction across Lateral No. 5	Construction drawings of water crossing(s), completion of CEQA compliance documentation.	
Clean Water Act Section 404 Permit potentially required for gas pipeline crossing of Lateral No. 5	If construction affects jurisdictional waters, implement pre-notification and construction in compliance with Section 404 Nationwide Permit authorization.	
Water Quality Certification	Project description information is being provided to the RWQCB to determine if a permit is required. If needed, prepare application that describes monitoring plan for water quality during construction, requires completed endangered species consultations and CDFG Streambed Alteration Agreement.	



**FIGURE 8.2-1  
SPECIAL STATUS SPECIES  
WITHIN A 10 MILE RADIUS  
OF THE WEC SITE  
WALUNT ENERGY CENTER**

**FIGURE 8.2-2a**

**FIGURE 8.2-2b**

**FIGURE 8.2-2c**

**FIGURE 8.2-2d**

**FIGURE 8.2-2e**

**FIGURE 8.2-2f**

**FIGURE 8.2-2g**

**FIGURE 8.2-2h**