

8.2 Biological Resources

GWF Energy LLC proposes to build and operate the Tracy Peaker Project (TPP), a nominal 169-megawatt (MW) simple-cycle power plant, on a nine-acre, fenced site within a 40-acre parcel in an unincorporated portion of San Joaquin County. The site is located immediately southwest of Tracy, California, and approximately 20 miles southwest of Stockton, California. The TPP would consist of the power plant, an onsite 230-kilovolt (kV) switchyard, an approximately five-mile, 230-kV electric transmission line, an approximately 1,470-foot water supply pipeline (as measured from the fence line), an onsite natural gas supply interconnection, and improvements to an existing dirt access road approximately one mile in length. An approximately 5.2-acre area west of the plant fence line and within the 40-acre parcel would be used for construction laydown and parking. Figure 2-1 shows the regional location of the GWF site. Figure 2-2 shows the immediate site location of the GWF project, including the location of the proposed generating facility and the proposed transmission, water supply, and access routes.

8.2.1 **Applicable Laws, Ordinances, Regulations, and Standards**

This section lists the laws, ordinances, regulations, and standards (LORS) related to biological resources that potentially apply to the proposed Tracy Peaker Project (TPP).

Federal Endangered Species Act. The project must demonstrate compliance with the Federal Endangered Species Act (FESA) of 1973 (as amended) because it is located within habitat areas determined to be currently or historically occupied by the endangered San Joaquin kit fox (*Vulpes macrotis mutica*).

Migratory Bird Treaty Act. Title 16, United States Code, Sections 703–712 prohibit “take” of migratory birds, including nests with viable eggs.

Clean Water Act. The U.S. Army Corps of Engineers (USACE), under Section 404 of the Clean Water Act, regulates discharges of dredged or fill material in “waters of the United States.” The term “waters” includes wetlands and nonwetlands bodies of water that meet specific criteria, as defined in the Code of Federal Regulations (CFR). The definition of “waters of the United States” includes “...intrastate lakes, rivers, streams (including intermittent

streams)...the use, degradation or destruction of which could affect interstate or foreign commerce...” and tributaries of water defined as waters of the United States.

Some intermittent washes may qualify as waters of the United States. Areas that meet the definition of waters of the United States or the definition of wetlands would be under USACE jurisdiction. Any impacts in these areas could require a permit, depending on the type and size of the activity within USACE jurisdiction.

California Environmental Quality Act (CEQA). The effects of the project on environmental resources must be analyzed and assessed as to their significance using criteria provided in various sections and appendices of CEQA. Preparation of this Application for Certification (AFC) would fulfill CEQA requirements.

California Endangered Species Act (CESA). Compliance with the CESA is required because the project area is within habitats currently or historically occupied by the state-threatened San Joaquin kit fox and the endangered Fresno kangaroo rat and blunt-nosed leopard lizard. If field assessments indicate that there is a likelihood of “take” of these species, consultation with the California Department of Fish and Game (CDFG) under Fish and Game Code Sections 2050 and 2091 would be required.

Fish and Game Code. Section 1600 et seq. activity that would divert or obstruct the natural flow or change the bed, bank, or channel of any river, stream, or lake must provide a Streambed Alteration Notification to the CDFG. A Streambed Alteration Notification is also required if streambed material is proposed for removal. A Streambed Alteration Notification may result in a Streambed Alteration Agreement between the project applicant and the CDFG. The CDFG should be notified of any construction in intermittent streams so that the agency can determine whether or not a Streambed Alteration Agreement is necessary.

Section 3503 protects California’s birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 protects California’s birds of prey and their eggs by making 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. Section 3513 protects California’s migratory birds by making it unlawful to take or possess any migratory nongame bird as

designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird. Sections 3511, 4700, 5050, and 5515 prohibit take of animals that are classified as fully protected in California.

Fish and Game Code. Sections 1900 et seq. designate state rare, threatened, and endangered plants.

California Code of Regulations. Title 14, Sections 670.2 and 670.5 list animals designated as threatened or endangered in California.

8.2.2 Affected Environment

8.2.2.1 Regional Setting

The TPP site is located in the northern San Joaquin Valley, two miles west of Tracy, California in an industrial/agricultural area of western San Joaquin County. The site was recently planted in oats. The region's climate can be characterized as Mediterranean, with hot, dry summers and cool, moist winters. Summer high temperatures often exceed 100 degrees Fahrenheit (°F), with an average of 110 days per year over 90° F. Winter temperatures in the San Joaquin Valley are mild, with an average of 16 days per year with frost. Rainfall in the Northern Valley averages 7 to 8 inches per year. On average, approximately 90 percent of the rainfall occurs between November 1 and April 1.

8.2.2.2 Vegetation

The TPP site is dominated by intensively managed agricultural activities. Most of the transmission line corridor traverses rangeland with natural vegetation made up of non-native grasses and forbs.

8.2.2.3 Wildlife

General Wildlife. The ruderal vegetation near the project site could provide marginal habitat for a variety of birds, mammals, and reptiles. Bird species include the red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), burrowing owl (*Athene cunicularia*), and western meadowlark (*Sturnella neglecta*). Mammals occupying this habitat

type include the black-tailed hare (*Lepus californicus*), desert cottontail (*sylvilagus audubonii*), kangaroo rat (*Dipodomys* spp.), deer mouse (*Peromyscus maniculatus*), kit fox (*Vulpes macrotis*), coyote (*Canis latrans*), bobcat (*Felis rufus*), and American badger (*Taxidae taxus*). Amphibians and reptiles include the western toad (*Bufo boreus*), side-blotched lizard (*Uta stansburiana*), western whiptail (*Cnemidophorus tigris*), and gopher snake (*Pituophis melanoleucus*).

Economically Important Species. One game bird species, the mourning dove (*Zenaida macroura*), potentially occurs at the proposed TPP site. This species has some recreational value to hunters, but has no important economic value. No species of economic importance occur in the TPP area.

Biologically Sensitive Areas. The TPP lies outside any biologically sensitive area.

8.2.2.4 Sensitive Species

Lists of special-status wildlife and plant species known to occur or to potentially occur in the vicinity of the TPP site are shown in Table 8.2-1. These species were identified based on a search of the California Natural Diversity Database, review of unpublished biological reports produced for other projects in the area of the TPP, and staff experience and knowledge of sensitive flora and fauna of the northern San Joaquin Valley. Natural history descriptions of the listed species can be found in Appendix C.

8.2.3 Biological Survey

8.2.3.1 Survey Methodology

Biological Surveys at the TPP site were conducted by wildlife biologists and botanists between April 17 and May 16, 2001; a followup survey was conducted on July 16, 2001 along portions of the transmission line not surveyed in April. Botanical surveys were conducted by Barbara Leitner; resumes of the principal investigators of the wildlife crew are contained in Appendix C. Surveys were conducted primarily for listed animal species and sensitive plants, following methodologies approved by U.S. Fish and Wildlife Service (USFWS)

and CDFG (CDFG, 1990); surveys were performed concurrently for other special-status wildlife species with potential to occur in the area. This section provides a discussion of the survey methodology used during the field review of the project site and transmission line corridor.

The natural gas pipeline line corridor and facility site were surveyed by walking 50-foot-wide transects in suitable habitat. Additional buffer zones, of 500 feet and one mile around the facility site, were also surveyed (Figure 8.2-1). Suitable habitat along the transmission line corridor was surveyed using a method suggested by the California Energy Commission (CEC) (Figure 8.2-1). A 100-foot corridor centered on the transmission line corridor was surveyed with two 50-foot-wide transects. A primary buffer zone, 500 feet on either side of the corridor, was surveyed by walking 12 transects approximately 80 feet apart. Two meandering transects were walked in a secondary buffer zone, consisting of an additional 500 feet on either side of the primary buffer zone. Access to the survey crew was not granted by landowners in a one-mile segment between Interstate 580 and the Delta-Mendota Canal. Access was restricted to the right-of-way (ROW) in Section 4 (Figure 8.2-2).

During the survey, all dens, burrows, and other evidence of special-status species were noted. A vascular plant list was compiled of all identifiable plant species observed. San Joaquin kit fox potential and known dens, burrowing owl burrows, and locations of other sensitive species were recorded and mapped.

The San Joaquin kit fox dens were classified according to the following USFWS kit fox den definitions (USFWS, 1989):

- **Known Den:** Any existing natural den or human-made structure for which conclusive evidence or strong circumstantial evidence can show that the den is used or has been used at any time in the past by a San Joaquin kit fox.
- **Potential Den:** Any natural den or burrow within the range of the species that has entrances of appropriate dimensions (4 to 12 inches in diameter) to accommodate San Joaquin kit foxes but for which there is little to no evidence of kit fox use.
- **Pupping Den:** Any known San Joaquin kit fox den (as defined above) used by kit foxes to whelp and/or rear their pups.

- Atypical Den: Any known San Joaquin kit fox den that has been established in, or in association with, a human-made structure.

8.2.3.2 Results

The following sensitive species or resources were found at or near the TPP site and transmission line corridor:

- San Joaquin kit fox (potential dens)
- Golden eagles
- Great horned owls
- Prairie falcons
- Burrowing owls
- Loggerhead shrikes
- Barn owls
- Tiger salamander (potential)
- Western spadefoot toad (potential)
- Raptor nesting (potential)

The proposed TPP site is currently being managed as intensive agricultural land and has no habitat features that would be of value to any sensitive species. There are no sensitive wildlife or plant resources at the site. The Delta-Mendota Canal area just southwest of the plant site has some potential to support San Joaquin kit fox foraging and denning (Figure 8.2-3). Table 8.2-3 lists the occurrences of each of the sensitive species and their proximity to the proposed plant site.

The transmission line corridor traverses orchards and rangeland, following existing transmission lines to the Tesla Substation (Figures 8.2-3 through 8.2-7). Table 8.2-4 lists the occurrences of each of the sensitive species and their proximity to the transmission line corridor. Table 8.2-5 contains a list of the vascular plants and wildlife observed during the

survey. California Natural Diversity Data Base (CNDDDB) field survey report sheets were completed and can be found in Appendix C.

8.2.4 Environmental Consequences/LORS Compliance

8.2.4.1 Construction Phase

San Joaquin Kit Fox. Impacts to San Joaquin kit foxes include destruction of potential dens or permanent and temporary modification of potential habitat. The project would result in the permanent loss of approximately nine acres of intensely managed farmland and less than one acre of rangeland along the transmission line corridor. There would also be approximately 10.28 acres (5 miles by 17 feet) of temporary disturbance due to transmission line construction activities and 0.67 acres (1,470 feet by 20 feet) of temporary disturbance due to water supply pipeline construction, and 5 acres of temporary disturbance due to plant site construction. The USFWS has required incidental take permits and habitat compensation to mitigate the loss of these types of habitats because San Joaquin kit foxes have been observed using farmland for denning and foraging. Measures contained in the TPP Biological Resource Mitigation Implementation Management Plan (BRMIMP, found in Appendix K) would reduce this potential impact to less-than-significant level.

Nesting Hawks, Owls, and Falcons. If construction occurs during the nesting season (February–July), there is potential for nest abandonment by hawks, owls, and falcons. Measures contained in the TPP BRMIMP would reduce this potential impact to less-than-significant level.

California Tiger Salamander/Western Spadefoot Toad. California tiger salamanders and western spadefoot toads have some potential of breeding in the stock pond found along the transmission line corridor (Figure 8.2-5). Tiger salamanders have been known aestivate in ground squirrel burrows as far as 3,000 feet from their breeding pond. Potential aestivation burrows may be destroyed during transmission line construction. Measures contained in the TPP BRMIMP would reduce this potential impact to less-than-significant level.

8.2.4.2 Operations and Maintenance Phase

No adverse environmental consequences are associated with the operations and maintenance phase of the TPP.

8.2.5 Growth-Inducing Impacts

The TPP site is located in an industrial/agricultural area of San Joaquin County. Conversion of agricultural lands to nonagricultural use would be minimal and would be limited to the nine-acre site of the proposed power generating facility. Collectively, these activities are consistent with a trend toward energy-related uses in this part of San Joaquin County. Increased commercial or industrial activity in this area may increase the possibility that lands under agricultural production would be converted to nonagricultural uses. However, the specific characteristics of any future projects are not known at this time, and project applications would undergo appropriate environmental review at the time of submittal of their applications.

8.2.6 Cumulative Impacts

The proposed TPP would not cause a significant change in the character of the region when considered in conjunction with similar, planned projects. The proposed TPP would impact land use in its vicinity by increasing the concentration of industrial activity. However, it would not result in changes to existing land use patterns and is fully consistent with existing zoning. Direct impacts associated with the TPP are extremely minimal, and no significant cumulative impacts on biological resources are expected to result from the TPP. As a result, the cumulative land use impacts are considered insignificant.

8.2.7 Mitigation Measures

With the incorporation of the recommended Conditions of Certification for biological resources as contained in Appendix K, the construction and operation of the project will not result in individually or cumulatively significant impacts to biological resources.

8.2.8 Compliance with Applicable LORS**8.2.8.1 Federal Endangered Species Act**

The TPP requires a Section 10 consultation with USFWS. It is anticipated that USFWS would require incidental take permits and habitat compensation to mitigate for the loss of habitat. A draft BRMIMP has been prepared that includes initial estimates of these mitigation requirements. USFWS will review and approve a final BRMIMP as part of the Section 10 consultation. The TPP is eligible to be covered under the San Joaquin County Master Incidental Take Permit. TPP will participate in the San Joaquin County Habitat Conservation Plan (HCP) through an agreed-upon payment to the County to secure the appropriate compensation acreage.

8.2.8.2 Migratory Bird Treaty Act

The TPP BRMIMP will include measures to reduce any potential impacts to migratory birds to less-than-significant levels.

8.2.8.3 Clean Water Act

No intermittent streams, jurisdictional wetlands, or other “waters of the United States” would be impacted by the project. Therefore, no further action is needed to comply with the Clean Water Act.

8.2.8.4 California Environmental Quality Act

Preparation of this AFC and the subsequent review and licensing by the CEC will conform with CEQA requirements.

8.2.8.5 California Endangered Species Act

There is little or no chance for take of California-listed species. Thus, no CDFG Section 2081 permit will be required.

8.2.8.6 Fish and Game Code

No streams or streambeds would be impacted by the TPP. Therefore, no Streambed Alteration Agreement is required. In addition, a BRMIMP will be prepared to ensure there are no significant impacts.

8.2.9 Other Required Permits/Approvals

The following provides a list of other permits or approvals required:

Permit/Approval	Responsible Agency	Schedule
Section 10 Endangered Species Act Compliance	San Joaquin County, USFWS	October 31, 2001

8.2.10 Agency Contacts

Agency	Contact/Title	Telephone
San Joaquin County	Chandler Martin Senior Planner Community Development Department 1810 E. Hazelton Avenue Stockton, CA 95205-6298	(209) 468-3144
U.S. Fish and Wildlife Service	Peter Cross 2800 Cottage Way, W-2605 Sacramento, CA 95825	(916) 441-6655
California Department of Fish Game	Banky Curtis 1701 Nimbus Road, Suite A Rancho Cordova, CA 95670	(916) 358-2899

8.2.11 LORS Conformance

Table 8.2-6 provides a list of AFC subsections where discussion of conformance with each LORS item can be found.

8.2.12 References

- California Department of Fish and Game (CDFG). 1990. California Department of Fish and Game Region 4 Survey Methodologies for San Joaquin Kit Fox, Blunt-Nosed Leopard Lizard, San Joaquin Antelope Squirrel, Tipton Kangaroo Rat, and Giant Kangaroo Rat. Compiled by R. Rempel and G. Presley.
- U.S. Fish and Wildlife Service (USFWS). 1989. Standardized Recommendations for the Protection of the San Joaquin Kit Fox. Advisory notice issued by USFWS, Sacramento, CA. 6 pp + appendix.

TABLES

**Table 8.2-1
Special-Status Wildlife Species with Potential to Occur at the TPP Site**

Species	Status Federal/State	Habitat
<i>Scaphiopus hammondi</i> Western Spadefoot	- /CSC	Intermittent wetlands, vernal pools
<i>Phrynosoma coronatum frontale</i> California horned lizard	- /CSC	Valley grasslands and open saltbush scrub
<i>Rana aurora draytonii</i> California red-legged frog	-/T	Permanent and long-term intermittent wetlands, streams, and ponds
<i>Ambystoma californiense</i> California tiger salamander	-/CSC	Intermittent wetlands, vernal pools
<i>Eremophila alpestris actia</i> California horned lark	-/CSC	Valley grasslands and open saltbush scrub
<i>Athene cunicularia</i> Burrowing owl	- / CSC	Valley grasslands and open saltbush scrub
<i>Lanius ludovicianus</i> Loggerhead shrike	- / CSC	Valley grasslands and saltbush scrub
<i>Toxostoma lecontei</i> LeConte's thrasher	- / CSC	Prefers mature saltbush scrub for nesting
<i>Agelaius tricolor</i> Tricolored blackbird	-/CSC	Permanent and long-term intermittent wetlands, streams and ponds
<i>Perognathus inornatus</i> San Joaquin pocket mouse	- / CSC	Valley grasslands and saltbush scrub
<i>Taxidea taxus</i> American badger	- / CSC	Grassland and scrub habitats of the San Joaquin Valley and surrounding foothills
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	E/T	Grassland and scrub habitats of the San Joaquin Valley and surrounding foothills

E = Endangered
T = Threatened
CSC = California Species of Concern

**Table 8.2-2
Special-Status Plant Species with Potential to Occur at the TPP Site**

Species	Status	
	Federal/State/CNPS	Habitat
Large-flowered fiddleneck <i>Amsinckia grandiflora</i>	FE/CE/1B	Lower portions of steep, protected north- and east-facing slopes in oak woodlands and grasslands
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	FSC/--/1B	Playas, grasslands on adobe clay soils, alkaline vernal pools
Heartscale <i>Atriplex cordulata</i>	FSC/--/1B	Chenopod scrub and sandy, alkaline grasslands
Brittlescale <i>Atriplex depressa</i>	FSC/--/1B	Alkaline or clay grasslands, chenopod scrub, and playas
San Joaquin spearscale <i>Atriplex joaquiniana</i>	FSC/--/1B	Alkaline scrub, meadows, and grasslands
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	FSC/--/1B	Woodland and grassland, sometimes on serpentine soils
Big tarplant <i>Blepharizonia plumosa</i> ssp. <i>plumosa</i>	FSC/--/1B	Grasslands on clay soils, with low cover
Pappose spikeweed (Congdon's tarplant) <i>Centromadia parryi</i> ssp. <i>Congdonii</i> (= <i>Hemizonia p.</i> ssp. <i>C.</i>)	FC/--/1B	Grasslands with alkaline soils
Slough thistle <i>Cirsium crassicaule</i>	FSC/--/1B	Slow-moving water with saturated soils in various plant communities along canals and rivers
Hispid bird's-beak <i>Cordylanthus mollis</i> ssp. <i>hispidus</i>	FSC/--/1B	Seasonal wetlands in alkali sinks with valley sink scrub, alkali meadows, and alkali marsh communities
Palmate-bracted bird's-beak <i>Cordylanthus palmatus</i>	FE/CE/1B	Seasonal wetlands in alkali sinks with valley sink scrub, alkali meadows, and alkali marsh communities
Interior California larkspur <i>Delphinium californicum</i> ssp. <i>interius</i>	FSC/--/1B	Mesic woodland
Recurved larkspur <i>Delphinium recurvatum</i>	FSC/--/1B	Grasslands, woodlands, scrub, vernal pools with alkaline soils

E = Endangered
 FSC = Federal Species of Concern
 CSC = California Species of Concern
 CNPS = California Native Plant Society
 1B = Rare or endangered in California and elsewhere

Table 8.2-3
Sensitive Biological Resource Locations,
Number of Occurrences, and Their Proximity to the Proposed Plant Site

Facility	Resource	Site	Within 500 feet	Within 1,000 feet
Plant Site	Potential kit fox dens	none	3	5
	White-tailed kite	none	none	1
	Barn owl	none	none	1
	Loggerhead shrike	none	none	1
	Great horned owl	none	none	1

Table 8.2-4
Sensitive Biological Resource Locations per Mile Segment,
Number of Occurrences, and Their Proximity to the Proposed Centerline
of the Transmission Line Route

Resource	Mile Map Segments Where Found	Number of Locations on Centerline	Number of Locations Within Primary Buffer Zone	Number of Locations Within Secondary Buffer Zone
Potential kit fox dens	1,2,3,4,5	14	76	46
Burrowing owls	3,4,5	none	2	7
White-tailed kite	1	none	1	none
Barn owl	1	none	1	none
Loggerhead shrike	1,2,3,5	none	2	2
Great horned owl	1	none	1	none
Golden eagle	3	none	1	none
Prairie falcon	3	none	1	none
Stick nest	3	none	1	none
Tiger salamander potential	3	none	1	none

Table 8.2-5
Vascular Plants Observed During Biological Surveys

Scientific Name	Common Name
<i>AMARANTHACEAE</i> <i>Amaranthus</i> sp.	AMARANTH FAMILY Amaranth
<i>ANACARDIACEAE</i> <i>Schinus molle</i>	SUMAC OR CASHEW FAMILY Peruvian pepper tree
<i>APIACEAE</i> <i>Ammi visnaga</i> <i>Anthriscus caucalis</i> <i>Conium maculatum</i> <i>Torilis arvensis</i>	CARROT FAMILY Bisnaga Bur-chervil Poison-hemlock Field hedge parsley
<i>ASCLEPIADACEAE</i> <i>Asclepias fascicularis</i>	MILKWEED FAMILY Narrow-leaved milkweed
<i>ASTERACEAE</i> <i>Achyrrachaena mollis</i> <i>Carduus pycnocephalus</i> <i>Centaurea solstitialis</i> <i>Chamomilla suaveolens</i> (= <i>Matricaria matricarioides</i>) <i>Cirsium</i> sp. <i>Conyza</i> sp. <i>Grindelia camporum</i> var. <i>camporum</i> <i>Helianthus annuus</i> <i>Hemizonia fitchii</i> <i>Hesperervax sparsiflora</i> var. <i>sparsiflora</i> <i>Holocarpha obconica</i> <i>Hypochaeris glabra</i> <i>Lactuca serriola</i> <i>Microseris acuminata</i> <i>Microseris douglasii</i> var. <i>tenella</i> <i>Picris echioides</i> <i>Senecio vulgaris</i> <i>Silybum marianum</i> <i>Sonchus asper</i> ssp. <i>asper</i> <i>Sonchus oleraceus</i>	SUNFLOWER FAMILY Blow-wives Italian thistle Yellow-star thistle Pineapple weed Thistle Horseweed Gumplant Annual sunflower Fitch's tarplant Erect hesperervax Tarplant Smooth cat's ear Prickly lettuce Sierra foothills microseris Delicate Douglas' microseris Bristly ox-tongue Common senecio Milk thistle Prickly sow-thistle Sow-thistle
<i>BORAGINACEAE</i> <i>Amsinckia eastwoodiae</i> <i>Amsinckia menziesii</i> var. <i>menziesii</i>	FORGET-ME-NOT FAMILY Eastwood's fiddleneck Rancher's fireweed
<i>BRASSICACEAE</i> <i>Brassica nigra</i> <i>Capsella bursa-pastoris</i> <i>Descurainia sofia</i> <i>Hirschfeldia incana</i> (= <i>Brassica geniculata</i>) <i>Lepidium nitidum</i> var. <i>nitidum</i>	MUSTARD FAMILY Black mustard Shepherd's purse Tumble mustard Summer mustard Shining peppergrass

Table 8.2-5 (continued)
Vascular Plants Observed During Biological Surveys

SCIENTIFIC NAME	COMMON NAME
<i>Sisymbrium irio</i>	London rocket
<i>CARYOPHYLLACEAE</i>	PINK FAMILY
<i>Herniaria hirsuta</i> ssp. <i>cinerea</i> (= <i>Paronychia pusilla</i>)	Herniaria
<i>Sagina apetala</i>	Dwarf pearlwort
<i>Stellaria media</i>	Common chickweed
<i>CHENOPODIACEAE</i>	GOOSEFOOT FAMILY
<i>Chenopodium</i> sp.	Lamb's quarters
<i>Salsola tragus</i>	Russian thistle
<i>CONVOVULACEAE</i>	BINDWEED FAMILY
<i>Convolvulus arvensis</i>	Bindweed, Orchard morning-glory
<i>EUPHORBIACEAE</i>	SPURGE FAMILY
<i>Chamaesyce</i> sp.	Spurge
<i>Eremocarpus setigerus</i>	Turkey mullein
<i>FABACEAE</i>	PEA FAMILY
<i>Astragalus asymmetricus</i>	San Joaquin locoweed
<i>Astragalus gambellianus</i>	Annual locoweed
<i>Lotus wrangellianus</i> (= <i>L. subpinnatus</i>)	Common trefoil
<i>Lupinus</i> sp.	Annual lupine
<i>Medicago polymorpha</i>	California burclover
<i>Medicago sativa</i>	Alfalfa
<i>Trifolium breweri</i>	Brewer's trifolium
<i>Trifolium</i> sp.	Clover
<i>Trifolium willdenovii</i> (= <i>T. tridentatum</i>)	Tomcat clover
<i>GERANIACEAE</i>	GERANIUM FAMILY
<i>Erodium botrys</i>	Filaree
<i>Erodium cicutarium</i>	Redstem filaree
<i>Erodium macrophyllum</i>	Storksbill
<i>Geranium molle</i>	Cranes-bill geranium
<i>HYDROPHYLLACEAE</i>	WATERLEAF FAMILY
<i>Phacelia ciliata</i>	Field phacelia
<i>ISOETACEAE</i>	QUILLWORT FAMILY
<i>Isoetes nuttallii</i>	Nuttall's quillwort
<i>JUNCAGINACEAE</i>	ARROW-GRASS FAMILY
<i>Lilaea scilloides</i>	Flowering-quillwort
<i>LAMIACEAE</i>	MINT FAMILY
<i>Lamium amplexicaule</i>	Henbit
<i>Marrubium vulgare</i>	Horehound

Table 8.2-5 (continued)
Vascular Plants Observed During Biological Surveys

SCIENTIFIC NAME	COMMON NAME
<i>LILIACEAE</i> <i>Dichelostemma capitatum</i> (= <i>Brodiaea pulchella</i>)	LILY FAMILY Blue dicks
<i>MALVACEAE</i> <i>Malva nicaeensis</i>	MALLOW FAMILY Bull mallow
<i>MYRTACEAE</i> <i>Eucalyptus camaldulensis</i> <i>Eucalyptus globulus</i>	MYRTLE FAMILY Red gum Blue gum
<i>ONAGRACEAE</i> <i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i> <i>Epilobium brachycarpum</i> (= <i>E. paniculatum</i>)	EVENING-PRIMROSE FAMILY Four-spot Willowherb
<i>PAPAVERACEAE</i> <i>Eschscholzia californica</i>	POPPY FAMILY Californica poppy
<i>PLANTAGINACEAE</i> <i>Plantago major</i>	PLANTAIN FAMILY Common plantain
<i>POACEAE</i> <i>Arundo donax</i> <i>Avena barbata</i> <i>Avena fatua</i> <i>Bromus carinatus</i> var. <i>carinatus</i> <i>Bromus catharticus</i> <i>Bromus diandrus</i> <i>Bromus hordeaceus</i> <i>Bromus madritensis</i> ssp. <i>rubens</i> (= <i>B. rubens</i>) <i>Cynodon dactylon</i> <i>Hordeum marinum</i> ssp. <i>gussoneanum</i> <i>Hordeum murinum</i> ssp. <i>leporinum</i> <i>Leymus triticoides</i> <i>Lolium multiflorum</i> <i>Nassella lepida</i> <i>Phalaris paradoxa</i> var. <i>praemorsa</i> <i>Poa annua</i> <i>Poa bulbosa</i> <i>Poa secunda</i> <i>Polypogon monspeliensis</i> <i>Vulpia bromoides</i> (= <i>Festuca dertonensis</i>) <i>Vulpia microstachys</i> var. <i>pauciflora</i> (= <i>F. reflexa</i>)	GRASS FAMILY Giant reed Slender oats Wild oats California brome Rescue grass Ripgut brome Soft chess Red brome Bermuda grass Mediterranean barley Foxtail barley Creeping wildrye Italian ryegrass Foothill needlegrass Harding grass Annual bluegrass Bluegrass Bluegrass Rabbitsfoot grass Fescue Fescue
<i>Vulpia microstachys</i> var. <i>ciliata</i> (= <i>F. eastwoodae</i>) <i>Vulpia myuros</i> var. <i>hirsuta</i> (= <i>F. megalura</i>)	Vulpia Zorro grass

Table 8.2-5 (continued)
Vascular Plants Observed During Biological Surveys

SCIENTIFIC NAME	COMMON NAME
<i>POLEMONIACEAE</i> <i>Gilia capitata</i> ssp. <i>capitata</i>	PHLOX FAMILY Gilia
<i>POLYGONACEAE</i> <i>Eriogonum nudum</i> var. <i>nudum</i> <i>Polygonum arenastrum</i> <i>Rumex crispus</i>	BUCKWHEAT FAMILY Naked buckwheat Common knotweed Curly dock
<i>ROSACEAE</i> <i>Prunus amygdalus</i>	ROSE FAMILY Almond
<i>RUBIACEAE</i> <i>Galium</i> sp.	MADDER FAMILY Bedstraw
<i>SALICACEAE</i> <i>Populus fremontii</i> ssp. <i>fremontii</i>	WILLOW FAMILY Fremont cottonwood
<i>TAMARICACEAE</i> <i>Tamarix</i> sp.	TAMARISK FAMILY Tamarisk
<i>URTICACEAE</i> <i>Urtica dioica</i>	NETTLE FAMILY Stinging nettle

**Table 8.2-6
TPP Summary of LORS and Compliance**

Jurisdiction	Authority	Administering Agency	AFC Conformance Section
Federal	Endangered Species Act of 1973; 16 USC § 1531 et. seq.; 50 CFR Parts 17 and 222	USFWS	8.2.8
State	California Endangered Species Act of 1984; California Fish & Game Code §§2050-2091	CDFG	8.2.8
State	California Fish & Game Code §1603	CDFG	8.2.8
State	California Environmental Quality Act: California Public Resources Code §21000 et. seq.	CEC	8.2.8

FIGURES

Figure 8.2-1

Figure 8.2-2

Figure 8.2-3

Figure 8.2-4

Figure 8.2-5

Figure 8.2-6

Figure 8.2-7