

CHAPTER 7 – BIOLOGICAL RESOURCES

INTRODUCTION

This chapter describes the environmental setting (existing conditions and regulatory setting) for the biological resources that are known to occur or could occur within the MTP Plan Area, and provides an overview of the current habitat conservation plan and natural resource conservation plans that currently exist or are in preparation for the MTP Plan Area. The chapter also contains a program-level evaluation of the impacts on biological resources that may result from implementation of the proposed MTP 2035 projects, and mitigation measures to reduce these impacts where necessary.

The study area consists of transportation routes, including highways, rail alignments, bicycle trails, state routes, roads, and Caltrans rights-of-way in the MTP Plan Area. The key sources of data and information used in the preparation of this section are listed below:

- a records search of the California Natural Diversity Database (CNDDDB) for Sacramento, Sutter, Yolo, Yuba, Placer, and El Dorado Counties (California Natural Diversity Database 2007);
- the U.S. Fish and Wildlife Service (USFWS) list of endangered, threatened, and proposed species for Sacramento, Sutter, Yolo, Yuba, Placer, and El Dorado Counties (Appendix Bio-1);
- the California Native Plant Society's (CNPS's) 2006 online Inventory of Rare and Endangered Plants of California;
- preliminary information on Habitat Conservation Plans for Sacramento, Sutter, Yuba, Yolo, and Placer Counties;
- USFWS' National Wetland Inventory Maps;
- Sacramento Area of Council of Governments Metropolitan Transportation Plan for 2025 Program Environmental Impact Report (SACOG 2002)
- California Wildlife: Conservation Challenges (California Wildlife Action Plan) (Bunn et al. no date);
- published and unpublished literature; and
- Jones & Stokes file information.

The information presented in this chapter is based on a review of existing and available information and is regional in scope. Data provided in this section should be considered preliminary and appropriate for general policy planning, and tiering of subsequent environmental documents. Site-specific field surveys will be necessary to determine future project-level environmental effects and appropriate mitigation.

SETTING

Environmental Setting

This environmental setting section contains information on the following biological resources:

- plant communities and associated biological habitat uses,

- noxious weeds,
- waters of the United States (including wetlands), and
- special-status species.

Plant Communities and Associated Habitat Uses and Values

The MTP Plan Area contains a variety of elevations, geologic formations, climatic conditions, and associated biological communities. The most common upland and artificially created plant communities in the MTP Plan Area are annual grassland, chaparral communities, conifer forest communities, agricultural lands, and urban areas.

Sensitive plant communities occur throughout developed and undeveloped areas of the MTP Plan Area. For the purpose of this program EIR, sensitive plant communities are communities that are especially diverse, regionally uncommon, considered sensitive natural communities as defined by Holland (1986), or regulated by state or federal agencies and policies (e.g., Section 404 of the Clean Water Act [CWA]). Most sensitive plant communities are given special consideration because they perform important ecological functions, such as maintaining water quality and providing essential habitat for plants and wildlife. Some communities support a unique or diverse assemblage of plant species and are therefore considered sensitive from a botanical standpoint. Sensitive plant communities that occur in the MTP Plan Area are:

- various types of riparian communities;
- seasonal and perennial wetland communities, including vernal pool complexes; and
- oak woodland and savanna communities.

A description of the general types of plant communities found in the MTP Plan Area is provided below. Although the area contains many more plant communities than are described below, the plant communities not discussed are less common or occur as inclusions within the more common plant communities (e.g., native perennial grasslands).

Annual Grassland

Annual grassland is one of the most common plant communities in the MTP area and is dominated by nonnative annual grasses and herbaceous species. Grasslands are found on ridges, hill slopes, and valley floors. Typical plants include a mix of dominant nonnative grasses such as soft chess, red brome, ripgut brome, foxtail barley, wild oat, and annual fescues, intermixed with forb species such as clovers, lupines, owl's clover, popcornflower, poppies, and various species of filaree. Some annual grasslands in the counties have been subject to frequent disturbance, such as grazing and maintenance activities along roadsides. The annual grassland vegetation in these areas may be dominated by introduced nonnative species, such as yellow star-thistle.

In the MTP Plan Area, grasslands are important because they support insects, amphibians, reptiles, and small birds and mammals that are prey for other wildlife, such as red-tailed hawks, northern harriers, American kestrels, burrowing owls, coyotes, and gray foxes. Grasslands near open water and woodland habitats are used by the greatest number of wildlife species because they provide places for resting, breeding, and escape.

Annual grassland is a common plant community regionally and statewide. It stabilizes soils, protects watersheds from erosion, and provides forage for wildlife and livestock. It also provides habitat for a variety of special-status species (described later in this section).

Wetland Communities

The MTP Plan Area contains a variety of seasonal and perennial wetland communities. The most common types of wetlands in the MTP Plan Area are vernal pools and other seasonal wetlands and fresh emergent wetland communities. Although there are many other types of wetlands in the MTP Plan Area, these wetland communities are the most common and are therefore described below.

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands has increased as their value as recharge areas and filters for water supplies has become recognized.

Vernal Pools and Other Seasonal Wetland Communities

Seasonal wetlands are shallow depressions that occur in annual grasslands and are inundated only during the rainy season; the vegetation is composed of wetland-adapted annual grasses and forbs. Vernal pools are a unique type of seasonal wetland that typically supports a variety of plant, vertebrate, and invertebrate species.

Seasonal wetlands, including vernal pools and seasonal swales, provide habitat for a variety of wildlife species. During the wet season when seasonal wetlands and vernal pools are ponded, waterbirds such as killdeer, black-necked stilts, American avocets, great egrets, and greater yellowlegs commonly forage on the many invertebrate and amphibian larvae commonly found in this habitat. Seasonal wetlands are also an important breeding habitat for several amphibian species that depend on these temporary water bodies for successful reproduction.

Vernal pools and other types of seasonal wetlands provide habitat for several special-status wildlife in the MTP Plan Area, including vernal pool fairy shrimp, vernal pool tadpole shrimp, Conservancy fairy shrimp, Delta green ground beetle, California tiger salamander, and Yosemite toad.

Special-status plants that may occur in these seasonal wetland communities include Bogg's Lake hedgehyssop, legenere, dwarf downingia, Ahart's dwarf rush, Red Bluff dwarf rush, hispid bird's-beak, Sanford's arrowhead, pincushion navarretia, and Henderson's bentgrass.

Vernal pools are sensitive natural communities that are being lost increasingly as a result of conversion of land to other uses. One priority of several of the HCPs that are currently being prepared for areas within the SACOG region is to conserve and protect remaining vernal pool complexes within the respective planning areas.

Fresh Emergent Wetland Communities

This community is distinguished from deepwater aquatic habitats and other wetlands by the presence of tall, perennial, grass-like plants rooted in soils that are permanently or seasonally flooded or inundated. Characteristic species include broadleaf cattail, common bulrush, creeping spikerush, Pacific rush, Baltic rush, mannagrass, floating water-primrose, water-plantain, and swamp smartweed.

Fresh emergent wetland communities can occur in basins or depressions at all elevations, aspects, and exposures, but they are most common on level to gently rolling topography (Mayer and Laudenslayer 1988). In the MTP Plan Area, fresh emergent wetlands are often associated with small artificial ponds, reservoirs, natural drainages, irrigation canals, and roadside ditches.

Characteristic waterbirds that nest in emergent wetlands include Canada goose, mallard, cinnamon teal, gadwall, Virginia rail, American coot, common moorhen, killdeer, and Wilson's snipe. These species may be joined by migratory and wintering waterfowl such as American wigeon, northern shoveler, northern pintail, green-winged teal, ring-necked duck, bufflehead, and ruddy duck. Amphibians and reptiles that are found in fresh emergent wetland communities include western toad, Pacific treefrog, common garter snake, and western aquatic garter snake.

Special-status wildlife species in the MTP Plan Area that may use this community type include California tiger salamander, California red-legged frog, western pond turtle, giant garter snake, white-faced ibis, northern harrier, white-tailed kite, California black rail, saltmarsh common yellowthroat, and tricolored blackbird. There are also a variety of special-status plants that are known to occur in this wetland community (Table 7-1).

Chaparral Communities

Chaparral communities typically occur on the dryer slopes of the foothill region and are characterized by drought-resistant shrubs. These communities are relatively uncommon in the foothill regions of the MTP Plan Area. Dominant species in chaparral communities in the MTP Plan Area include manzanita species, buckbrush, black sage, and chamise. The herbaceous understory varies depending on the density of shrub cover, and typically includes native grasses and wildflowers.

Chaparral plants provide browse, berries, and seeds for a variety of birds, such as California quail, northern mockingbird, American robin, hermit thrush, rufous-sided towhee, California towhee, dark-eyed junco, and golden-crowned sparrow. Insectivorous birds, such as orange-crowned warbler, bushtit, and Bewick's wren, feed on insects in chaparral foliage. Many bird species also find nesting and roosting sites and protection from predators in chaparral habitats. Numerous rodents inhabit chaparral habitats, and deer, rabbits, and hares make extensive use of chaparral sources of food and cover. In addition, chaparral provides foraging and refuge habitat for other mammals and reptiles, including gray fox, coyote, deer mouse, western fence lizard, western rattlesnake, and gopher snake.

Special-status wildlife species that may occur in chaparral habitat include California horned lizard, golden eagle, Marysville kangaroo rat, Sierra Nevada snowshoe hare, and Sierra Nevada red fox. Some chaparral communities, especially those found in the lower foothill region of El Dorado County, provide habitat for a variety of special-status plant species (Table 7-1).

Oak Woodland and Savanna Communities

In the MTP Plan Area, woodland and savanna communities occur in the valley and at the mid- to upper elevations. These communities are dominated by a variety of oaks, including valley oak, blue oak, interior live oak, black oak, and canyon live oak.

Oak woodland and savanna communities provide important breeding, foraging, and cover habitat for most of the wildlife species common to the region. The upper canopy provides nesting, foraging, and cache sites for many birds, such as Lewis' woodpecker, acorn woodpecker, northern flicker, plain titmouse, western bluebird, mourning dove, and red-tailed hawk; the understory shrub layer provides

Table 7-1. Special-Status Wildlife Species Documented in the Metropolitan Transportation Plan Area

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Invertebrates				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E/-	Disjunct occurrences in Solano, Merced, Tehama, Butte, and Glenn Counties.	Large, deep vernal pools in annual grasslands.	Yolo, Yuba
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/-	Central Valley, central and south Coast Ranges from Tehama County to Santa Barbara County. Isolated populations also in Riverside County.	Common in vernal pools; also found in sandstone rock outcrop pools.	Sacramento, Yolo, Sutter, Yuba, Placer, El Dorado
California linderiella <i>Linderiella occidentalis</i>	-/-	Central Valley, central and south Coast Ranges from Mendocino County to Santa Barbara County	Vernal pools	Sacramento, Yolo, Sutter, Yuba, Placer
Vernal pool tadpole shrimp <i>Lepidurus packardi</i>	E/-	Shasta County south to Merced County.	Vernal pools and ephemeral stock ponds.	Sacramento, Yolo, Sutter, Yuba, Placer
Midvalley fairy shrimp <i>Branchinecta mesovallensis</i>	-/-	Known from Fresno, Madera, Merced, Sacramento, San Joaquin, and Solano Counties	Vernal pools	Sacramento, Yolo
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T/-	Stream side habitats below 3,000 feet throughout the Central Valley.	Riparian and oak savanna habitats with elderberry shrubs; elderberries are the host plant.	Sacramento, Yolo, Sutter, Yuba, Placer, El Dorado

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Ricksecker's water scavenger beetle <i>Hydrochara rickseckeri</i>	—/—	San Francisco Bay Area including San Mateo, Sonoma, Alameda, and Marin Counties; Also in Solano and Sacramento Counties	Aquatic in vernal pools, ponds, and seasonal wetlands	Sacramento, Placer
Amphibians				
California tiger salamander <i>Ambystoma californiense</i>	T/SSC	Central Valley, including Sierra Nevada foothills, up to approximately 1,000 feet, and coastal region from Butte County south to northeastern San Luis Obispo County.	Small ponds, lakes, or vernal pools in grasslands and oak woodlands for larvae; rodent burrows, rock crevices, or fallen logs for cover for adults and for summer dormancy	Sacramento, Yolo, Sutter, Yuba, Placer, El Dorado
Mount Lyell salamander <i>Hydromantes platycephalus</i>	SC/SSC, P	High Sierra Nevada, mostly above 8000 ft (4000-12,000 ft, overall), from Sonora Pass, Alpine County, to Franklin Pass area, Tulare County; low elevation records are from the south side of Yosemite Valley. Isolated population at Smith Lake, Desolation Wild	Granite rock exposures, talus, and rock fissures, near seepages from streams or melting snow, also in spray zone of waterfalls. Apparently prefers north-facing slopes.	El Dorado
Western spadefoot <i>Spea hammondi</i>	—/SSC	Sierra Nevada foothills, Central Valley, Coast Ranges, coastal counties in southern California.	Shallow streams with riffles and seasonal wetlands, such as vernal pools in annual grasslands and oak woodlands.	Sacramento, Yolo, Placer
California red-legged frog <i>Rana aurora draytonii</i>	T/SSC	Found along the coast and coastal mountain ranges of California from Marin County to San Diego County and in the Sierra Nevada from Tehema County to Fresno County.	Permanent and semipermanent aquatic habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation. May estivate in rodent burrows or cracks during dry periods.	Yuba, Placer, El Dorado
Foothill yellow-legged frog <i>Rana boylei</i>	—/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, Transverse, and Sierra Nevada Ranges up to approximately 6,000 feet.	Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge. Usually found near riffles with rocks and sunny banks nearby.	Yolo, Placer, El Dorado
Mountain yellow-legged frog <i>Rana muscosa</i>	C/SSC	Found in the Sierra Nevada above 4,500 feet from Plumas County to southern Tulare County. Isolated populations in Butte County and near Mono Lake, Mono County	Associated with streams, lakes, and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats.	Placer, El Dorado

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Reptiles				
Northwestern pond turtle <i>Clemmys marmorata marmorata</i>	-/SSC	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada.	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests.	Sacramento, Yolo, Sutter, Yuba, Placer, El Dorado
California horned lizard <i>Phrynosoma coronatum frontale</i>	-/SSC	Sacramento Valley, including foothills, south to southern California; Coast Ranges south of Sonoma County; below 4,000 feet in northern California.	Grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging.	Placer, El Dorado
Giant garter snake <i>Thamnophis gigas</i>	T/T	Central Valley from Fresno north to the Gridley/Sutter Buttes area; has been extirpated from areas south of Fresno.	Sloughs, canals, and other small water-ways where there is a prey base of small fish and amphibians; requires grassy banks and emergent vegetation for basking and areas of high ground protected from flooding during winter.	Sacramento, Yolo, Sutter
Birds				
Harlequin duck <i>Histrionicus histrionicus</i>	-/SSC	May still nest in very small numbers in Calaveras County and eastern Amador and Placer Counties; winters on the coast from Del Norte County to central San Luis Obispo County	Turbulent mountain streams in summer and rough coastal waters in winter; forages by diving along rocky shorelines	Placer
Aleutian Canada goose <i>Branta canadensis leucopareia</i>	T/-	The entire population winters in Butte Sink, then moves to Los Banos, Modesto, the Delta, and East Bay reservoirs; stages near Crescent City during spring before migrating to breeding grounds	Roosts in large marshes, flooded fields, stock ponds, and reservoirs; forages in pastures, meadows, and harvested grainfields; corn is especially preferred	Sutter

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Double-crested cormorant <i>Phalacrocorax auritus</i> (rookery site)	-/SSC	Winters along the entire California coast and inland over the Coast Ranges into the Central Valley from Tehama County to Fresno County; a permanent resident along the coast from Monterey County to San Diego County, along the Colorado River, Imperial, Riverside, Kern and King Co.s, and the islands off San Francisco; breeds in Siskiyou, Modoc, Lassen, Shasta, Plumas, and Mon Co.s; also breeds in the San Francisco Bay Area and in Yolo and Sacramento Counties	Rocky coastlines, beaches, inland ponds, and lakes; needs open water for foraging, and nests in riparian forests or on protected islands, usually in snags	Sacramento
Great blue heron (rookery) <i>Ardea herodias</i>	-/-	Nests in suitable habitat throughout California except at higher elevations in Sierra Nevada and Cascade mountain ranges.	Widely distributed in freshwater and calm-water intertidal habitats.	Sacramento, Yolo, Placer
Great egret (rookery) <i>Ardea alba</i>	-/-	In northern California, common permanent resident in coastal lowlands, inland valleys, and the Central Valley. Locally abundant March to July near the larger nesting colonies.	Feeds and rests in fresh and saline emergent wetlands, along the margins of estuaries, lakes, and slow-moving streams, on mudflats and salt ponds, and in irrigated croplands and pastures; nests in large trees, and roosts in trees.	Sacramento, Yolo
Snowy egret <i>Egretta thula</i> (rookery)	-/-	Occurs in coastal lowlands and other lowland areas throughout California.	Shores of coastal estuaries, fresh and saline emergent wetlands, ponds, slow-moving rivers, irrigation ditches, and wet fields. Nests in dense marshes or at low heights in trees.	Sacramento
White-faced ibis <i>Plegadis chihi</i> (rookery site)	-/SSC	Both resident and winter populations on the Salton Sea and in isolated areas in Imperial, San Diego, Ventura, and Fresno Counties; breeds at Honey Lake, Lassen County, at Mendota Wildlife Management Area, Fresno County, and near Woodland, Yolo County; win	Prefers freshwater marshes with tules, cattails, and rushes, but may nest in trees and forage in flooded agricultural fields, especially flooded rice fields	Yolo

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Osprey <i>Pandion haliaetus</i>	-/SSC	Nests along the north coast from Marin County to Del Norte County, east through the Klamath and Cascade Ranges, and in the upper Sacramento Valley. Important inland breeding populations at Shasta Lake, Eagle Lake, and Lake Almanor and small numbers elsewhere south through the Sierra Nevada. Winters along the coast from San Mateo County to San Diego County.	Nests in snags, trees, or utility poles near the ocean, large lakes, or rivers with abundant fish populations.	Placer, El Dorado
White-tailed kite <i>Elanus leucurus</i>	-/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County.	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands.	Sacramento, Yolo, Yuba, Placer
American peregrine falcon <i>Falco peregrinus anatum</i>	-/E	Permanent resident along the north and south Coast Ranges. May summer in the Cascade and Klamath Ranges and through the Sierra Nevada to Madera County. Winters in the Central Valley south through the Transverse and Peninsular Ranges and the plains east of the Cascade Range	Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large prey populations	No records in CNDDDB
Merlin <i>Falco columbarius</i>	-/SSC	Does not nest in California. Rare but widespread winter visitor to the Central Valley and coastal areas	Forages along coastline in open grasslands, savannas, and woodlands. Often forages near lakes and other wetlands	No records in CNDDDB
Bald eagle <i>Haliaeetus leucocephalus</i>	T(PD)/E, FP	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin. Reintroduced into central coast. Winter range includes the rest of California, except the southeastern deserts, very high altitudes in the Sierra Nevada, and east of the Sierra Nevada south of Mono County.	In western North America, nests and roosts in coniferous forests within 1 mile of a lake, reservoir, stream, or the ocean.	Yuba, El Dorado
Northern harrier <i>Circus cyaneus</i>	-/SSC	Occurs throughout lowland California; has been recorded in fall at high elevations.	Grasslands, meadows, marshes, and seasonal and agricultural wetlands.	Yuba

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Sharp-shinned hawk <i>Accipiter striatus</i>	-/SSC	Permanent resident in the Sierra Nevada, Cascade, Klamath, and north Coast Ranges at mid elevations and along the coast in Marin, San Francisco, San Mateo, Santa Cruz, and Monterey Counties. Winters over the rest of the state except at very high elevations.	Dense canopy ponderosa pine or mixed-conifer forest and riparian habitats.	El Dorado
Cooper's hawk <i>Accipiter cooperii</i>	-/SSC	Throughout California except high altitudes in the Sierra Nevada. Winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range.	Nests in a wide variety of habitat types, from riparian woodlands and digger pine-oak woodlands through mixed conifer forests.	Sacramento, Placer
Northern goshawk <i>Accipiter gentilis</i>	-/SSC	Permanent resident in the Klamath and Cascade Ranges, in the north Coast Ranges from Del Norte County to Mendocino County, and in the Sierra Nevada south to Kern County. Winters in Modoc, Lassen, Mono, and northern Inyo Counties	Nests and roosts in older stands of red fir, Jeffrey pine, Ponderosa pine, lodgepole pine, Douglas fir, and mixed conifer forests	Placer, El Dorado
Swainson's hawk <i>Buteo swainsoni</i>	-/T	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County.	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields.	Sacramento, Yolo, Sutter, Yuba, Placer
Ferruginous hawk <i>Buteo regalis</i>	-/SSC	Does not nest in California; winter visitor along the coast from Sonoma County to San Diego County, east-ward to the Sierra Nevada foothills and south-eastern deserts, the Inyo-White Mountains, the plains east of the Cascade Range, and Siskiyou County.	Open terrain in plains and foothills where ground squirrels and other prey are available.	Sacramento
Golden eagle <i>Aquila chrysaetos</i>	-/SSC, FP	Foothills and mountains throughout California. Uncommon nonbreeding visitor to lowlands such as the Central Valley.	Nest on cliffs and escarpments or in tall trees overlooking open country. Forages in annual grasslands, chaparral, and oak woodlands with plentiful medium and large-sized mammals.	Sacramento, El Dorado

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Prairie falcon <i>Falco mexicanus</i>	-/SSC	Permanent resident in the south Coast, Transverse, Peninsular, and northern Cascade Ranges, the southeastern deserts, Inyo-White Mountains, foothills surrounding the Central Valley, and in the Sierra Nevada in Modoc, Lassen, and Plumas Counties. Winters in the Central Valley, along the coast from Santa Barbara County to San Diego County, and in Marin, Sonoma, Humboldt, Del Norte, and Inyo Counties	Nests on cliffs or escarpments, usually overlooking dry, open terrain or uplands	Yolo
California black rail <i>Laterallus jamaicensis coturniculus</i>	-/T, FP	Permanent resident in the San Francisco Bay and east-ward through the Delta into Sacramento and San Joaquin Counties; small populations in Marin, Santa Cruz, San Luis Obispo, Orange, Riverside, and Imperial Counties	Tidal salt marshes associated with heavy growth of pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations	Yuba, Placer
Greater sandhill crane <i>Grus canadensis tabida</i> (nesting and wintering)	-/T, FP	Breeds in Siskiyou, Modoc, Lassen, Plumas, and Sierra Counties. Winters in the Central Valley, southern Imperial County, Lake Havasu National Wildlife Refuge, and the Colorado River Indian Reserve.	Summers in open terrain near shallow lakes or freshwater marshes. Winters in plains and valleys near bodies of fresh water.	No records in CNDDDB
Western snowy plover (inland population) <i>Charadrius alexandrinus nivosus</i>	-/SSC	Nests at inland lakes throughout northeastern, central, and southern California, including Mono Lake and Salton Sea	Barren to sparsely vegetated ground at alkaline or saline lakes, reservoirs, ponds and riverine sand bars; also along sewage, salt-evaporation, and agricultural waste-water ponds	Yolo
Mountain plover <i>Charadrius montanus</i>	-/SSC	Does not breed in California; in winter, found in the Central Valley south of Yuba County, along the coast in parts of San Luis Obispo, Santa Barbara, Ventura, and San Diego Counties; parts of Imperial, Riverside, Kern, and Los Angeles Counties	Occupies open plains or rolling hills with short grasses or very sparse vegetation; nearby bodies of water are not needed; may use newly plowed or sprouting grainfields	Yolo

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i> (nesting)	C/E	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado Rivers.	Wide, dense riparian forests with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant.	Yolo, Sutter, Yuba
Western burrowing owl <i>Athene cucularia hypugea</i>	-/SSC	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast.	Level, open, dry, heavily grazed or low stature grassland or desert vegetation with available burrows.	Sacramento, Yolo, Sutter, Yuba, Placer
Northern spotted owl <i>Strix occidentalis caurina</i>	T/-	A permanent resident throughout its range; found west of the Cascade Range through the Klamath Mountains and North Coast Ranges from Del Norte County to Marin County	Dense old-growth or mature forests dominated by conifers with topped trees or oaks available for nesting crevices	No records in CNDDB
Great gray owl <i>Strix nebulosa</i>	-/E	Permanent resident of the Sierra Nevada from Plumas County south to the Yosemite area. Occasionally occurs in northwestern California in the winter and the Warner mountains in the summer.	Late successional coniferous forests bordering meadows	El Dorado
Long-eared owl <i>Asio otus</i>	-/SSC	Permanent resident east of the Cascade Range from Placer County north to the Oregon border, east of the Sierra Nevada from Alpine County to Inyo County. Scattered breeding populations along the coast and in southeastern California. Winters throughout the Central Valley and southeastern California	Nests in abandoned crow, hawk, or magpie nests, usually in dense riparian stands of willows, cottonwoods, live oaks, or conifers	Yuba
Black swift <i>Cypseloides niger</i> (nesting)	-/SSC	Breeds very locally in the Sierra Nevada and Cascade Range, the San Gabriel, San Bernardino, and San Jacinto mountains, and in coastal bluffs from San Mateo county south to near San Luis Obispo county	Nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons	Placer

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Willow flycatcher <i>Empidonax traillii</i>	-/E	Summers along the western Sierra Nevada from El Dorado to Madera County, in the Cascade and northern Sierra Nevada in Trinity, Shasta, Tehama, Butte, and Plumas Counties, and along the eastern Sierra Nevada from Lassen to Inyo County.	Riparian areas and large wet meadows with abundant willows. Usually found in riparian habitats during migration.	Placer, El Dorado
Loggerhead shrike <i>Lanius ludovicianus</i>	-/SSC	Resident and winter visitor in lowlands and foothills throughout California. Rare on coastal slope north of Mendocino County, occurring only in winter.	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches.	No records in CNDDB
Purple martin <i>Progne subis</i>	-/SSC	Coastal mountains south to San Luis Obispo County, west slope of the Sierra Nevada, and northern Sierra and Cascade ranges. Absent from the Central Valley except in Sacramento. Isolated, local populations in southern California	Nests in abandoned woodpecker holes in oaks, cottonwoods, and other deciduous trees in a variety of wooded and riparian habitats. Also nests in vertical drainage holes under elevated freeways and highway bridges	Sacramento
Bank swallow <i>Riparia riparia</i>	-/T	Occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American Rivers, in the Owens Valley; and in the plains east of the Cascade Range in Modoc, Lassen, and northern Siskiyou Counties. Small populations near the coast from San Francisco County to Monterey County.	Nests in bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam.	Sacramento, Yolo, Sutter, Yuba, El Dorado
Yellow warbler <i>Dendroica petechia brewsteri</i> (nesting)	-/SSC	Nests over all of California except the Central Valley, the Mojave Desert region, and high altitudes and the eastern side of the Sierra Nevada. Winters along the Colorado River and in parts of Imperial and Riverside Counties. Two small permanent populations in San Diego and Santa Barbara Counties	Nests in riparian areas dominated by willows, cottonwoods, sycamores, or alders or in mature chaparral; may also use oaks, conifers, and urban areas near stream courses	Placer
Yellow-breasted chat <i>Icteria virens</i>	-/SSC	Nests locally in coastal mountains and Sierra Nevada foothills, east of the Cascades in northern California, along the Colorado river, and very locally inland in southern California	Nests in dense riparian habitats dominated by willows, alders, Oregon ash, tall weeds, blackberry vines, and grapevines	No records in CNDDB

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	-/SSC	Found only in the San Francisco Bay Area in Marin, Napa, Sonoma, Solano, San Francisco, San Mateo, Santa Clara, and Alameda Counties	Freshwater marshes in summer and salt or brackish marshes in fall and winter; requires tall grasses, tules, and willow thickets for nesting and cover	Sacramento
Suisun song sparrow <i>Melospiza melodia maxillaris</i>	-/SSC	Restricted to the extreme western edge of the Delta, between the cities of Vallejo and Pittsburg near Suisun Bay	Brackish and tidal marshes supporting cattails, tules, various sedges, and pickleweed	Sacramento
Tricolored blackbird <i>Agelaius tricolor</i>	-/SSC	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County; and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Sacramento, Yolo, Sutter, Yuba, Placer, El Dorado
Mammals				
Western red bat <i>Lasiurus blossevillii</i>	-/-	Scattered throughout much of California at lower elevations	Found primarily in riparian and wooded habitats. Occurs at least seasonally in urban areas. Day roosts in trees within the foliage. Found in fruit orchards and sycamore riparian habitats in the central valley	No records in CNDDDB
Yuma myotis <i>Myotis yumanensis</i>	-/-	Common and widespread throughout most of California except the Colorado and Mojave deserts	Found in a wide variety of habitats from sea level to 11,000 ft., but uncommon above 8,000 ft. Optimal habitat is open forests and woodlands near water bodies	El Dorado
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	-/SSC	Throughout California from low desert to mid-elevation montane habitats.	Desert, oak woodland, coastal redwood, and mixed coniferous-deciduous forest. Day roosts in cave-like spaces including mines, caves, tunnels, and dark spaces in buildings, such as attics. May night roost in more open areas such as under bridges.	Yolo, Placer

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Pallid bat <i>Antrozous pallidus</i>	-/SSC	Occurs throughout California except the high Sierra from Shasta to Kern County and the northwest coast, primarily at lower and mid elevations.	Occurs in a variety of habitats from desert to coniferous forest. Most closely associated with oak, yellow pine, redwood, and giant sequoia habitats in northern California and oak woodland, grassland, and desert scrub in southern California. Relies heavily on trees for roosts.	Sacramento, Yolo, Sutter
Sierra Nevada snowshoe hare <i>Lepus americanus tahoensis</i>	-/SSC	Occurs in the Cascade mountains in Siskiyou and Del Norte Counties and the Sierra Nevada from Mt. Lassen south to Mono and Tulare Counties, generally between 4,800 and 8,000 feet	Found in dense thickets of conifers, riparian vegetation, or chaparral in boreal life zones	Placer, El Dorado
Western white-tailed jackrabbit <i>Lepus townsendii</i>	-/SSC	Occurs in the Great Basin, as well as high elevations on the crest of the Sierra Nevada mountains and rarely to 6,000 feet on the western slope of this range.	Sagebrush-covered slopes, grasslands and meadows to timberline or above, and open forests of lodgepole pine, yellow pine, western juniper, dwarf juniper, red fir and mixed conifers. Moves to lower regions during the winter in the Sierra Nevada	Placer
Sierra Nevada mountain beaver <i>Aplodontia rufa californica</i>	-/SSC	Occurs from Mount Shasta east and south through the Sierra Nevada range. Populations scattered and local	Slopes of ridges or gullies where there is abundant moisture, thick undergrowth, and soft soil for burrowing	Placer, El Dorado
Marysville California kangaroo rat <i>Dipodomys californicus eximius</i>	-/SSC	Sutter Buttes, Sutter County; could be extinct	Grassland and sparse chaparral habitats above the valley floor on slopes with well-drained soils	Sutter
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	-/T	Occurs in the Cascade Range, in Siskiyou County, and in the Sierra Nevada from Lassen County south to Tulare County	Alpine dwarf-shrub, wet meadow, subalpine conifer, lodgepole pine, red fir, aspen, montane chaparral, montane riparian, mixed conifer, and ponderosa pine. In the Sierra Nevada, most sightings have been above 7,000 feet.	El Dorado

Table 7-1. Continued

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Pacific fisher <i>Martes pennanti pacifica</i>	C/SSC	Coastal mountains from Del Norte County to Sonoma Counties, east through the Cascades to Lassen County, and south in the Sierra Nevada to Kern County	Late successional coniferous forests and montane riparian habitats	Yuba, Placer, El Dorado
American badger <i>Taxidea taxus</i>	-/SSC	Throughout California, except for the humid coastal forests of northwestern California in Del Norte and the northwestern Humboldt Counties	Requires sufficient food, friable soils, and relatively open uncultivated ground; preferred habitat includes grasslands, savannas, and mountain meadows near timberline	Sacramento, Yolo, El Dorado
California wolverine <i>Gulo gulo luteus</i>	-/T, FP	Klamath and Cascade Ranges south through the Sierra Nevada to Tulare County	Found in a variety of mountain habitats. In north coastal areas, most sightings have been between 1,600 and 4,800 feet. The species has been found between 4,300–7,300 feet in the northern Sierra Nevada and between 6,400 and 10,800 in the Southern Sierra Nevada. Most common in open terrain above timberline and subalpine forests.	Placer, El Dorado
Ringtail <i>Basariscus astutas</i>	-/FP	Little information on distribution and abundance. Apparently occurs throughout the state except for the southern Central Valley and the Modoc Plateau	Occurs primarily in riparian habitats but also known from most forest and shrub habitats from lower to mid elevations	No records in CNDDDB

Common and Scientific Names	Status ^a Federal/State	Distribution	Preferred Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
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^a Status:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- C = candidate for threatened or endangered status.
- SC = species of concern.
- FP = proposed for delisting.

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- FP = fully protected under the California Fish and Game Code.
- SSC = species of special concern in California.

^b Known occurrences from DFG’s California Natural Diversity Database 2007. RareFind 2, Version 3.1.0 (February 2007 update).

habitat for many common bird species, such as golden and white-crowned sparrows, and small mammals, such as dusky-footed woodrat.

Special-status wildlife species that could occur in oak woodland communities in the MTP Plan Area include western spadefoot, northwestern pond turtle, California horned lizard, ferruginous hawk, white-tailed kite, Cooper's hawk, golden eagle, purple martin, Townsend's big-eared bat, and pallid bat.

Special-status plants that could occur in woodland communities in the MTP Plan Area include Sanborn's onion, depauperate milk-vetch, big-scale balsamroot, Red Hills soaproot, Brandegees' clarkia, tripod buckwheat, stinkbells, Butte County fritillary, dubious pea, Humboldt lily, sylvan microseris, Sierra monardella, and hoary navarretia.

Conifer Forest Communities

Conifer forest communities occur in the Sierra Nevada foothill and mountainous regions of Placer, El Dorado, and Yuba counties. These forest communities are dominated by a mix of pine trees (depending on the elevation), oak trees, white fir, incense-cedar, sugar pine, Douglas-fir, and Pacific madrone.

Species composition of the understory of the conifer forest communities varies widely with elevation, aspect, and fire history of individual stands. However, in most areas, the shrub and herb layers occur primarily at forest edges or in canopy openings, such as rock outcrops and other natural or artificial clearings.

Large mammals that frequent conifer forest communities include coyote, black bear, mountain lion, and bobcat. A variety of smaller rodents, squirrels, and shrews are found in shrub thickets and open patches within the forest. Amphibians and reptiles that occur in forest communities include California newt, long-toed salamander, Pacific treefrog, western toad, western fence lizard, northern alligator lizard, gopher snake, common kingsnake, mountain kingsnake, common garter snake, and western rattlesnake.

A variety of flycatchers, vireos, warblers, and many other birds occur in conifer forests. Canopy-dwelling species include olive-sided flycatcher, golden-crowned kinglet (winter only), and western tanager. Large snags and the decaying portions of living trees offer nesting cavities for pileated woodpecker, western screech owl, and northern flicker. The forest also provides food and habitat for a variety of birds, including white-headed woodpecker, mourning dove, white-breasted nuthatch, red-breasted nuthatch, chestnut-backed chickadee, mountain chickadee, dark-eyed junco, spotted towhee, black-headed grosbeak, and evening grosbeak.

Special-status species that are known to visit this habitat include northwestern pond turtle, northern goshawk, northern spotted owl, great gray owl, yellow warbler, American marten, Pacific fisher, ringtail, and bats such as Yuma myotis and pallid bat. There are also a variety of special-status plants that are known to occur within conifer forest communities in the Sierra Nevada region (Table 7-2).

Agricultural Lands

Agricultural lands occur throughout the valley and lower foothill regions of the MTP Plan Area. Agricultural lands include, but are not limited to, irrigated pastures, vineyards, rice fields, row crops, and orchards. Depending on the crop pattern and the land's proximity to native habitats, agricultural lands can provide relatively high-value habitat for wildlife, particularly as foraging habitat. Raptor species use row- and grain-crop agricultural lands for foraging because several species of common rodents are found

in agricultural fields. Agricultural habitats also provide foraging and resting habitat for migrating and wintering waterfowl and shorebirds.

Special-status wildlife species associated with agricultural lands, such as northern harrier and giant garter snake, may use adjacent irrigation canals and freshwater marsh vegetation for foraging or breeding. Giant garter snakes have the potential to occur in irrigation canals and can use the adjacent agricultural lands as foraging and basking habitat. Swainson's hawks also forage in agricultural lands.

Riparian Communities

A variety of riparian communities occur along creeks, rivers, and other water bodies in the MTP Plan Area. The composition and structure of riparian vegetation varies along the different water bodies, but generally consists of willows, Fremont's cottonwood, valley oak, California sycamore, box elder, Oregon ash, white alder, wild grape, and a variety of other herbaceous and shrub species.

Despite widespread disturbances resulting from urbanization, agricultural conversion, and grazing, riparian forests remain important wildlife resources because of their scarcity regionally and statewide and because the riparian community is used by a large variety of wildlife species. This habitat supports abundant aquatic and terrestrial invertebrates that are prey for amphibians and reptiles, such as common garter snakes, western skinks, and ringneck snakes, as well as insectivorous birds, such as warblers, northern flickers, downy woodpeckers, and flycatchers. Small mammals found in riparian habitats include shrews, voles, bats, and mice. Raptors that nest in large riparian trees include great horned owls, red-tailed hawks, and American kestrels. Cavity-dependent species, such as woodpeckers, bats, squirrels, and raccoons, require mature stands of trees. Striped skunks, red foxes, gray foxes, and badgers forage in riparian habitats and use them for cover and travel.

Elderberry shrubs within riparian woodlands in the MTP Plan Area provide habitat for valley elderberry longhorn beetle, a species listed as threatened under the federal Endangered Species Act (ESA). Riparian woodlands also provide nesting habitat for several special-status raptors, including osprey, bald eagle, Cooper's hawk, Swainson's hawk, and white-tailed kite. Although it is a very rare species, western yellow-billed cuckoos potentially could nest in very dense areas of riparian woodland. Cavities in riparian trees along waterways in the MTP Plan Area may be used as roosting sites by some species of special-status bats, such as pallid bat.

Many riparian forests (especially those found in the MTP Plan Area) represent uncommon plant communities regionally and statewide because of historic and continuing habitat loss. These communities provide essential habitat functions and values for many species. For this reason, riparian habitat has been designated by the California Department of Fish and Game (DFG) as a critical primary habitat. Land conversion practices and flood control projects have been identified as the primary causes of riparian habitat loss.

Riverine Systems

Riverine systems occurring in the MTP Plan Area comprise permanent, intermittent, and ephemeral drainages. Most of the rivers in the MTP Plan Area and their tributaries are part of the Sacramento–San Joaquin River watershed.

A variety of invertebrate and vertebrate species occur in riverine ecosystems in the MTP Plan Area. Invertebrates that might be found in rivers and creeks include mayflies, alderflies, stoneflies, dragonflies, damselflies, water striders, and caddisflies.

Table 7-2. Special-Status Plants Identified as Having the Potential to Occur in the Metropolitan Transportation Plan Area

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Jepson's onion <i>Allium jepsonii</i>	-/-/1B.2	Sierra Nevada foothills in Butte, El Dorado, Placer, and Tuolumne Counties	Serpentine or volcanic soils in chaparral, cismontane woodland, lower montane coniferous forest; 300–1,320 meters	May–Aug
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	-/-/1B.2	Inner North Coast Ranges, San Francisco Bay Area, western and central Great Valley	Coastal bluff scrub, valley and foothill grasslands, cismontane woodlands; 3–500 meters	Mar–Jun
Simple androsace <i>Androsace occidentalis</i> var. <i>simplex</i>	-/-/2.3	Endemic to Emigrant Gap in northern high Sierra Nevada in Placer County; Arizona, New Mexico, Texas, and elsewhere	Seasonally wet sites in upper montane coniferous forest; 1,675–1,700 meters	Aug–Sep
Carson Range rock cress <i>Arabis rigidissima</i> var. <i>demota</i>	-/-/1B.2	Known in CA from only two occurrences near Martis Peak, Placer County; Nevada	Rocky soils in broadleaved upland forest, upper montane coniferous forest; 2,255–2,560 meters	Aug
Nissenan Manzanita <i>Arctostaphylos nissenana</i>	-/-/1B.2	Sierra Nevada foothills, El Dorado and Tuolumne Counties	Closed-cone coniferous forest, chaparral on rocky, dry ridges; 450–1,100 meters	Feb–Mar
Jepson's milk-vetch <i>Astragalus rattanii</i> var. <i>jepsonianus</i>	-/-/1B.2	Southern Inner North Coast Range: Colusa, Glenn, Lake, Napa, Tehama, and Yolo Counties	Often on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 320–700 meters	Apr–Jun
Ferris's milk vetch <i>Astragalus tener</i> var. <i>ferrisiae</i>	-/-/1B.1	Historical range included the Central Valley from Butte to Alameda County but currently only occurs in Butte, Glenn, Colusa, and Yolo Counties	Seasonally wet areas in meadows and seeps, subalkaline flats in valley and foothill grassland; 5–75 meters	Apr–May
Alkalai milk vetch <i>Astragalus tener</i> var. <i>tener</i>	-/-/1B.2	Southern Sacramento Valley, northern San Joaquin Valley, east San Francisco Bay area	Playas, on adobe clay in valley and foothill grassland, vernal pools on alkaline soils; below 60 meters	Mar–Jun
Heartscale <i>Atriplex cordulata</i>	-/-/1B.2	Western Central Valley and valleys of adjacent foothills	Saline or alkaline soils in chenopod scrub, meadows and seeps, sandy areas in valley and foothill grassland; below 375 meters	Apr–Oct
Brittlescale <i>Atriplex depressa</i>	-/-/1B.2	Western and eastern Central Valley and adjacent foothills on west side of Central Valley	Alkaline clay soils in chenopod scrub, playas, valley and foothill grasslands; 1–320 meters	May–Oct
San Joaquin saltscale <i>Atriplex joaquiniana</i>	-/-/1B.2	Western edge of the Central Valley from Glenn to Tulare Counties	Alkaline soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland; below 320 meters	Apr–Oct

Table 7-2. Continued

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Big-scale balsamroot <i>Balsamorhiza macrolepis</i> var. <i>macrolepis</i>	-/-/1B.2	Scattered occurrences in the Coast Ranges and Sierra Nevada foothills	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 90–1,400 meters	Mar–Jun
Upswept moonwort <i>Botrychium ascendens</i>	-/-/2.3	Southern High Cascade Ranges, with scattered occurrences in Butte, El Dorado, Mono, Modoc, Plumas, Shasta, Tehama, and Tulare Counties; Idaho, Oregon, Nevada, Washington, and elsewhere	Wet areas in lower montane coniferous forest; 1,500–2,285 meters	Jul–Aug
Mingan moonwort <i>Botrychium minganense</i>	-/-/2.2	High Cascade Range, southern High Sierra Nevada with occurrences in Butte, Fresno, Modoc, Nevada(?), Placer, Plumas, San Bernardino, Shasta, Tehama, and Tulare Counties; Arizona, Idaho, Nevada, Oregon, Utah, Washington, and elsewhere	Wet areas in lower montane coniferous forest; 1,500–2,055 meters	Jul–Sep
Pleasant Valley mariposa lily <i>Calochortus clavatus</i> var. <i>avius</i>	-/-/1B.2	Northern and central Sierra Nevada foothills; Amador, Calaveras, El Dorado, and Mariposa* Counties	Lower montane coniferous forest on Josephine silt loam and volcanic soils; 305–1,800 meters	May–Jul
Stebbins's morning-glory <i>Calystegia stebbinsii</i>	E/E/1B.1	Northern Sierra Nevada foothills with reported occurrences in El Dorado and Nevada Counties	Serpentine or gabbroic soils in chaparral openings, cismontane woodland; 185–730 meters	Apr–Jul
Shore sedge <i>Carex limosa</i>	-/-/2.2	High Sierra Nevada in Butte, El Dorado, Fresno, Lassen, Nevada, Plumas, Siskiyou, and Tuolumne Counties; Nevada and elsewhere	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest; 1,200–2,700 meters	Jun–Aug
Sheldon's sedge <i>Carex sheldonii</i>	-/-/2.2	Northern High Sierra Nevada in Lassen, Modoc, Placer, and Plumas Counties; Idaho, Oregon, Utah	Lower montane coniferous forest in wet areas, freshwater marshes and swamps, riparian scrub; 1,200–2,012 meters	May–Aug
Pine Hill ceanothus <i>Ceanothus roderickii</i>	E/R/1B.2	Endemic to El Dorado County	Serpentine or gabbro soils in chaparral or cismontane woodland; 260–630 meters	Apr–Jun
Alpine dusty maidens <i>Chaenactis douglasii</i> var. <i>alpina</i>	-/-/2.3	Northern High Sierra Nevada, northern Desert Mountains in Alpine, El Dorado, Inyo, Mono, Siskiyou, and Tuolumne Counties	Granitic soils in alpine boulder and rock field; 3,000–3,400 meters	Jul–Sep
Red Hills soaproot <i>Chlorogalum grandiflorum</i>	-/-/1B.2	Northern and central Sierra Nevada foothills in Amador, Placer, El Dorado, and Tuolumne Counties	Serpentine or gabbro soils in chaparral, lower montane coniferous forest, and cismontane woodland; 245–1,170 meters	May–Jun

Table 7-2. Continued

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Brandegee's clarkia <i>Clarkia biloba</i> ssp. <i>brandegeae</i>	-/-/1B.2	Northern Sierra Nevada foothills from Butte to El Dorado Counties	Chaparral, cismontane woodland, often on roadcuts; 225–915 meters	May–Jul
Hispid bird's-beak <i>Cordylanthus mollis</i> ssp. <i>hispidus</i>	-/-/1B.1	Central Valley in Alameda, Fresno, Kern, Merced, Placer, and Solano Counties	Meadow and seeps, valley and foothill grassland, playas, on alkaline soils 1–155 meters	Jun–Sep
Palmate-bracted bird's-beak <i>Cordylanthus palmatus</i>	E/E/1B.1	Livermore Valley and scattered locations in the Central Valley from Colusa to Fresno Counties	Alkaline sites in grassland and chenopod scrub; 5–155 meters	May–Oct
Dwarf downingia <i>Downingia pusilla</i>	-/-/2.2	Inner North Coast Ranges, southern Sacramento Valley, northern and central San Joaquin Valley	Wet areas in valley and foothill grassland, vernal pools; below 445 meters	Mar–May
Tahoe draba <i>Draba asterophora</i> var. <i>asterophora</i>	-/-/1B.3	Northern and central High Sierra Nevada in Alpine, El Dorado, Mono, and Tuolumne Counties; also Nevada	Alpine boulder and rock field, subalpine coniferous forest; 2,500–3,505 meters	Jul–Aug; uncommonly Sep
Cup Lake draba <i>Draba asterophora</i> var. <i>macrocarpa</i>	-/-/1B.3	Endemic to El Dorado County	Rocky areas in subalpine coniferous forest; 2,500–2,815 meters	Jul–Aug
Oregon fireweed <i>Epilobium oreganum</i>	-/-/1B.2	Klamath Ranges, Outer North Coast Ranges in Del Norte, El Dorado, Glenn, Humboldt, Mendocino, Nevada, Placer, Shasta, Siskiyou, Tehama, and Trinity Counties; also Oregon	Mesic sites in lower and upper montane coniferous forest, bogs and fens; 500–2,240 meters	Jun–Sep
Marsh willowherb <i>Epilobium palustre</i>	-/-/2.3	Central High Sierra Nevada in El Dorado and Plumas Counties; Idaho and elsewhere	Bogs and fens, mesic meadows; 2,200 meters	Jul–Aug
Starved daisy <i>Erigeron miser</i>	-/-/1B.3	Northern High Sierra Nevada in Mono, Nevada and Placer Counties	Rocky places in upper montane coniferous forest; 1,840–2,620 meters	Jun–Oct
Nevada daisy <i>Erigeron nevadincola</i>	-/-/2.3	Known from occurrences in Lassen, Placer, Plumas, and Sierra Counties; also Nevada	On rocky sites in Great Basin scrub, lower montane coniferous forest, pinyon-juniper woodland; 1,400–2,900 meters	May–Jul
Snow Mountain buckwheat <i>Eriogonum nervulosum</i>	-/-/1B.2	North Coast Ranges, from Colusa to Yolo Counties	Serpentine chaparral; 300–2,105 meters	Jun–Sep
Donner Pass buckwheat <i>Eriogonum umbellatum</i> var. <i>torreyanum</i>	-/-/1B.2	Northern High Sierra Nevada, Placer, and Sierra Counties	On volcanic substrate in rocky areas in meadows and upper montane coniferous forest; 1,855–2,620 meters	Jul–Sep

Table 7-2. Continued

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Round-leaved filaree <i>California macrophylla</i> [<i>Erodium macrophyllum</i>]	-/-/1B.1	Scattered occurrences in the Central Valley, southern North Coast Ranges, San Francisco Bay area, South Coast Ranges, Channel Islands, Transverse Ranges, and Peninsular Ranges	Clay soils in cismontane woodland, valley and foothill grassland; 15–1,200 meters	Mar–May
Pine Hill flannelbush <i>Fremontodendron decumbens</i> [<i>Fremontodendron californicum</i> ssp. <i>decumbens</i>]	E/R/1B.2	Pine Hill area in El Dorado County, Grass Valley vicinity in Nevada County, Yuba County	Rocky gabbro or serpentinite soils in chaparral, cismontane woodland; 425–760 meters	Apr–Jul
Butte County fritillary <i>Fritillaria eastwoodiae</i>	-/-/3.2	Sierra Nevada foothills from Shasta to El Dorado Counties	Chaparral, cismontane woodland, and openings in lower montane coniferous forest, sometimes on serpentine; 50–1,500 meters	Mar–May
Adobe-lily <i>Fritillaria pluriflora</i>	-/-/1B.2	Northern Sierra Nevada foothills, Inner North Coast Ranges, edges of Sacramento Valley	Chaparral, cismontane woodland, valley and foothill grassland, often on adobe soils; 60–705 meters	Feb–Apr
El Dorado bedstraw <i>Galium californicum</i> ssp. <i>sierrae</i>	E/R/1B.2	Endemic to El Dorado County	On gabbroic soils in chaparral, cismontane woodland, lower montane coniferous forest; 100–585 meters	May–Jun
American manna grass <i>Glyceria grandis</i>	-/-/2.3	Scattered occurrences along the North Coast and in the Sierra Nevada in Fresno, Humboldt, Mendocino, Mono, and Placer Counties; elsewhere	Bogs and fens, meadows and seeps, along streambanks and lake margins in marshes and swamps; 15–1,980 meters	Jun–Aug
Boggs Lake hedge-hyssop <i>Griatiola heterosepala</i>	-/E/1B.2	Inner North Coast Ranges, Central Sierra Nevada foothills, Sacramento Valley and Modoc Plateau in Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, and Tehama Counties; also Oregon	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 10–2,375 meters	Apr–Aug
Hall's harmonia <i>Harmonia hallii</i>	-/-/1B.2	Inner North Coast Ranges in Colusa, Lake, Napa, and Yolo Counties	Chaparral on serpentinite; 500-900 meters	Apr–Jun
Bisbee Peak rush-rose <i>Helianthemum suffrutescens</i>	-/-/3.2	Amador, Calaveras, El Dorado, Mariposa, Sacramento and Tuolumne Counties	Chaparral openings, often on serpentinite, gabbro, or Ione soils; 45–840 meters	Apr–Jun

Table 7-2. Continued

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Drymaria-like western flax <i>Hesperolinon drymarioides</i>	–/–/1B.2	Central Inner North Coast Ranges in Colusa, Glenn, Lake, Napa, and Yolo Counties	On soils derived from serpentinite in closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland; 100–1,130 meters	May–Aug
Rose-mallow <i>Hibiscus lasiocarpus</i>	–/–/2.2	Scattered locations in central California in the Central and southern Sacramento Valley, deltaic Central Valley, from Butte to San Joaquin Counties	Freshwater marshes and swamps; below 120 meters	Jun–Sep
Parry’s horkelia <i>Horkelia parryi</i>	–/–/1B.2	Northern and central Sierra Nevada foothills in Amador, Calaveras, El Dorado, and Mariposa Counties	Chaparral, or cismontane woodland openings, especially Ione formations; 80–1,035 meters	Apr–Jun; uncommonly Sep
Short-leaved hulsea <i>Hulsea brevifolia</i>	–/–/1B.2	Central and southern High Sierra Nevada in El Dorado, Fresno, Madera, Mariposa, Tulare, and Tuolumne Counties	Gravelly or sandy soils derived from granitic or volcanic substrate in lower and upper montane coniferous forest; 1,500–3,200 meters	May–Aug
Plumas ivesia <i>Ivesia sericoleuca</i>	–/–/1B.2	Northern High Sierra Nevada, southern Modoc Plateau in Lassen, Nevada, Placer, Plumas, and Sierra Counties	Seasonally wet areas in Great Basin scrub, lower montane coniferous forest, meadows, vernal pools, usually on volcanic derived soils; 1,465–2,200 meters	May–Sep
Northern California black walnut <i>Juglans hindsii</i>	–/–/1B.1	Last two native stands in Napa and Contra Costa Counties; historically more widespread through southern north inner Coast Range, southern Sacramento Valley, northern San Joaquin Valley, and San Francisco Bay region	Riparian forest, riparian woodland; below 440 meters	Apr–May
Ahart’s dwarf rush <i>Juncus leiospermus</i> var. <i>ahartii</i>	–/–/1B.2	Eastern Sacramento Valley, northeastern San Joaquin Valley with occurrences in Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba Counties	Wet areas in valley and foothill grassland; 30–100 meters	Mar–May
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	–/–/1B.1	Northern Sacramento Valley and Cascade Range foothills with occurrences in Butte, Placer, Shasta, and Tehama Counties	Seasonally wet areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, vernal pools at 35–1,020 meters	Mar–May
Colusa layia <i>Layia septentrionalis</i>	–/–/1B.2	Inner North Coast Ranges in Colusa, Glenn, Lake, Mendocino, Napa, Sonoma, Sutter, Tehama, and Yolo Counties	Sandy or serpentinite soils in grasslands and openings in chaparral and foothills woodlands; 100–1,095 meters	Apr–May

Table 7-2. Continued

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Legenere <i>Legenere limosa</i>	-/-/1B.1	Primarily in the lower Sacramento Valley, also from North Coast Ranges, northern San Joaquin Valley and the Santa Cruz mountains	Vernal pools; below 880 meters	Apr–Jun
Heckard's pepper-grass <i>Lepidium latipes</i> var. <i>heckardii</i>	-/-/1B.2	Southern Sacramento Valley in Glenn, Solano, and Yolo Counties	On margins of alkali scalds in annual grassland; 10–200 meters	Mar–May
Long-petaled lewisia <i>Lewisia longipetala</i>	-/-/1B.3	Northern High Sierra Nevada in El Dorado, Nevada, and Placer Counties	Wet, rocky areas in alpine boulder and rock field, subalpine coniferous forest, on soils derived from granitic rock; 2,500–2,925 meters	Jul–Aug
Saw-toothed lewisia <i>Lewisia serrata</i>	-/-/1B.1	Known from approximately 10 occurrences in El Dorado and Placer Counties	Broadleaved upland forest, lower montane coniferous forest, riparian forest; 900–1,435 meters	May–Jun
Quincy lupine <i>Lupinus dalesiae</i>	-/-/1B.2	Northern High Sierra Nevada in Butte*, Plumas, Sierra, and Yuba Counties	Openings in chaparral, cismontane woodland, lower and upper montane coniferous forest, often in disturbed areas; 855–2,500 meters	May–Aug
Elongate copper-moss <i>Mielichhoferia elongata</i>	-/-/2.2	Sierra Nevada from Nevada to Fresno Counties. Coast Ranges from Humboldt to Santa Cruz Counties; elsewhere	Cismontane woodland, in vernal moist areas, metamorphic rock; 500–1,300 meters	N/A
Veiny monardella <i>Monardella douglasii</i> ssp. <i>venosa</i>	-/-/1B.1	Occurrences in the northern and central Sierra Nevada foothills; also historically known from the Sacramento Valley	Heavy clay soils in cismontane woodland, valley and foothill grassland; 60–410 meters	May–Jul
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	-/-/1B.1	Inner North Coast Range, western Sacramento Valley: Colusa, Glenn, Lake, Mendocino, Marin, Napa, Solano, Sonoma, Tehama, and Yolo Counties	Vernal pools and swales in woodland, lower montane coniferous forest, mesic meadows, and grassland; 5–1,740 meters	Apr–Jul
Pincushion navarretia <i>Navarretia myersii</i> ssp. <i>myersii</i>	-/-/1B.1	Central Valley in Amador, Calaveras, Merced, Placer, and Sacramento Counties	Edges of vernal pools; 20–330 meters	May
Colusa grass <i>Neostapfia colusana</i>	T/E/1B.1	Central Valley with scattered occurrences from Colusa to Merced Counties	Adobe soils of vernal pools; 5–200 meters	May–Aug
Antioch Dunes evening-primrose <i>Oenothera deltoides</i> ssp. <i>howellii</i>	E/E/1B.1	Northeast San Francisco Bay region, known from 3 native occurrences; Contra Costa and Sacramento Counties	Inland dunes; below 30 meters	Mar–Sep

Table 7-2. Continued

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Northern adder's-tongue <i>Ophioglossum pusillum</i>	-/-/2.2	Eastern Klamath Ranges, northern Sierra Nevada in El Dorado, Mendocino, and Siskiyou* Counties; Oregon and elsewhere	Marsh and swamp margins, mesic valley and foothill grassland; 1,000–2,000 meters	Jul
Slender orcutt grass <i>Orcuttia tenuis</i>	T/E/1B.1	Sierra Nevada and Cascade Range foothills from Siskiyou to Sacramento Counties	Vernal pools; 35–1,760 meters	May–Sep; uncommonly Oct
Sacramento orcutt grass <i>Orcuttia viscida</i>	E/E/1B.1	Endemic to Sacramento County	Vernal pools; 30–100 meters	Apr–Jul
Stebbins's phacelia <i>Phacelia stebbinsii</i>	-/-/1B.2	Northern Sierra Nevada in El Dorado, Nevada, and Placer Counties	Cismontane woodland, lower montane coniferous forest, meadows and seeps; 610–2,010 meters	Jun–Jul
Nuttall's pondweed <i>Potamogeton epihydrus</i> ssp. <i>nuttalli</i>	-/-/2.2	Outer North Coast Ranges, High Sierra Nevada, Modoc Plateau in El Dorado, Mendocino, Modoc, Mariposa, and Plumas Counties; Oregon and elsewhere	Freshwater marsh; 369–1,900 meters	Jul–Aug
Slender-leaved pondweed <i>Potamogeton filiformis</i>	-/-/2.2	Scattered locations in Contra Costa, El Dorado, Lassen, Merced, Mono, Modoc, Mariposa, Placer, Santa Clara*, and Sierra Counties; Arizona, Nevada, Oregon, Washington	Freshwater marsh, shallow emergent wetlands and freshwater lakes, drainage channels; 300–2,150 meters	May–Jul
Hartweg's golden sunburst <i>Pseudobahia bahiifolia</i>	E/E/1B.1	Central Sierra Nevada foothills, eastern San Joaquin Valley	Clay soils in valley and foothill grassland; 15–150 meters	Mar–Apr
Sticky pyrrocoma <i>Pyrrocoma lucida</i>	-/-/1B.2	Northern High Sierra in Lassen, Plumas, Sierra, and Yuba Counties	On alkaline clay soils in Great Basin scrub, lower montane coniferous forest, meadows; 700–1,950 meters	Jul–Oct
Sanford's arrowhead <i>Sagittaria sanfordii</i>	-/-/1B.2	Scattered locations in Central Valley and Coast Ranges	Freshwater marshes, sloughs, canals, and other slow-moving shallow water habitats; below 610 meters	May–Oct
Water bulrush <i>Scirpus subterminalis</i>	-/-/2.3	Klamath Ranges, northern High Sierra Nevada	Bogs and fens, montane lake margins of marshes and swamps; 750–2,250 meters	Jul–Aug
Marsh skullcap <i>Scutellaria galericulata</i>	-/-/2.2	Northern High Sierra Nevada, Modoc plateau, El Dorado, Lassen, Modoc, Nevada, Placer, Plumas, Shasta, San Joaquin, and Siskiyou Counties; Oregon and elsewhere	Marshes, mesic meadows, seeps, lower montane coniferous forest; below 2,100 meters	Jun–Sep

Table 7-2. Continued

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
Layne's ragwort <i>Senecio layneae</i>	T/R/12	Northern Sierra Nevada foothills, Butte, El Dorado, Tuolumne, and Yuba Counties	Rocky serpentinite or gabbro soils in chaparral and foothill woodland, between 200–1,000 meters	Apr–Aug
San Francisco campion <i>Silene verecunda</i> ssp. <i>verecunda</i>	–/–/1B.2	Northern Central Coast, San Francisco Bay in San Francisco, San Mateo, Santa Cruz, and Sutter Counties	Sandy soils in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland; 30–645 meters	May–Aug; uncommonly Sep
Munroe's desert mallow <i>Sphaeralcea munroana</i>	–/–/2.2	Known only in California from Squaw Creek in Placer County; Nevada, Oregon, and elsewhere	Great Basin scrub; 2,000 meters	May–Jun
Kruckeberg's jewel-flower <i>Streptanthus morrisonii</i> ssp. <i>kruckebergii</i>	–/–/1B.2	Central Inner North Coast Ranges in Lake, Napa, and Sonoma Counties	Cismontane woodland on serpentinite soils; 215–1,035 meters	Apr–Jul
Wright's trichocoronis <i>Trichocoronis wrightii</i> var. <i>wrightii</i>	–/–/2.1	Scattered locations in the Central Valley and Southern Coast; Texas	On alkaline soils in floodplains, meadows and seeps, marshes and swamps, riparian forest, vernal pools; 5–435 meters	May–Sep
Solano grass <i>Tuctoria mucronata</i>	E/E/1B.1	Southwestern Sacramento Valley in Solano and Yolo Counties	Vernal pools, mesic grassland; 5–10 meters	Apr–Aug
Oval-leaved viburnum <i>Viburnum ellipticum</i>	–/–/2.3	Northwest California, San Francisco Bay Area, northern and central Sierra Nevada foothills in Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Mendocino, Napa, Placer, Shasta, and Sonoma Counties; Oregon, Washington	Chaparral, cismontane woodland, and lower montane coniferous forest; 215–1,400 meters	May–Jun
El Dorado County mule ears <i>Wyethia reticulata</i>	–/–/1B.2	Endemic to El Dorado County	On clay or gabbro soils in chaparral, cismontane woodland, and lower montane coniferous forest; 185–630 meters	Apr–Jul

Common and Scientific Names	Legal Status ^a Federal/State/CNPS	Geographic Distribution/Floristic Province	Habitat Requirements	Blooming Period
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^a Status explanations:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- C = species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list.
- = no listing.

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- R = listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.
- = no listing.

California Native Plant Society

- 1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
- 2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.
- 3 = List 3 species: plants about which more information is needed to determine their status.
- 4 = List 4 species: plants of limited distribution.
- .1 = seriously endangered in California
- .2 = fairly endangered in California
- .3 = not very endangered in California
- = no listing.
- * = known populations believed extirpated from that County

Fish-eating birds such as ospreys and bald eagles forage for fish near the surface of pools and shallow waters along the rivers. Belted kingfishers, double-crested cormorants, and common mergansers also forage for fish in streams and reservoirs. Many amphibians and reptiles depend on riverine systems; these include California newt, western toad, foothill yellow-legged frog, western terrestrial garter snake, western aquatic garter snake, and western pond turtle. Mammals in riverine systems include northern river otter, American mink, muskrat, and American beaver. Emerging aquatic insects are a major food source for many bat species that forage over open waters in the MTP Plan Area.

Low-elevation rivers and large, perennial creeks support small runs of Central Valley fall/late fall–run Chinook salmon and Central Valley steelhead. Other native fish species include hitch, Sacramento roach, hardhead, Sacramento sucker, riffle sculpin, Sacramento pikeminnow, and Pacific lamprey. Table 7-3 presents a list of special-status fish that are known or have the potential to occur in the MTP Plan Area.

Large Water Bodies

The MTP Plan Area contains several lakes, reservoirs, and flood control basins, including Folsom Lake, Rollins Reservoir, Sugar Pine Reservoir, New Bullards Bar Reservoir, Collins Lake, and Camp Far West Reservoir. There are many other small reservoirs and lakes throughout each of the counties. Many of these large water bodies support perennial and seasonal wetland and riparian communities along their edges. These reservoirs provide habitat for a variety of waterfowl, including goose species, mallard, cinnamon teal, green-winged teal, American wigeon, northern pintail, northern shoveler, gadwall, ruddy duck, and merganser, and can provide important resting and foraging habitat for many waterfowl species during migration. Vegetation growing along the edges of water bodies also provides nesting habitat for several bird species and foraging and refuge habitat for numerous amphibian, reptile, and mammal species occupying the open water and adjacent grassland, woodland, and forest habitats.

Urban Areas

Urban areas in the MTP Plan Area contain inclusions of annual grassland, riparian habitat along streams and rivers, and landscaped areas. These habitat types in the urban areas provide nesting and foraging habitat for common bird species, including house sparrow, northern flicker, western scrub-jay, northern mockingbird, Brewer’s blackbird, and European starlings. California ground squirrels, western gray squirrels, house mice, and striped skunks can also be found using habitats in urban landscapes, such as parks, schools, and vacant lots.

Noxious Weeds

For the purpose of this analysis and future project-specific assessments, a *noxious weed* is a plant that could displace native plants and natural habitats, affect the quality of forage on rangelands, or affect cropland productivity. The California Department of Food and Agriculture (CDFA) lists weeds and assigns ratings to each of the species on its list. These ratings reflect CDFA’s view of the statewide importance of the pest, the likelihood that eradication or control efforts would be successful, and the present distribution of the pest in the state. These ratings are guidelines that indicate the most appropriate action to take against a pest under general circumstances. The rating system is explained as follows:

- A—an organism of known economic importance subject to state- (or commissioner, when acting as a state agent) enforced action involving eradication, quarantine, containment, rejection, or other holding action.

- B—an organism of known economic importance subject to eradication, containment, control, or other holding action at the discretion of the individual county agricultural commissioner, or an organism of known economic importance subject to state-endorsed holding action and eradication only when found in a nursery.
- C—an organism subject to no state-enforced action outside of nurseries except to retard spread at the discretion of the commissioner, or an organism subject to no state-enforced action except to provide for pest cleanliness in nurseries.

Noxious weeds in the MTP Plan Area were not inventoried for this program-level analysis because target weeds would differ widely from project site to project site, depending on the sensitivity of the site to infestation, the nature of the specific proposed project, and the type of weeds in the immediate specific project area. Target lists of noxious weeds for specific project implementation would include CDFA A-rated weed species. Some B- and C-rated species would be included on project-specific target lists if they are identified by the county agricultural commission as target noxious weeds. Weeds would also be included in target lists if they are considered to have great potential for displacing native plants and damaging natural habitats and are not considered too widespread to be effectively controlled. A federal Executive Order (EO) on invasive species (February 3, 1999) directs weed control. County agricultural commissioners also provide information on noxious weed infestation and dispersal on private and public right-of-ways.

Waters of the United States (including Wetlands)

For the purposes of this document, the term *waters of the United States* is an encompassing term used by the U.S. Army Corps of Engineers (Corps) for areas that would qualify for federal regulation under Section 404 of the CWA. Waters of the United States are categorized as either *wetlands* or *other waters of the United States*. Each of these categories is described below. A description of wetlands that are not regulated by the Corps but that are considered wetlands by DFG and USFWS is provided in this section.

Wetlands

The Corps defines *wetlands* as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 Code of Federal Regulations [CFR] 328.3[b], 40 CFR 230.3). For a wetland to qualify as a jurisdictional aquatic site and therefore be subject to regulation under Section 404 of the CWA, the site must support a prevalence of hydrophytic vegetation, hydric soils, and wetland hydrology. On January 9, 2001, a federal court ruling in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* (SWANCC) (121 S.Ct. 675,2001) resulted in the determination that isolated wetlands (such as vernal pools) are no longer regulated by the Corps under Section 404 of the CWA. Guidance on “Non-navigable, isolated [and] intrastate waters” was published on January 19, 2001, by Counsel for the Environmental Protection Agency (EPA) and the Corps in response to the ruling. The guidance essentially resulted in the determination that nonnavigable, isolated waters are not regulated by the Corps. This determination is made on a project-level site-specific basis.

Unlike the Corps, DFG has adopted the Cowardin et al. (1979) definition of wetlands:

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface of the land or is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes (at least 50% of the areal vegetative

Table 7-3. Special-Status Fish Species Documented in the Metropolitan Transportation Plan Area

Common and Scientific Names	Status^a Federal/State	California Distribution	Habitats	Counties in the Plan Area where Known Occurrences have been Documented^b
Delta smelt <i>Hypomesus transpacificus</i>	T/T	Primarily in the Sacramento–San Joaquin Estuary, but has been found as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River; range extends downstream to San Pablo Bay	Occurs in estuary habitat in the Delta where fresh and brackish water mix in the salinity range of 2–7 parts per thousand. (Moyle 2002.)	Sacramento
Central Valley steelhead <i>Oncorhynchus mykiss</i>	T/–	Sacramento River and tributary Central Valley rivers	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 7.8° to 18°C (Moyle 2002). Habitat types are riffles, runs, and pools.	No records in CNDDDB
Lahontan cutthroat trout <i>Oncorhynchus clarki henshawi</i>	T/–	Native to streams and lakes on the eastern side of Sierra Nevada mountains. Independence Lake (Placer County), By-Day Creek (Mono County) and Heenan Lake support the only authentic endemic populations of fish (Moyle 2002).	Same as for Central Valley steelhead, but can also occur in cool, oxygenated lakes.	Placer, El Dorado
Sacramento River winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	E/E	Mainstem Sacramento River below Keswick Dam (Moyle 2002)	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0° to 12.5°C. Habitat types are riffles, runs, and pools. (Moyle 2002.)	No records in CNDDDB
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	T/T	Upper Sacramento River and Feather River	Has the same general habitat requirements as winter-run Chinook salmon. Coldwater pools are needed for holding adults (Moyle 2002).	Yuba
Central Valley fall-/late-fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	C/SSC	Sacramento and San Joaquin Rivers and tributary Central Valley rivers	Occurs in well-oxygenated, cool, riverine habitat with water temperatures from 8.0° to 12.5°C. Habitat types are riffles, runs, and pools (Moyle 2002).	No records in CNDDDB

Table 7-3. Continued

Common and Scientific Names	Status ^a Federal/State	California Distribution	Habitats	Counties in the Plan Area where Known Occurrences have been Documented ^b
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	-/SSC	Occurs throughout the year in low-salinity waters and freshwater areas of the Sacramento–San Joaquin Delta, Yolo Bypass, Suisun Marsh, Napa River, and Petaluma River (Moyle 2002).	Spawning takes place among submerged and flooded vegetation in sloughs and the lower reaches of rivers.	Sacramento
Sacramento perch <i>Archoplites interruptus</i>	-/SSC (in native range)	Currently, populations in Clear Lake and Alameda Creek including the Calaveras Reservoir, are the only populations within the historic native range. Outside of native range, populations exist in California reservoirs and associated streams (Moyle 2002).	Mostly found in reservoirs and farm ponds. Often associated with emergent vegetation, submerged objects, and submerged aquatic vegetation. Found in moderately alkaline, warm, turbid water of up to 28°C (Moyle 2002).	Sacramento

Sources: Moyle, P. B. 2002. *Inland fishes of California*. 2nd edition. Davis, CA: University of California Press.

Moyle, P. B., R. M. Yoshiyama, J. E. Williams, and E. D. Wikramanayoke. 1995. *Fish species of special concern of California*. California Department of Fish and Game. Rancho Cordova, CA.

^a Status:

Federal

- E = listed as endangered under the federal Endangered Species Act.
- T = listed as threatened under the federal Endangered Species Act.
- C = candidate for threatened or endangered status.
- SC = species of concern.
- FP = proposed for delisting.

State

- E = listed as endangered under the California Endangered Species Act.
- T = listed as threatened under the California Endangered Species Act.
- FP = fully protected under the California Fish and Game Code.
- SSC = species of special concern in California.

^b Known occurrences from DFG's California Natural Diversity Database 2007. RareFind 2, Version 3.1.0 (February 2007 update).

Table 7-4. Critical Habitat in the MTP Plan Area

Species	Federal Status	Counties Containing Designated Critical Habitat
Colusa grass <i>Neostapfia colusana</i>	Threatened	Yolo
Sacramento orcutt grass <i>Orcuttia viscida</i>	Endangered	Sacramento
Slender orcutt grass <i>Orcuttia tenuis</i>	Threatened	Sacramento
Solano grass <i>Tuctoria mucronata</i>	Endangered	Yolo
Succulent owl's clover <i>Castilleja campestris</i> ssp. <i>succulenta</i>	Threatened	Sacramento
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	Threatened	Sacramento
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	Threatened	Placer, Sacramento, Yuba
Vernal pool tadpole shrimp <i>Lepidurus packardi</i>	Endangered	Sacramento, Yolo, Yuba
Delta smelt <i>Hypomesus transpacificus</i>	Threatened	Sacramento, Yolo
Central Valley steelhead <i>Oncorhynchus mykiss</i>	Threatened	Placer, Sacramento, Sutter, Yolo, Yuba
Sacramento River winter-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	Endangered	Sacramento, Sutter, Yolo
Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	Threatened	Sacramento, Sutter, Yolo, Yuba
Central Valley fall- /late-fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	Candidate	Sacramento, Sutter, Yolo, Yuba
California red-legged frog <i>Rana aurora draytonii</i>	Threatened	El Dorado, Yuba
California tiger salamander <i>Ambystoma californiense</i>	Threatened	Sacramento, Yolo

cover); (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Under normal circumstances, the federal definition of wetlands requires all three wetland identification parameters to be met, whereas the Cowardin definition requires the presence of at least one of these parameters. For this reason, identification of wetlands by DFG consists of the union of all areas that are periodically inundated or saturated, or in which at least seasonal dominance by hydrophytes may be documented, or in which hydric soils are present. DFG does not normally have direct jurisdiction over wetlands unless they are subject to jurisdiction under Streambed Alteration Agreements or they support state-listed endangered species. Many of these nonjurisdictional wetlands are considered “waters of the State.”

In the MTP Plan Area, Corps jurisdictional wetlands and state regulated wetlands include marshes and seasonal wetland communities that are hydrologically connected to drainages and other bodies of water (e.g., ponds and reservoirs on drainage systems). Hydrologically isolated wetlands, such as vernal pools and ponds or reservoirs without drainage systems, are not subject to regulation under Section 404 of the CWA but are considered wetlands by DFG and USFWS. In the MTP Plan Area, many of these isolated wetlands provide habitat for a variety of special-status species.

Other Waters of the United States

Other waters of the United States are sites that typically lack one or more of the three wetland indicators identified above. Other waters of the United States that occur in the MTP Plan Area include drainages (all streams, creeks, rivers, and other surface features with defined beds and banks), reservoirs, and ponds.

Determinations of Corps jurisdictional wetlands, other waters, and waters of the State (e.g., vernal pools and other types of isolated wetlands that are no longer considered jurisdictional by the Corps) are made on a project-level, site-specific basis.

Special-Status Species

Special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA), the ESA, or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. Special-status species are defined as:

- species listed or proposed for listing as threatened or endangered under the ESA (Title 50, CFR, Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the FR for proposed species);
- species that are candidates for possible future listing as threatened or endangered under ESA (67 FR 40657, June 13, 2002);
- species that are listed or proposed for listing by the State of California as threatened or endangered under CESA (Title 14, CCR, Section 670.5);
- plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.);
- plants considered by CNPS to be “rare, threatened, or endangered in California and elsewhere” (List 1B, 2, and 3) (List 4 species were included and evaluated in the impact

analysis to determine whether they should be considered special-status species for the purposes of this EIR);

- species that meet the definition of *rare* or *endangered* under the State CEQA Guidelines, Section 15380;
- animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]); or
- animal species of special concern to DFG (California Department of Fish and Game 2007; Remsen 1978 [birds]; Williams 1986 [mammals]; and Jennings and Hayes 1994 [amphibians and reptiles]).

Special-status plant, fish, and wildlife species that have been documented or have the potential to occur in the MTP Plan Area are identified in Tables 7-1, 7-2, and 7-3, respectively. Figure 7-1 shows the recorded locations of the special-status species in the MTP Plan Area (CNDDDB 2007).

Critical habitat for various federally listed species has been designated in each of the counties within the MTP Plan Area. A summary of the counties in which critical habitat has been designated is provided in Table 7-4.

Regulatory Setting

Federal Regulations

The following discussion focuses on the federal requirements associated with subsequent CEQA compliance for project-specific components of MTP 2035. Additional federal requirements would apply to subsequent project-specific components of the MTP 2035 that receive federal funding or otherwise affect federal lands and federal decisionmaking; these additional requirements do not apply to SACOG's MTP or this program EIR, but would need to be addressed if federal funding or another federal action (e.g., if federal lands were crossed or a federal permit were required) were triggered at the time of consideration and approval of the specific project. Appendix D provides a more detailed overview of the likely federal requirements (including requirements for biological resources) of obtaining federal action approvals for the subsequent projects.

Endangered Species Act

The Endangered Species Act (ESA) protects fish and wildlife species and their habitats that have been identified by USFWS or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) as threatened or endangered. *Endangered* refers to species, subspecies, or distinct population segments that are in danger of extinction through all or a significant portion of their range. *Threatened* refers to species, subspecies, or distinct population segments that are likely to become endangered in the near future.

The ESA is administered by USFWS and the NMFS. In general, NMFS is responsible for protection of ESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction.

Clean Water Act

The CWA was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

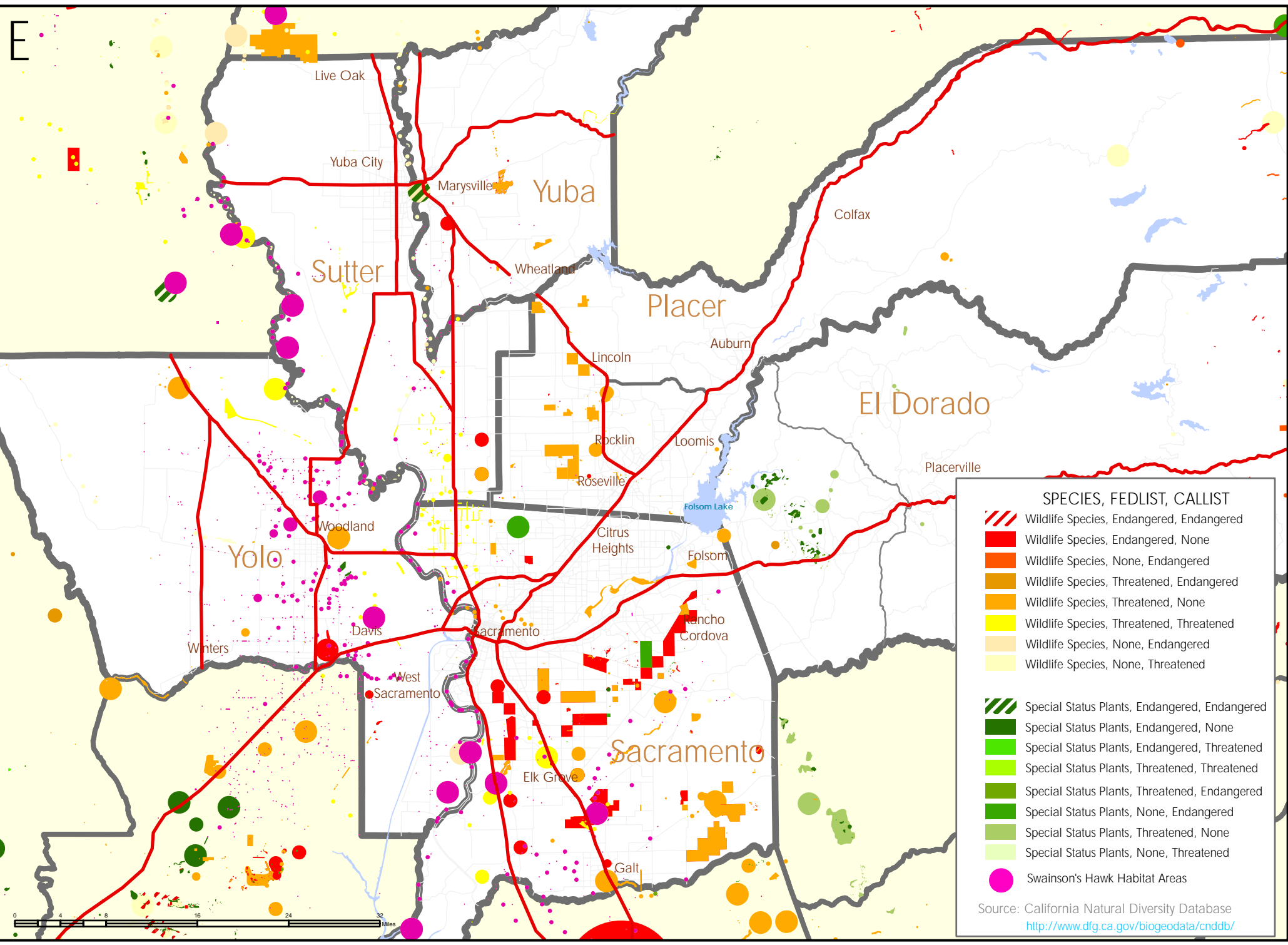


Figure 7.1: Biological Resources CNDDDB Known Endangered and Threatened Plants and Animal Locations

The CWA empowers EPA to set national water quality standards and effluent limitations and includes programs addressing both point source and nonpoint-source pollution. Point-source pollution is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Wetlands Stewardship

Many programs and policies have been adopted by federal, state, and regional agencies and private entities to protect and restore wetlands in California. In 1993, a California Wetlands Conservation Policy was established. The goals of the policy were to establish a framework and a strategy that would:

- ensure no overall net loss and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property;
- reduce procedural complexity in the administration of state and federal wetlands conservation programs; and
- encourage partnerships to make landowner incentive programs and cooperative planning efforts the primary focus of wetlands conservation and restoration.

State Regulations

California Endangered Species Act

California implemented CESA in 1984. The act prohibits the take of endangered and threatened species; however, habitat destruction is not included in the state's definition of take. Under CESA, *take* is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include harm or harassment. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and promote conservation of these species. DFG administers the act and authorizes take through Section 2081 agreements (except for species designated as fully protected). Regarding rare plant species, CESA defers to the California Native Plant Protection Act of 1977, which prohibits importing rare and endangered plants into California, taking rare and endangered plants, and selling rare and endangered plants. State-listed plants are protected mainly in cases where state agencies are involved in projects under CEQA. In these cases, plants listed as rare under the California Native Plant Protection Act are not protected under CESA but can be protected under CEQA.

Natural Community Conservation Planning Act

The NCCPA essays to provide long-term protection of species and habitats through regional, multi-species planning; the intent is that such planning will obviate the need to list species under CESA.

California Native Plant Protection Act

This act preserves, protects, and enhances endangered native plants in California. The Act gave the California Fish and Game Commission the power to designate native plants as endangered, threatened, or rare, and to require permits for collecting, transporting, or selling such plants.

Porter-Cologne Water Quality Control Act

Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste

discharge requirements).” Under Porter-Cologne, *waters of the state* is defined as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The SWANCC ruling and Rapanos decision, described above, have no bearing on the Porter-Cologne definition. Although all waters of the United States that are within the borders of California are also waters of the state, the converse is not true (i.e., in California, waters of the United States represent a subset of waters of the state). Thus, California retains authority to regulate discharges of waste into any water of the state, regardless of whether the Corps has concurrent jurisdiction under CWA section 404.

If the Corps determines that a wetland is not subject to regulation under CWA Section 404, Section 401 water quality certification is not required. However, the RWQCB may impose waste discharge requirements (WDRs) if fill material is placed into waters of the state.

California Fish and Game Code

Section 1602

Under Section 1602 of the California Fish and Game Code, public agencies are required to notify DFG before undertaking any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, DFG is required to propose reasonable project changes to protect the resources. These modifications are formalized in a streambed alteration agreement that becomes part of the plans, specifications, and bid documents for the project.

Sections 3503 and 3503.5

Section 3503 of the California Fish and Game Code prohibits the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests. The MTP Plan Area provides suitable nesting habitat for raptors.

Section 3511 (Fully Protected Birds)

The California Fish and Game Code provides protection from take for a variety of species, referred to as fully protected species. Section 3511 lists fully protected birds and prohibits take of these species. The California Fish and Game Code defines take as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Except for take related to scientific research, all take of fully protected species is prohibited. The MTP Plan Area provides potential nesting habitat for the following fully protected bird species: white-tailed kite, bald eagle, golden eagle, and California black rail.

Section 3513

Section 3513 of the California Fish and Game Code prohibits the take or possession of any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Section 4700 (Fully Protected Mammals)

Section 4700 of the code lists fully protected mammals and prohibits take of these species. Except for take related to scientific research, all take of fully protected species is prohibited. The MTP Plan Area provides suitable habitat for two fully protected mammals: California wolverine and ringtail.

California Oak Woodlands Conservation Act

The California Oak Woodlands Conservation Act was enacted in 2001 to protect oak woodland habitats that were being diminished by development, firewood harvesting, and agricultural conversions. The Oak Woodlands Conservation Program was established as a result of the act and is intended to provide project funding opportunities for private landowners, conservation organizations, and cities and counties to conserve and restore oak woodlands. The program authorizes the Wildlife Conservation Board to purchase oak woodland conservation easements and provide grants for land improvements and oak restoration efforts.

California's Wildlife Action Plan

In 2000, Congress enacted the State Wildlife Grants Program to support state programs that broadly benefit wildlife and habitats, particularly those addressing "species of greatest conservation need." As a requirement for receiving federal funds under this program, state wildlife agencies were to have submitted a state wildlife action plan to USFWS by October 2005.

In a cooperative effort, DFG and the Wildlife Health Center at the University of California, Davis produced *California Wildlife: Conservation Challenges (California's Wildlife Action Plan)*. The Wildlife Health Center managed scoping meetings, expert consultations, conservation workshops, and prepared the report and Web publications. DFG provided guidance, technical analyses, and critical review and editing.

Local Regulations

This section summarizes local policies and habitat conservation plans that pertain to biological resources that could affect or be affected by the MTP. Policies may either support or conflict with proposed project improvements. The locations of areas covered by these HCP are shown in Figure 7 – 2.

Habitat Conservation Plans/Natural Community Conservation Plans

A summary of the current habitat conservation plans (HCPs) and natural community conservation plans (NCCPs) in the MTP Plan Area is provided below. The boundaries of each of these plans are depicted in Figure 7-2. Not all of these plans have been adopted or fully implemented. During implementation of specific projects, an activity subject to Section 10 of the Endangered Species Act and considered a covered project under the implementing rules of an adopted HCP or NCCP may be able to participate in the plan for effects on covered species.

South Sacramento HCP

The South Sacramento Habitat Conservation Plan (SSHCP) is currently in preparation. The SSHCP area encompasses 345,000 acres in southern Sacramento County. Sacramento County is partnering with the incorporated cities of Rancho Cordova and Galt and is seeking to include the City of Elk Grove to further advance the regional planning goals of the SSHCP. The SSHCP will cover 41 species of plants and wildlife, including 12 that are state- or federally listed as threatened or endangered. These species are included in Tables 7-1, 7-2, and 7-3.

Natomas Basin HCP

The Natomas Basin is a low-lying area of the Sacramento Valley located in the northern portion of Sacramento County and the southern portion of Sutter County. The Natomas Basin HCP (NBHCP) was approved in 2003 and has two permit holders: the City of Sacramento and Sutter County. The NBHCP covers a 53,537-acre area. The Natomas Basin Conservancy (TNBC) is the nonprofit entity responsible

for administering and implementing the NBHCP. TNBC reports directly to the permit holders. The HCP covers 22 sensitive species, which are included in Tables 7-1, 7-2, and 7-3.

Yuba/Sutter HCP/NCCP

In 2001, Yuba and Sutter counties committed to becoming joint applicants on an HCP/NCCP. The independent science advisor's report was finalized in February 2006, and the two counties have begun a public participation plan, which includes creating an Advisory Committee and drafting a Planning Agreement. In addition, a baseline GIS data inventory of physical and biological resources has been conducted. The Yuba/Sutter HCP/NCCP Area is currently approximately 200,100 acres but may be expanded. A list of 27 species that have been proposed for coverage was reviewed; these species are included in Tables 7-1, 7-2, and 7-3.

Yolo County HCP/NCCP

In February 2005, the Joint Powers Authority (five local public agencies formed to prepare a regional conservation plan for Yolo County) and DFG entered into an HCP/NCCP Planning Agreement. The independent science advisor's report was finalized in March 2006. The HCP/NCCP planning area encompasses almost 400,000 acres and provides habitat for 28 sensitive species, including 13 state- and federally listed species. The 28 species that have been proposed for coverage are included in Tables 7-1 and 7-2 (no fish species are covered).

Placer County Conservation Plan

Placer County, DFG, and USFWS finalized an NCCP planning agreement in December 2001. The Conservation Plan is being prepared in three phases. Phase 1 is currently underway and covers 273,983 acres of the valley floor and low foothill portions of Placer County. Five plant and 28 wildlife species are proposed for coverage and are included in Tables 7-1 and 7-2. The County is working to establish a process to review and evaluate interim projects in order to avoid foreclosing conservation options and receipt of desired permits. The County has begun data gathering for Phase 2, which covers 273,717 acres in the foothills and the Martis Valley area. Phase 3 has not been initiated but is proposed to cover 412,153 acres of public and private timberlands.

Native and Heritage Tree Ordinances

Most counties and numerous cities within the MTP Plan Area have adopted general plan policies and in some cases ordinances to protect native and/or heritage trees, such as valley oaks (University of California, Davis 2007). These include the Placer County Tree Ordinance (Article 12.16), Sacramento County Tree Preservation and Protection Ordinance (Chapter 12.12), and general plan policies in the Yolo County General Plan, Yuba County Conservation Element, and El Dorado County Conservation and Open Space Element. Most policies and ordinances require project applicants to obtain a tree removal permit and compensate for the removal of protected trees. These ordinances and policies are implemented on a project site-specific basis.

IMPACTS AND MITIGATION MEASURES

Methods and Assumptions

The biological resources impact analysis is qualitative and is not based on any site-specific information. The mitigation measures described for potential impacts on sensitive biological resources have not been developed through formal consultation or coordination with resource agencies (e.g., DFG, USFWS,

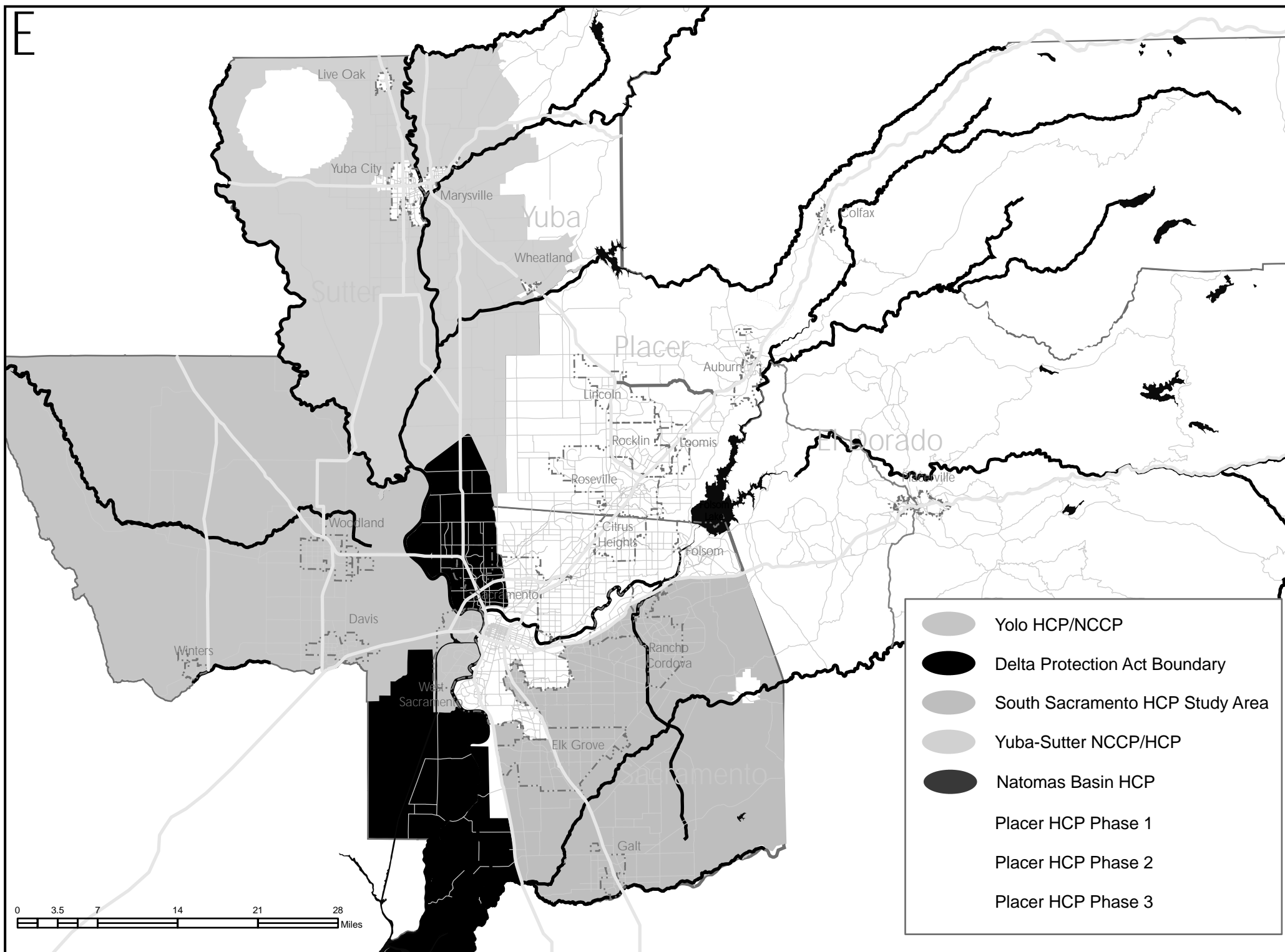


Figure 7-2: Habitat Conservation Plan Boundaries

NMFS, Corps). As part of subsequent, project-level environmental analysis, agencies must be contacted as part of the environmental compliance process to determine specific compensatory mitigation for impacts on wetlands, state- and federally listed species, and riparian habitats. Additional mitigation measures may also be identified as conditions of future project permits (e.g., a Section 404 permit, biological opinions, or Section 1602 Streambed Alteration Agreement).

This impact analysis assumes that biological resources could be indirectly or directly affected by construction and maintenance activities associated with potential projects in the MTP Plan Area. Biological resources could be directly or indirectly disturbed by the following activities:

- stream dewatering or installation of temporary water-diversion structures during construction of bridges or other transportation facilities over riverine systems;
- direct loss of habitat associated with roadway widening, new transportation facilities, or interchange, rail, bikeway improvements;
- temporary stockpiling of soil or construction materials and sidesteading of soil and other construction wastes;
- removal of riparian vegetation along waterways during construction of bridges;
- removal of vegetation during construction of temporary staging areas and access roads;
- soil compaction and generation of dust by construction equipment,
- water runoff from the construction area;
- herbicide application and removal of vegetation as part of road maintenance; and
- degradation of water quality in wetlands and waterways, resulting from road runoff containing petroleum products.

Criteria for Determining Significance

An impact was considered significant under CEQA if it would result in any of the following environmental effects, which are based on State CEQA Guidelines Appendix G (14 CCR 15000 et seq.):

- have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by DFG or USFWS;
- have a substantial adverse effect on federally protected wetlands, as defined by CWA Section 404 (including, but not limited to, marsh, vernal pool, and coastal wetlands) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted habitat conservation plan (HCP), natural communities conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan.

Standard professional practice was also used to determine whether an impact on biological resources would be significant. The proposed project likely would cause a significant impact if it would result in:

- long-term degradation of a sensitive plant community because of substantial alteration of land forms or site conditions (e.g., alteration of wetland hydrology);
- substantial loss of a plant community and associated wildlife habitat;
- fragmentation or isolation of wildlife habitats, especially riparian and wetland communities;
- substantial disturbance of wildlife because of human activities;
- avoidance by fish of biologically important habitat for substantial periods, which may increase mortality or reduce reproductive success;
- disruption of natural wildlife movement corridors;
- substantial reduction in local population size, attributable to direct mortality or habitat loss, lowered reproductive success, or habitat fragmentation of:
 - species qualifying as rare and endangered under CEQA,
 - species that are state-listed or federally listed as threatened or endangered, or
 - portions of local populations that are candidates for state or federal listing and federal and state species of concern; or
- substantial reduction or elimination of species diversity or abundance.

Environmental Impacts of the Proposed Project

This section describes potential impacts on biological resources that could result from the MTP 2035. Some projects within the MTP 2035 could significantly affect biological resources. However, prior to final approval of each project considered in the MTP 2035, the implementing agency will conduct the appropriate project-specific environmental review. Significant impacts and mitigation measures will be considered during that project-level review.

Impact BIO-1: Potential Disturbance or Loss of Special-Status Plant Populations as a Result of Highway Projects

Construction and maintenance activities associated with projects included in the MTP 2035 could result in the direct loss or indirect disturbance of special-status plants that are known to grow or that could grow in the MTP Plan Area (see Table 7-2 for a list of these potential species). Impacts on special-status plants could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Proponents of specific projects in the MTP 2035 cannot guarantee that special-status plants can be avoided as part of future projects.

Based upon the general planning nature of the MTP 2035, development of detailed, site-specific information on this impact at the program level is not feasible. As a result, SACOG does not have sufficient reliable data to permit preparation of a meaningful and accurate report on the impact and no significance determination can be reasonably made. The implementing agency will conduct appropriate project-level environmental review and will be responsible for

consideration of mitigation measures for significant effects on the environment. The following mitigation measures could be used by implementing agencies to address potential impacts during project-level review:

Mitigation Measure BIO-1: Document Special-Status Plant Populations

Retain a qualified botanist to document the presence or absence of special-status plants before project implementation. Implement the following steps to document special-status plants:

- **Review Existing Information.** The botanist shall review existing information to develop a list of special-status plants that could grow in the specific project area. Sources of information consulted shall include DFG's CNDDDB, previously prepared environmental documents, city and county general plans, HCPs and NCCPs, and the CNPS electronic inventory.
- **Coordinate with Agencies.** The botanist shall coordinate with the appropriate agencies (DFG, USFWS, Caltrans) to discuss botanical resource issues and determine the appropriate level of surveys necessary to document special-status plants.
- **Conduct Field Studies.** The botanist shall evaluate existing habitat conditions for each project and determine what level of botanical surveys may be required. The type of botanical survey shall depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on these factors and the proposed construction activity, one or a combination of the following levels of survey may be required:
- **Habitat Assessment.** A habitat assessment will be conducted to determine whether suitable habitat is present. This type of assessment can be conducted at any time of year and is used to assess and characterize habitat conditions and determine whether return surveys are necessary. If no suitable habitat is present, no additional surveys shall be required.
- **Species-Focused Surveys.** Species-focused surveys (or target species surveys) shall be conducted if suitable habitat is present for special-status plants. The surveys shall focus on special-status plants that could grow in the region, and would be conducted during a period when the target species are evident and identifiable.
- **Floristic Protocol-Level Surveys.** Floristic surveys that follow the CNPS Botanical Survey Guidelines shall be conducted in areas that are relatively undisturbed and/or have a moderate to high potential to support special-status plants. The CNPS Botanical Survey Guidelines require that all species be identified to the level necessary to determine whether they qualify as special-status plants, or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable. To account for different special-status plant identification periods, one or more series of field surveys may be required in spring and summer months.
- Special-status plant populations identified during the field surveys shall be mapped and documented as part of CEQA and NEPA process, as applicable.

Mitigation Measure BIO-2: Avoid or Minimize Impacts on Special-Status Plant Populations by Redesigning the Project, Protecting Special-Status Plant Populations, and Developing a Transplantation Plan (If Necessary and Approved by Resource Agencies)

If special-status plants are identified in their project area, the proponents of specific projects in the MTP 2035 shall implement the following measures to avoid and minimize impacts on special-status plants:

- Redesign or modify their project to avoid direct and indirect impacts on special-status plants, if feasible.
- Protect special-status plants near their project site by installing environmentally sensitive area fencing (orange construction barrier fencing) around special-status plant populations. The environmentally sensitive area fencing shall be installed at least 20 feet from the edge of the population. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.
- Coordinate with the appropriate resource agencies and local experts to determine whether transplantation is feasible. If the agencies concur that transplantation is a feasible mitigation measure, the botanist shall develop and implement a transplantation plan through coordination with the appropriate agencies. The special-status plant transplantation plan shall involve identifying a suitable transplant site; moving the plant material and seed bank to the transplant site; collecting seed material and propagating it in a nursery; and monitoring the transplant sites to document recruitment and survival rates.

Impact BIO-2: Potential Introduction or Spread of Noxious Weeds

Construction activities associated with projects included in the MTP 2035 could introduce or spread noxious weeds into currently uninfested areas, possibly resulting in the displacement of special-status plant species and degradation of habitat for special-status wildlife. Plants or seeds may be dispersed on construction equipment if the appropriate measures are not implemented. The introduction or spread of noxious weeds could result in a substantial reduction or elimination of species diversity or abundance. Based upon the general planning nature of the MTP 2035, development of detailed, site-specific information on this impact at the program level is not feasible. As a result, SACOG does not have sufficient reliable data to permit preparation of a meaningful and accurate report on the impact and no significance determination can be reasonably made. The implementing agency will conduct appropriate project-level environmental review and will be responsible for consideration of mitigation measures for significant effects on the environment. The following mitigation measures could be used by implementing agencies to address potential impacts during project-level review:

Mitigation Measure BIO-3: Conduct a Noxious Weed Survey and Document Noxious Weed Infestation

Retain a qualified botanist to address noxious weed impacts. The botanist shall determine whether noxious weeds are an issue for the project and whether they could displace native plants and natural habitats, affect the quality of forage on rangelands, or affect cropland productivity. If the botanist determines that noxious weeds are an issue, the project proponent shall review the County Agricultural Commission's noxious weed list, California Department of Food and Agriculture's A, B, and C lists of noxious weeds, and California Exotic Pest Plant Council's list of pest plants of ecological concern. These lists shall be used to identify weeds that shall be targeted during field surveys by the botanist. Surveys shall focus on target weed species that are considered locally important for documentation and control purposes.

If noxious weed infestations are located during the field surveys, they shall be mapped and documented in the CEQA and NEPA documentation, as applicable. The project proponent shall implement Mitigation Measure BIO-4 to avoid the dispersal of noxious weeds into uninfested areas.

Mitigation Measure BIO-4: Avoid the Dispersal of Noxious Weeds into Uninfested Areas

If noxious weeds infestations are identified in site-specific project areas, to avoid their introduction or spread into uninfested areas, the proponents of specific projects in the MTP 2035 shall incorporate the following measures into their project plans and specifications:

- Use certified, weed-free, imported erosion-control materials (or rice straw in upland areas).
- Coordinate with the applicable County Agricultural Commissioner and land management agencies to ensure that the appropriate best management practices (BMPs) are implemented.
- Educate construction supervisors and managers on weed identification and the importance of controlling and preventing the spread of noxious weeds.
- Clean equipment at designated wash stations after leaving noxious weed infestation areas.

Impact BIO-3: Loss or Disturbance of Riparian Communities

Construction activities associated with projects included in the MTP 2035 could result in the disturbance or removal of riparian communities, resulting in long-term degradation of a sensitive plant community, fragmentation or isolation of an important wildlife habitat, and disruption of natural wildlife movement corridors. The significance of this impact depends on the type of riparian community, habitat functions and the value of the community. Based upon the general planning nature of the MTP 2035, development of detailed, site-specific information on this impact at the program level is not feasible. As a result, SACOG does not have sufficient reliable data to permit preparation of a meaningful and accurate report on the impact and no significance determination can be reasonably made. The implementing agency will conduct appropriate project-level environmental review and will be responsible for consideration of mitigation

measures for significant effects on the environment. The following mitigation measures could be used by implementing agencies to address potential impacts during project-level review:

Mitigation Measure BIO-5: Identify and Document Riparian Habitat

Retain a qualified biologist to document the location, type, extent, and habitat functions and values for riparian communities that occur in the site-specific project area and could be affected by their project. This information shall be mapped and documented as part of CEQA and NEPA documentation, as applicable.

Mitigation Measure BIO-6: Avoid and Minimize Disturbance of Riparian Communities

If riparian communities are present in the project area, avoid or minimize impacts on riparian communities by implementing the following measures:

- Redesign or modify the project to avoid direct and indirect impacts on riparian communities, if feasible.
- Protect riparian communities near the project site by installing environmentally sensitive area fencing at least 20 feet from the edge of the riparian vegetation. Depending on site-specific conditions, this buffer may be narrower or wider than 20 feet. The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.
- Minimize the potential for long-term loss of riparian vegetation by trimming vegetation rather than removing the entire shrub. Shrub vegetation shall be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration of the species. Cutting shall be limited to a minimum area necessary within the construction zone. This type of removal shall be allowed only for shrub species (all trees shall be avoided) in areas that do not provide habitat for sensitive species (e.g., willow flycatcher). To protect migratory birds, no woody riparian vegetation shall be allowed beginning March 15 and ending September 15, as required under the Migratory Bird Treaty Act.

Mitigation Measure BIO-7: Compensate for the Loss of Riparian Community

If riparian vegetation is removed as part of their project, compensate for the loss of riparian vegetation to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, the Corps, and NMFS). Compensation shall be provided at a minimum 1:1 ratio (1 acre restored or created for every 1 acre removed) and may be a combination of onsite restoration/creation, off-site restoration, or mitigation credits. Develop a restoration and monitoring plan that describes how riparian habitat shall be enhanced or recreated and monitored over a minimum period of time, as determined by the appropriate state and federal agencies. Implement the restoration and monitoring plan.

Impact BIO-4: Disturbance or Loss of Waters of the United States (Including Wetlands)

Construction and maintenance activities associated with projects included in the MTP 2035 could result in the disturbance or loss of waters of the United States, including creeks, rivers, streams, vernal pools, marshes, and other types of seasonal and perennial wetland communities. Wetlands and other waters of the United States could be affected through direct removal, filling, hydrological interruption (including dewatering), alteration of bed and bank, and other construction-related activities, resulting in long-term degradation of a sensitive plant community, fragmentation or isolation of an important wildlife habitat, and disruption of natural wildlife movement corridors. Based upon the general planning nature of the MTP 2035, development of detailed, site-specific information on this impact at the program level is not feasible. As a result, SACOG does not have sufficient reliable data to permit preparation of a meaningful and accurate report on the impact and no significance determination can be reasonably made. The implementing agency will conduct appropriate project-level environmental review and will be responsible for consideration of mitigation measures for significant effects on the environment. The following mitigation measures could be used by implementing agencies to address potential impacts during project-level review:

Mitigation Measure BIO-8: Identify and Delineate Waters of the United States (Including Jurisdictional and Isolated Wetlands)

Retain a qualified wetlands ecologist to identify areas that could qualify as waters of the United States, including jurisdictional and isolated wetlands. Wetlands shall be identified using both the Corps' and USFWS/DFG definitions of wetlands. Corps jurisdictional wetlands shall be delineated using the methods outlined in the Corps 1987 Wetlands Delineation Manual and the Arid West Manual. The jurisdictional boundary for other waters of the United States shall be identified based on:

The shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3[e]).

This information shall be mapped and documented as part of the CEQA and NEPA documentation, as applicable, and in wetland delineation reports.

Mitigation Measure BIO-9: Avoid and Minimize Disturbance of Waters of the United States, Including Wetland Communities

Avoid and minimize impacts on wetlands and other waters of the United States (creeks, steams, and rivers) by implementing the following measures:

- Redesign or modify the project to avoid direct and indirect impacts on wetland habitats.
- Protect wetland habitats that occur near the project site by installing environmentally sensitive area fencing at least 20 feet from the edge of the wetland. Depending on site-specific conditions and permit requirements, this buffer may be wider than 20 feet (e.g., 250 feet for seasonal wetlands that are considered special-status shrimp

habitat). The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.

- Avoid installation activities in saturated or ponded wetlands during the wet season (spring and winter) to the maximum extent possible. Where such activities are unavoidable, protective practices, such as use of padding or vehicles with balloon tires, shall be used.
- Where determined necessary by resource specialists, use geotextile cushions and other materials (e.g., timber pads, prefabricated equipment pads, or geotextile fabric) in saturated conditions to minimize damage to the substrate and vegetation.
- Stabilize exposed slopes and streambanks immediately on completion of installation activities. Other waters of the United States shall be restored in a manner that encourages vegetation to reestablish to its preproject condition and reduces the effects of erosion on the drainage system.
- In highly erodible stream systems, stabilize banks using a nonvegetative material that will bind the soil initially and break down within a few years. If the project engineers determine that more aggressive erosion control treatments are needed, use geotextile mats, excelsior blankets, or other soil stabilization products.
- During construction, remove trees, shrubs, debris, or soils that are inadvertently deposited below the ordinary high-water mark of drainages in a manner that minimizes disturbance of the drainage bed and bank.

These measures shall be incorporated into contract specifications and implemented by the construction contractor. In addition, the project proponent shall ensure that the contractor incorporates all state and federal permit conditions into construction specifications.

Mitigation Measure BIO-10: Compensate for the Loss of Wetland Habitat

If wetlands are filled or disturbed as part of the highway project, compensate for the loss of wetland habitat to ensure no net loss of habitat functions and values. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (including DFG, USFWS, and the Corps). The compensation shall be at a minimum 1:1 ratio (1 acre restored or created for every 1 acre filled) and may be a combination of onsite restoration/creation, off-site restoration, or mitigation credits. A restoration and monitoring plan shall be developed and implemented if onsite or offsite restoration or creation is chosen. The plan shall describe how wetlands shall be created and monitored over a minimum of 5 years (or as required by the regulatory agencies).

Impact BIO-5: Potential Disturbance or Loss of Special-Status Wildlife Species and Their Habitat

Construction and maintenance activities associated with highway projects could result in the direct loss or indirect disturbance of special-status wildlife or their habitats, which are known to occur or could occur in the MTP Plan Area (see Table 7-2 for a list of these potential species).

Impacts on special-status wildlife or their habitat could result in a substantial reduction in local population size, lowered reproductive success, or habitat fragmentation. Significant impacts on special-status wildlife associated with highway projects can include:

- direct mortality from the collapse of underground burrows, resulting from soil compaction;
- direct mortality resulting from the movement of equipment and vehicles through the project area;
- increased mortality caused by higher numbers of automobiles on new or widened roads in migration corridors;
- loss of breeding and foraging habitat resulting from the filling of seasonal or perennial wetlands;
- loss of breeding, foraging, and refuge habitat resulting from the permanent removal of riparian vegetation;
- abandoned eggs or young and subsequent nest failure for special-status nesting birds, including raptors, as a result of construction-related noises;
- loss of suitable foraging habitat for special-status raptor species; and
- loss of migration corridors resulting from the construction of permanent building structures or features.

Based upon the general planning nature of the MTP 2035, development of detailed, site-specific information on this impact at the program level is not feasible. As a result, SACOG does not have sufficient reliable data to permit preparation of a meaningful and accurate report on the impact and no significance determination can be reasonably made. The implementing agency will conduct appropriate project-level environmental review and will be responsible for consideration of mitigation measures for significant effects on the environment.

Depending on what special-status wildlife species (listed versus unlisted) are affected and on the extent of impact, implementation of the Mitigation Measures BIO-6 and BIO-9 above and the following Mitigation Measures mitigation measures, and BIO-13 may reduce this impact to a less-than-significant level and therefore should be considered by the implementing agency during project-level environmental review

Mitigation Measure BIO-11: Document Special-Status Wildlife Species and Their Habitats

Retain a qualified wildlife biologist to document the presence or absence of suitable habitat for special-status wildlife in the highway project study area. The following steps shall be implemented to document special-status wildlife and their habitats for each highway project:

- **Review Existing Information.** The wildlife biologist shall review existing information to develop a list of special-status wildlife species that could occur in the project area. The following information shall be reviewed as part of this process: the USFWS special-status species list for the project region, DFG's CNDDDB, previously prepared environmental documents, city and county general plans, HCPs and

NCCPs (if there are any), and USFWS issued biological opinions for previous projects.

- **Coordinate with State and Federal Agencies.** The wildlife biologist shall coordinate with the appropriate agencies (DFG, USFWS, and Caltrans) to discuss wildlife resource issues in the project region and determine the appropriate level of surveys necessary to document special-status wildlife and their habitats.
- **Conduct Field Studies.** The wildlife biologist shall evaluate existing habitat conditions and determine what level of biological surveys may be required. The type of survey required shall depend on species richness, habitat type and quality, and the probability of special-status species occurring in a particular habitat type. Depending on the existing conditions in the project area and the proposed construction activity, one or a combination of the following levels of survey may be required:
- **Habitat Assessment.** A habitat assessment determines whether suitable habitat is present. This type of assessment can be conducted at any time of year and is used to assess and characterize habitat conditions and to determine whether return surveys are necessary. If no suitable habitat is present, no additional surveys shall be required.
- **Species-Focused Surveys.** Species-focused surveys (or target species surveys) shall be conducted if suitable habitat is present for special-status wildlife and if it is necessary to determine the presence or absence of the species in the project area. The surveys shall focus on special-status wildlife species that have the potential to occur in the region. The surveys shall be conducted during a period when the target species are present and/or active.
- **Protocol-Level Wildlife Surveys.** The project proponent shall comply with protocols and guidelines issued by responsible agencies for certain special-status species. USFWS and DFG have issued survey protocols and guidelines for several special-status wildlife species that could occur in the project region, including (but not limited to) the valley elderberry longhorn beetle, vernal pool branchiopods, California red-legged frog, California tiger salamander, blunt-nosed leopard lizard, western burrowing owl, California black rail, and San Joaquin kit fox. The protocols and guidelines may require that surveys be conducted during a particular time of year and/or time of day when the species is present and active. Many survey protocols require that only a USFWS- or DFG-approved biologist perform the surveys. The project proponent shall coordinate with the appropriate state or federal agency biologist before the initiation of protocol-level surveys to ensure that the survey results shall be valid. Because some species can be difficult to detect or observe, multiple field techniques may be used during a survey period and additional surveys may be required in subsequent seasons or years as outlined in the protocol or guidelines for each species.

Special-status wildlife or suitable habitat identified during the field surveys shall be mapped and documented as part of the CEQA and NEPA documentation, as applicable.

Mitigation Measure BIO-12: Avoid and Minimize Impacts on Special-Status Wildlife Species by Redesigning the Project, Protecting Special-Status Wildlife Habitat, and Developing a Mitigation Monitoring Plan (If Necessary)

This mitigation measure focuses on avoiding and minimizing all direct and indirect effects on special-status wildlife. Implement the following measures to avoid and minimize impacts on special-status wildlife and their habitats:

- Redesign or modify the project to avoid direct and indirect impacts on special-status wildlife or their habitats, if feasible.
- Protect special-status wildlife and their habitat near the project site by installing environmentally sensitive area fencing around habitat features, such as seasonal wetlands, burrows, and nest trees. The environmentally sensitive area fencing or staking shall be installed at a minimum distance from the edge of the resource as determined through coordination with state and federal agency biologists (USFWS and DFG). The location of the fencing shall be marked in the field with stakes and flagging and shown on the construction drawings. The construction specifications shall contain clear language that prohibits construction-related activities, vehicle operation, material and equipment storage, and other surface-disturbing activities within the fenced environmentally sensitive area.
- Restrict construction-related activities to the nonbreeding season for special-status wildlife species that could occur in the project area. Timing restrictions may vary depending on the species and could occur during any time of the year.
- Coordinate with the appropriate resource agencies to determine whether a monitoring plan for special-status wildlife is necessary as part of all highway projects. If a monitoring plan is required, it shall be developed and implemented in coordination with appropriate agencies and shall include
 - a description of each of the wildlife species and of suitable habitat for species that could occur at the project site;
 - the locations of known occurrences of special-status wildlife species within 1.0 mile of the project site;
 - the location and size of no-disturbance zones in and adjacent to environmentally sensitive areas for wildlife;
 - directions on the handling and relocating of special-status wildlife species found on the project site that are in immediate danger of being destroyed; and
 - notification and reporting requirements for special-status species that are identified on the project site.

Mitigation Measure BIO-13: Coordinate with Resource Agencies and Develop Appropriate Compensation Plans for State- and Federal-Listed Wildlife Species

If Mitigation Measure BIO-12 is not feasible and site-specific construction activities would result in significant impacts on state- or federal-listed wildlife species, a compensation plan shall be developed in coordination with the appropriate resource agency, or agency-approved compensation guidelines shall be followed to reduce the impact to a less-than-significant level. Compensation guidelines have been identified for

several special-status wildlife species, including valley elderberry longhorn beetle, vernal pool branchiopods, giant garter snake, Swainson's hawk, and burrowing owl. The amount of compensation shall vary depending on the amount of habitat loss or degree of habitat disturbance anticipated. The compensation plan shall be developed and implemented in coordination with the appropriate state or federal agency and would involve identifying an agency-approved mitigation bank or mitigation site (onsite or off-site); transplanting (elderberry shrubs), re-creating (burrows and vernal pools), and/or preserving additional habitat for special-status wildlife species; monitoring the mitigation site; and funding the management of the mitigation site.

Impact BIO-6: Potential Disturbance and Loss of Common Wildlife Species

Construction and maintenance activities related to projects included in the MTP 2035 could temporarily disturb habitat for many common wildlife species in the MTP Plan Area. Also, a small amount of habitat for common wildlife species would be removed as a result of site-specific project construction. The amount of habitat that would be removed is anticipated to be small relative to the amount of habitat available to common species in MTP Plan Area. In addition to losing habitat from construction, the disturbance would cause many species to move out of project sites and into nearby habitat areas and inevitably some individuals would be lost as a result. This loss of individual animals would not result in a substantial reduction or elimination of common wildlife species diversity or abundance. This impact is therefore considered less than significant. No mitigation is required.

Impact BIO-7: Potential Direct and Indirect Impacts on Special-Status Fish Species

Projects included in the MTP 2035 that would be located on, near, or across waterways in the MTP Plan Area could have direct and indirect impacts on special-status fish and their aquatic habitat (see Table 7-3 for a list of potential species that could occur in the MTP Plan Area). Impacts on aquatic systems could result from an increase in sediment input, contaminant input, and removal of streamside riparian vegetation. Construction and maintenance activities adjacent to waterways could disturb soils and cause sediment to be transported into and through the channel; this would result in temporary increases in turbidity and sedimentation downstream of construction sites. Periods of localized, high-suspended sediment concentrations and turbidity owing to channel disturbance can result in a reduction of feeding opportunities for sight-feeding fish and clogging and abrasion of gill filaments. Also, increased sediment loading can degrade food-producing habitat downstream of project areas. Finally, sediment can interfere with photosynthesis of aquatic flora and result in the displacement of aquatic fauna.

Fuel and concrete could spill into the waterway during construction. Various contaminants, such as fuel oils, grease, and other petroleum products used in construction activities, could be introduced into the system either directly or through surface runoff. Contaminants may be lethal or sub lethally toxic to fish and other aquatic organisms, or may change the rate at which oxygen is diffused; as a result, they may reduce the survival and growth rates of aquatic species.

Removal of riparian vegetation could weaken the streambank by loosening the soil, thus increasing the bank's susceptibility to erosion. Alteration of fish habitat would occur if the channel bed and banks were disturbed (e.g., if riprap were placed there), or if sites that have been disturbed mechanically were further disturbed by high-flow events before they are stabilized. Streamside riparian vegetation provides cover for juvenile rearing, shade to reduce temperatures,

and food input (i.e., terrestrial invertebrates) and is considered a very valuable component of fish habitat. The removal of woody riparian vegetation may affect fish directly by removing habitat. Fish use complex woody debris structure to avoid predators and conceal themselves from prey. Woody debris in the waterway reduces water velocity, providing resting habitat as well.

Project activities could result in avoidance by fish of biologically important habitat for substantial periods. Avoidance of important habitat may increase mortality, reduce reproductive success, or substantially reduce local population size. Based upon the general planning nature of the MTP 2035, development of detailed, site-specific information on this impact at the program level is not feasible. As a result, SACOG does not have sufficient reliable data to permit preparation of a meaningful and accurate report on the impact and no significance determination can be reasonably made. The implementing agency will conduct appropriate project-level environmental review and will be responsible for consideration of mitigation measures for significant effects on the environment. Implementation of the Mitigation Measures BIO-7 and BIO-9 above and Mitigation Measures BIO-14, BIO-15, and BIO-16 may reduce these impacts to a less-than-significant level and should be considered during project-level environmental review by implementation agencies.

Mitigation Measure BIO-14: Assess and Document Habitat for Special-Status Fish Species

Retain a qualified fisheries biologist to locate and identify streams that could support special-status fish habitat. Aquatic and streamside habitat conditions shall be mapped and documented as part of CEQA and NEPA documentation and biological assessment reports, as applicable. Implement Mitigation Measures BIO-15 and BIO-16 concurrently to avoid, minimize, and compensate for potential impacts on special-status fish.

Mitigation Measure BIO-15: Avoid and Minimize Impacts on Special-Status Fish and Their Habitat

Construct projects during time periods that avoid the sensitive life stages of special-status fish species. Construction activities shall be scheduled so they do not interfere with the reproductive cycles of fish species. Work in most of the systems shall take place between June 1 and October 15 to avoid causing impacts on the majority of the adult and juvenile migration stages of anadromous species. In addition, implement best management practices in storm water pollution prevention plans (SWPPPs), as applicable (see Mitigation Measure GEO-1) to control the transport of sediment to streams, promote the restoration of construction areas to preconstruction conditions, and avoid the potential for spills of hazardous substances. The SWPPPs will include pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a BMP monitoring and maintenance schedule. A staging and storage area shall be provided away from the waterway for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants. The contractor shall conduct periodic maintenance of erosion and sediment control measures. Soil exposure shall be minimized through the use of BMPs, ground cover, and stabilization practices. Exposed dust-producing surfaces shall be sprinkled daily until wet while avoiding the production of runoff. Paved streets shall be swept daily after construction activities.

Mitigation Measure BIO-16: Consult with NMFS or USFWS when Listed Fish Species May Be Affected, and Initiate Essential Fish Habitat Consultation with NMFS when Chinook Salmon May Be Affected

Initiate consultation with NMFS and/or USFWS to get a determination from the agency, approval to proceed with the project, and approved avoidance, minimization, and compensation measures related to Steelhead, Chinook Salmon, Splittail, or their essential habitat.

Impact BIO-8: Conflict with Local Policies or Ordinances Protecting Biological Resources

Construction and maintenance activities associated with projects in the MTP 2035 could result in conflicts with local policies or ordinances that protect locally significant biological resources, including heritage or native trees. Based upon the general planning nature of the MTP 2035, development of detailed, site-specific information this impact at the program level is not feasible. As a result, SACOG does not have sufficient reliable data to permit preparation of a meaningful and accurate report on the impact and no significance determination can be reasonably made. The implementing agency will conduct appropriate project-level environmental review and will be responsible for consideration of mitigation measures for significant effects on the environment. The following mitigation measure could be used by implementing agencies to address potential impacts during project-level review:

Mitigation Measure BIO-17: Review Local City and County Policies, Ordinances, and Conservation Plans and Comply with Requirements

Ensure that projects comply with general plans, policies, ordinances, and conservation plans (including any HCPs, NCCPs, and other local, regional, and state plans). Review of these documents and compliance with their requirements shall be demonstrated in project-level environmental documentation. Ensure that projects comply with all policies, ordinances, and plans that exist at the time of project-level review, regardless of whether they existed during the program-level analysis.

Impact BIO-9: Removal or Disturbance of Oak Woodland Communities and Individual Native Oak Trees

Construction activities for projects in the MTP 2035 could result in removal of oak woodland communities and individual oak trees. Potential impacts could result from direct removal of trees and indirect activities associated with trenching, parking construction equipment under the trees, or stockpiling construction materials in the tree root zone (defined by the tree canopy). Oak woodlands were once a common natural community, but have steadily declined as a result of development and agricultural land conversion practices throughout the state. The disturbance or potential removal of oak woodland communities (particularly valley oak woodlands) and individual oaks may be considered a significant impact because some oak communities have declined compared to their historic extent. In addition, several counties and cities in the MTP Plan Area have ordinances and policies that regulate oak trees. In some cases, an arborist survey and report may be required by the local planning jurisdiction and will form the basis for the impact analysis and mitigation requirements. A significance determination will need to be made on a project-by-project basis and will depend on the extent of impact, scarcity of the resource locally, habitat functions and values, and local regulations protecting or regulating oak trees.

The following mitigation measures could be used by implementing agencies to address potential impacts during project-level review:

Mitigation Measure BIO-17: Install Temporary Construction Barrier Fencing to Protect Native Oak Trees Adjacent to the Construction Zone

Install orange construction barrier fencing to identify environmentally sensitive areas around the native oak trees (the minimum size of tree that will be protected will be determined by the local ordinance). Before construction, the contractor will work with the project engineer to identify the locations for the barrier fencing, and will place stakes around the sensitive resource sites to indicate these locations. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following paragraph will be included in the construction specifications:

The Contractor’s attention is directed to the areas designated as “environmentally sensitive areas.” These areas are protected, and no entry by the Contractor for any purpose will be allowed unless specifically authorized in writing by the <jurisdiction name here>. The Contractor will take measures to ensure that Contractor’s forces do not enter or disturb these areas, including giving written notice to employees and subcontractors.

Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as shown on the plans, as specified in the special provisions, and as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least 4 feet high (Tensor Polygrid or equivalent). The fencing will be tightly strung on posts with a maximum 10-foot spacing.