

5.4 - Biological Resources

5.4.1 - Introduction

This section describes how implementation of the City of Fresno General Plan and Development Code Update may affect biological resources that are known to occur within the Planning Area, including vegetation communities, special-status plant and wildlife species and their associated habitats, and special-status natural communities, including riparian communities and wetlands. This section also addresses local, state, and federal regulations as they pertain to project impacts on biological resources. Mitigation measures are provided to reduce potential project impacts.

For the purposes of this evaluation, "special-status species" are those species that meet one or more of the following criteria:

Listed Species

"Listed species" includes those species that are:

1. Listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA) or candidates for possible future listing as threatened or endangered under the ESA (50 CFR §17.12); and/or
2. Listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (Fish and Game Code §2050 et seq.).

"Other" Special-status Species

"Other special-status species" include those species that are:

1. Listed as rare under the California Native Plant Protection Act (California Fish and Game Code §1900 et seq.).
2. Meet the definition of rare or endangered under the California Environmental Quality Act [CEQA] §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
 - Species considered by the California Native Plant Society (CNPS) to be "rare, threatened or endangered in California" (California Rare Plant Ranks (CRPR) 1A, 1B, 2A, and 2B);
 - Species that may warrant consideration on the basis of local significance or recent biological information;
 - Some species included on the California Natural Diversity Database's (CNDDDB) Special Plants, Bryophytes, and Lichens List (CDFW 2014).
3. Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (California Environmental Quality Act [CEQA] §15125 (c)) or is so designated in local or

regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

4. Listed as "Species of Special Concern" or as California Fully Protected Species by the CDFW;
5. Listed as "Species of Concern" by the U.S. Fish and Wildlife Service (USFWS).

"Special-status Natural Communities"

In general, "special-status natural communities" include those communities that are of limited distribution statewide or within a county or region; communities that are of special concern to resource agencies; and communities that, because they are vulnerable to the environmental effects of projects, are assessed or protected under CEQA Section 1600 of the California Department of Fish and Game Code, and/or Section 404 of the Clean Water Act, among others. The most current version of the California Department of Fish and Wildlife's (CDFW's) List of Vegetation Alliances and Associations (or "Natural Communities List") (2010) indicates which natural communities are considered "special-status" in the state of California.

5.4.2 - Environmental Setting

The following information is provided in accordance with Section 15125 of the California Environmental Quality Act (CEQA). The environmental setting discussion provides a baseline discussion of the existing conditions within the City of Fresno Planning Area and surrounding area.

Study Area for Project Impacts

The study area for project impacts to biological resources includes the Planning Area and areas within an approximately 5-mile-radius because implementation of the General Plan and Development Code Update could have either direct or indirect effects on biological resources occurring within these areas.

Study Area for Cumulative Impacts

The study area for the analysis of cumulative biological resources impacts is the areas located within the San Joaquin Valley, which generally extends from the San Joaquin Delta in the north, the Sierra Nevada mountain range on the east, the Diablo and Temblor mountain ranges to the west and the Tehachapi Mountains to the south. The specific cumulative study area depends on the biological resource. This analysis includes the eight counties that are located within the San Joaquin Valley; all of Kings County, most of Fresno, Kern, Merced, and Stanislaus counties, and portions of Madera, San Luis Obispo, and Tulare counties.

Existing Conditions

Vegetation Communities

The following discussion of vegetation communities known to occur in the Planning Area is based on previously identified and mapped vegetation communities included in the City of Fresno General Plan Map Atlas prepared in 2011 as well as a review of information in the California Natural Diversity

Database (CNDDDB). A total of 11 vegetation communities occur within the Planning Area (see Table 5.4-1), two of which are considered "special-status natural communities" by the CDFW.

Table 5.4-1: Vegetation Communities within the City of Fresno Planning Area

Vegetation Community Type	Total Acres within Planning Area
Annual Grassland	1,006
Barren	110
Deciduous Orchard	14,500
Irrigated Row and Field Crops	19,500
Lacustrine	3,030
Pasture	60
Riverine	270
Urban	67,050
Valley Foothill Riparian	380
Valley Oak Woodland ²	120
Northern Claypan Vernal Pool ²	1
Total	106,027
¹ City of Fresno, Map Atlas Existing Conditions Report, August 2011 and City of Fresno Development and Resources Management Department, 2013. ² Special-status natural community. Source: FirstCarbon Solutions, 2013	

Exhibit 5.4-1 illustrates the location of the plant communities within the Planning Area. Appendix C-1 includes an index map of the plant communities within the Planning Area. The mapping of vegetation communities in Exhibit 5.4-1 as well as the exhibits in Appendix C-1, do not include the northern claypan vernal pool community due to its small size (i.e., less than one acre). The northern claypan vernal pool community is located in an area that is surrounded by a lacustrine vegetation community in the northern portion of the Planning Area.

The majority (approximately 63 percent) of the City of Fresno's approximately 106,027-acre Planning Area consists of previously disturbed urban/developed areas containing industrial, commercial, and residential development and associated roads and infrastructure. Approximately 32 percent of the Planning Area contains previously disturbed agricultural lands, orchards, pasture, and row and field crops located predominately along the outer boundaries of the Planning Area. Undeveloped and undisturbed areas with native vegetation occur within the remaining 5 percent of the Planning Area.

For the purposes of this evaluation, vegetation communities are classified according to the CDFW's Natural Communities List and cross-referenced to descriptions provided in Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) and Oberbauer's update to

those descriptions (1996). The CDFW does not maintain narrative description of these vegetation communities, so the descriptions provided below have been adapted from Holland and Oberbauer.

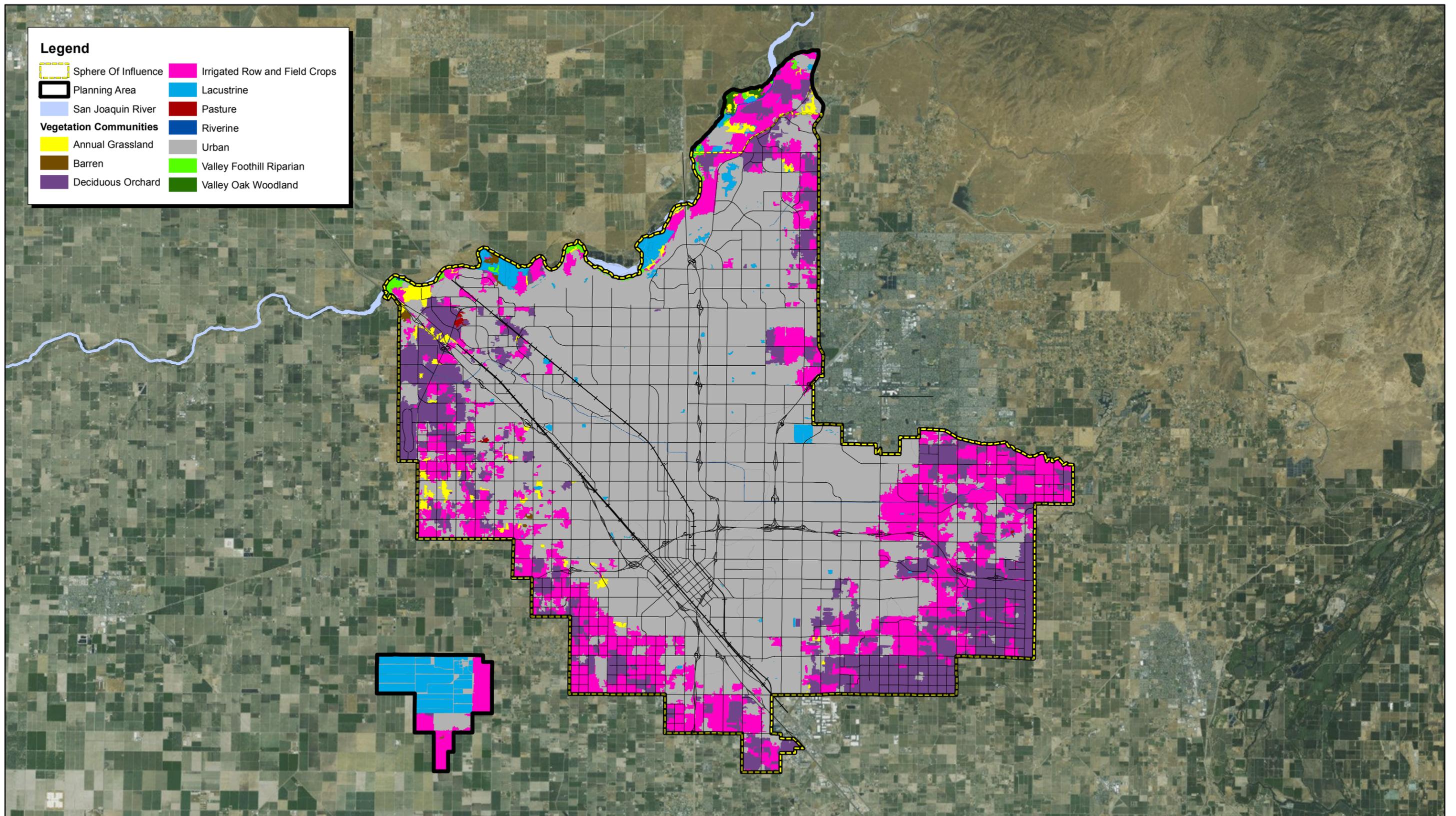
The vegetation maps produced for this evaluation do not imply regulatory jurisdictional determinations under Section 404 of the Federal Clean Water Act, Section 10 of the Rivers and Harbors Act, or Section 1600 of the California Fish and Game Code (Lake and Streambed Alteration Program), or the lack thereof. Such determinations usually require a site visit to assess the current conditions on the ground and to map boundaries at a finer scale than the City of Fresno General Plan Map Atlas employs. Similarly, terms such as “riparian” and “wetland” in the vegetation keys and type descriptions may inform, but do not imply or assert, regulatory jurisdiction or the lack thereof.

Annual Grassland

The Planning Area contains approximately 1,006 acres of annual grassland, located primarily along the northern and western borders of the Planning Area boundary. Annual grassland in the Planning Area includes a mix of native and non-native, annual grasses, which often occur in association with ruderal herbs and occasional native annual forbs. The dominant plant species within the annual grassland vegetation community typically include black needlegrass (*Nasella* sp.), fescue (*Vulpia* sp.), brome (*Bromus* sp.), and wild oats (*Avena* spp), with mustard (*Brassica nigra*), dove weed (*Eremocarpus setigerus*), and poppy (*Eschscholzia* sp.). These grasses germinate with the fall rains, grow during the winter and spring, and wither in the early summer.

Special-status species with a potential to occur in the Planning Area and associated with annual grassland habitats include:

- American badger
- burrowing owl
- California horned lark
- California linderiella
- California tiger salamander
- Fresno kangaroo rat
- pallid bat
- San Joaquin kit fox
- San Joaquin pocket mouse
- Swainson’s hawk
- western mastiff bat
- western spadefoot
- Hartweg’s golden sunburst
- caper-fruited tropidocarpum
- California jewel-flower
- dwarf downingia
- spiny-sepaled button-celery
- succulent owl’s clover
- Greene’s tuctoria



Source: ESRI Aerial Imagery. City of Fresno Development and Resource Management Department, 2010.



Barren

The Planning Area includes approximately 110 acres of barren land. Barren lands include areas in which the vegetative cover comprises less than 10 percent of the surface area (disregarding natural rock outcrops) and where there is evidence of soil surface disturbance and compaction from previous legal human activity, and/or areas in which the vegetative cover is greater than 10 percent, soils surface compaction is evident, and building foundations and debris are present (e.g., irrigation piping, fencing, old wells, abandoned farming or mining equipment) from legal activities (as opposed to illegal dumping). Barren land occurs in the northwest corner of the Planning Area, adjacent to the San Joaquin River corridor. Vegetation within barren land has a high predominance of non-native or weedy species that are indicators of soil disturbance, including Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), horehound (*Marrubium vulgare*), and sow thistle (*Sonchus oleraceus*), and a sub-dominance of non-native grasses.

Barren land only provides moderately suitable habitat for one special-status species, California horned lark.

Deciduous Orchard

Deciduous orchard communities comprise the third most abundant vegetation community in the Planning Area, accounting for approximately 14,500 acres along the western, southern and eastern margins of the Planning Area, where there are flat alluvial soils on valley floors, rolling foothills and relatively steep slopes. Orchard communities are typically comprised of artificially irrigated habitat dominated by one, sometimes several, tree or shrub species planted for cultivation. Trees are typically low and bushy, and the understory is open, with little ground cover. In the Planning Area, deciduous orchards include a variety of fruit trees (e.g., apples, apricots, cherries, citrus, kiwi, peaches, nectarines, pears, persimmons, plums, pluots, pomegranates, etc.) and/or nut trees and shrubs (e.g., almonds, olives, pistachios, walnuts, etc.) (County of Fresno 2012). Understory species generally consist of short native and non-native grasses and other herbaceous species.

Deciduous orchard is a relatively disturbed vegetation community and contains very little groundcover and planted trees that provide moderately suitable habitat for only one special-status species, California horned lark.

Irrigated Row and Field Crops

The second most abundant vegetation community in the Planning Area is irrigated row and field crops, accounting for 19,500 acres along the four borders of the Planning Area. This vegetation community frequently occurs in floodplains or upland areas with high soil quality. Irrigated row and field crops include annual and perennial crops, grown in rows, with open space between the rows. Row and field crops are artificially irrigated and feature a moderate disturbance rate by vehicle and pedestrian encroachment typically associated with farming activities. Species composition changes frequently, both by season and by year.

Since irrigated row and field crops contain active agriculture, and are therefore significantly disturbed with altered substrates, this vegetation community does not provide suitable habitat for

any special-status plant species and limited habitat for special-status wildlife species. Special-status wildlife species with a potential to occur within this vegetation community include:

- burrowing owl
- California horned lark
- Swainson's hawk

Lacustrine

Lacustrine communities consist of standing/open waters in topographic depressions (i.e., lakes) or dammed river channels. Lacustrine communities lack persistent emergent vegetation, but may have submerged or floating-leaved aquatic vegetation. Generally, lacustrine systems are surrounded by hydrophytic plants, grasses, and trees. Lacustrine systems account for approximately 3,030 acres in the northern portion of the Planning Area, near the San Joaquin River; within the isolated southwestern most portion of the Planning Area; and within the isolated basins and ponds that are interspersed throughout the City of Fresno.

Special-status species with a potential to occur within a lacustrine community include:

- western spadefoot
- tricolored blackbird
- hoary bat
- spotted bat
- western pond turtle
- dwarf downingia
- Sanford's arrowhead

Pasture

Approximately 60 acres of pasture lands occur along the northwest corner of the Planning Area, near deciduous orchards and other irrigated row and field crops. Pasture lands form a dense habitat with nearly 100 percent cover; usually monoculture crops are planted in these areas, which are irrigated, artificially seeded, and frequently maintained. Characteristic species include non-native grasses such as oat (*Avena* sp.), bermuda grass (*Cynodon* sp.), barley (*Hordeum* sp.), *Sorghum* grass, as well as clover (*Medicago* sp.). Often times, this land contains significant areas of bare ground due to livestock grazing and movement across acres of this vegetation community.

Special-status species with a potential to occur within this vegetation community include:

- burrowing owl
- California horned lark
- San Joaquin kit fox
- Swainson's hawk

Riverine

Riverine systems consist of linear aquatic communities of flowing, non-tidal waters with a distinct channel and little to no persistent emergent vegetation. Riverine systems may also include areas with abundant submerged or floating-leaved aquatic vegetation. Vegetation communities abutting riverine systems tend to be dominated by trees, shrubs, persistent emergent vegetation, and/or emergent mosses and lichens. This vegetation community occurs near or depends upon a nearby freshwater source or areas with fresh water flow during all or part of the year. Riverine communities in the Planning Area account for approximately 270 acres, predominately along the northern boundary, within the San Joaquin River system.

Special-status species that are known to occur in riverine habitat include:

- western yellow-billed cuckoo
- tricolored blackbird
- hardhead
- hoary bat
- spotted bat
- western pond turtle
- California satintail

Urban

Urban (or developed) lands have been constructed upon or otherwise covered with a permanent, unnatural surface (e.g., concrete, asphalt, buildings, homes, etc.) or large amount of debris or other materials. The Planning Area consists predominately of urban areas, which are concentrated in the central portion of the Planning Area, within the Fresno city limits. Urban land is less common within the rural and agricultural portions of the Planning Area. Approximately 67,050 acres of the Planning Area consist of urban land,

Urban land provides poor quality habitat for any special-status species. No special-status species is expected to occur within this vegetation community.

Valley Foothill Riparian

The Planning Area includes approximately 380 acres of the valley foothill riparian community, which occurs primarily within mature riparian forests along the San Joaquin River corridor. Valley foothill riparian communities typically have a 20 to 80 percent canopy cover with trees that are winter deciduous. Wild grape (*Vitis californica*) often provides 30 to 50 percent ground cover. There is very little herbaceous understory with the exception of disturbed openings in the canopy cover. The understory typically consists of leaf-litter, fallen limbs, and is often impenetrable for smaller herbaceous plants. Tree canopy species within this community typically includes cottonwood (*Populus fremontii*), California sycamore (*Platanus racemosa*), and valley oak (*Quercus lobata*). Subcanopy species often includes white alder (*Alnus rhombifolia*), boxelder (*Acer negundo*), and Oregon ash (*Fraxinus latifolia*). Typical understory shrub layer plants include wild grape, California blackberry (*Rubus ursinus*), blue elderberry (*Sambucus caerulea*), poison oak (*Toxicodendron diversilobum*), and willows (*Salix* sp.)

Special-status species with a potential to occur within valley foothill riparian habitat includes:

- western spadefoot
- western yellow-billed cuckoo
- California horned lark
- hoary bat
- spotted bat
- pallid bat
- western mastiff bat
- valley elderberry longhorn beetle
- California satintail

Valley Oak Woodland

The Valley Oak Woodland is a special-status natural community. The Planning Area includes approximately 120 acres of valley oak woodland located primarily within the San Joaquin River corridor. Valley oak woodland communities vary from open-canopy savanna-like woodlands to partially closed canopy woodlands but mostly consist of winter-deciduous, broad-leaved species. Valley oak (*Quercus lobata*), a winter-deciduous species and California's largest broad-leaved tree, is usually the only tree species present, although blue oak (*Q. douglasii*) may also be present. Mature valley oaks can reach heights of 50 to 100 feet (about 15 to 35 meters). Valley oak woodlands typically occur on deep, well-drained alluvial soils in valley bottoms that have a higher summer moisture content. This community intergrades with valley oak riparian near rivers and with blue oak woodlands on drier slopes. Characteristic understory species include creeping wild rye (*Elymus triticoides*), wild oats (*Avena* sp.), brome (*Bromus* sp.), barley (*Hordeum* sp.), needlegrass (*Nassella* sp.) and poison oak (*Toxicodendron diversilobum*).

Special-status species known to occur within valley oak woodland habitat includes:

- western spadefoot
- spotted bat
- pallid bat
- western mastiff bat
- San Joaquin pocket mouse
- Hartweg's golden sunburst
- Madera leptosiphon

Northern Claypan Vernal Pool

The northern claypan vernal pool is a special-status natural community. The Planning Area includes approximately one acre of northern claypan vernal pool along the northwest boundary of the Planning Area. Typically, these pools are located within the lower elevations of the main San Joaquin Valley. These areas are typically associated with a series of small mima mounds with interspersed pools. Typically, these pools have highly alkaline and may display whitish salt deposits in non-vegetated centers of dry pools. These vernal pools are dominated by a high percentage of non-native species.

Special-status species known to occur within northern claypan vernal pool includes:

- California tiger salamander
- vernal pool fairy shrimp
- California linderiella
- molestan blister beetle
- midvalley fairy shrimp
- succulent owl's clover
- Green's tuctoria

Special-status Natural Communities

As described above, the Planning Area contains two special-status natural communities: valley oak woodland and northern claypan vernal pool. Based on a review of the CNDDDB, there are three additional special-status natural communities located in the vicinity of the Planning Area. These three special-status natural communities include the northern hardpan vernal pool, great valley mixed riparian forest, and sycamore alluvial woodland. Each of these three special-status natural communities are associated with stream courses, waterways, drainages, wetlands, and seasonal pools; however, these have not been recorded to occur within the Planning Area and are, therefore, not likely to occur.

Special-Status Species

The Planning Area contains potentially suitable habitat for a total of 29 special-status species (including 12 plant species and 17 wildlife species). Each of the special-status species with potential to occur (or that are known to occur) within the Planning Area is described in more detail below. A listing of plant species was obtained from the California Native Plant Society Inventory of Rare and Endangered Plants (See Appendix C-2). A listing of the wildlife species was obtained from the CNDDDB (See Appendix C-3).

Listed Plant Species

Six listed plant species have the potential to occur within the Planning Area. Impacts to these species should be avoided to the greatest extent possible. Consultation with state and/or federal agencies would be required in the event that a proposed project had the potential to affect a listed plant species.

California Jewel-Flower

California jewel-flower (*Caulanthus californicus*) is a state and federally listed endangered species and a CNPS list 1B.1 species. California jewel-flower occurs within chenopod scrub in valley and foothill grasslands and pinyon-juniper woodlands. It is historically known from various valley habitats in both the Central Valley and Carrizo Plain from 65 to 900 meters. There is one historical known location within the Planning Area, but it is located within an area that appears to have already been converted to urban use.

San Joaquin Valley Orcutt Grass

San Joaquin Valley orcutt grass (*Orcuttia inaequalis*) is a state endangered species, a federally threatened species, and a CNPS list 1B.1 species. This species is restricted to vernal pools at elevations from 30 to 755 meters above sea level. There is one historic known location within the Planning Area, near the central/western portion, just west of Highway 99.

Hairy Orcutt Grass

Hairy orcutt grass (*Orcuttia pilosa*) is state and federally endangered species and a CNPS list 1B.1 species. This species is restricted to vernal pools surrounded by annual grasslands. It is specifically known to occur within the northern hardpan vernal pool community, on San Joaquin fine sandy loam. There are no historic / known locations of this species within the Planning Area.

Hartweg's Golden Sunburst

Hartweg's golden sunburst (*Pseudobahia bahiifolia*) is state and federally endangered species and a CNPS list 1B.1 species that is known to occur within valley and foothill grasslands and cismontane woodlands. Hartweg's golden sunburst is associated with clay soils, predominantly on the northern slopes of knolls, but also along shady creeks or near vernal pools. There are no historic / known locations of this species within the Planning Area.

Succulent Owl's Clover

Succulent owl's clover (*Castilleja campestris* ssp. *succulenta*) is a state endangered species, a federally threatened species, and a CNPS list 1B.2 species. Succulent owl's clover is isolated to vernal pools in valley and foothill grasslands. Microhabitat requirements include moist places with acidic soils, from 25 to 750 meters. There is one historic/known location in the Planning Area, located within the County of Fresno (and outside of the City of Fresno sphere of influence), just south of the San Joaquin River corridor.

Greene's Tuctoria

Greene's tuctoria (*Tuctoria greenei*) is a federally endangered species, a California Rare species, and a CNPS list 1B.1 species. This species is known to occur within vernal pools surrounded by valley and foothill grasslands. Specifically this species is located on dry bottoms of vernal pools from an elevation range of 30 to 1,065 meters. There are no historic / known locations of this species within the Planning Area.

Other Special-Status Plant Species

In addition to the six listed plant species, there are six "other" special-status plant species have the potential to occur in the Planning Area: California satintail (*Imperata brevifolia*), Madera leptosiphon (*Leptosiphon serrulatus*), hairy Orcutt grass (*Orcuttia pilosa*), Sanford's arrowhead (*Sagittaria sanfordii*), caper-fruited tropidocarpum (*Tropidocarpum capparideum*), spiny-sepaled button-celery (*Eryngium spinosepalum*), dwarf downingia (*Downingia pusilla*). Direct take of these species should be avoided wherever possible.

Listed Wildlife Species

A total of eight listed wildlife species have the potential to occur or are known to occur within the Planning Area. Project impacts to these species should be avoided to the greatest extent possible.

California Red-Legged Frog

California Red-Legged Frog (*Rana draytoni*) is a federally threatened species and a California Species of Special Concern. The red-legged frog is the largest native frog in California; the underside of the hind legs and inner-half of the feet are pink to red, which gives this frog its common name. It ranges from Humboldt, Trinity, and Shasta counties, down the western slope of the Sierra Nevada (below 4,500 feet) to Mariposa County, and south to Mexico.

The red-legged frog frequently uses deep, in-channel pools in intermittent or perennial streams for breeding and to avoid predators such as raccoons and red-shouldered hawks. Preferred habitats consist of deep permanent pools in stream courses characterized by a thick over-story of willows, sycamores, and oaks; under-cut banks; and submerged root balls. Occupied streams are free of exotic aquatic vertebrates such as bullfrogs, crayfish, or fish. The presence of *Typha*, *Scirpus*, and *Salix* may be important indicators of potential habitat. Watercress (*Rorippa nasturtium-aquaticum*) and duckweed (*Lemna* sp.) tend to be the dominant understory species. Other breeding habitats include coastal lagoons, marshes, springs, and permanent and semi-permanent natural ponds, backwater portions of slow streams, and large stock ponds.

California Tiger Salamander

The California tiger salamander is federally threatened within the Central Valley in California. The Central Valley species is known to occur within grasslands and oak savannas and along the edges of mixed woodland and lower elevation coniferous forests. This species is endemic to California, but most of the historic range is not well known because it has been fragmented. Currently most populations in the Central Valley have been eliminated, and the remainder are found in the surrounding foothills from Tulare County north to Yolo County, and from Santa Barbara County to the Sacramento Valley.

The California tiger salamander is nocturnal and fossorial, spending most of its time underground in animal burrows, especially those of California ground squirrels and valley pocket gophers. Breeding occurs within vernal pools or other seasonal waters. The California tiger salamander emerges at night with the fall rains, sometimes in early November. This species needs both suitable upland terrestrial habitat and temporary breeding ponds in order to survive.

Fresno Kangaroo Rat

Fresno kangaroo rat (*Dipodomys nitratooides exilis*) is state and federally listed as endangered. This species excavates burrows in gently undulating to level terrain with sandy loam soils that are mildly to moderately alkaline and characterized by herbaceous vegetation with scattered shrubs. Herbaceous vegetation with scattered shrubs is common aboveground cover. Culbertson (1946) described burrow systems as covering a surface area from about 7-feet by 7-feet to 12-feet by 12-feet. Some burrow systems included short dead-end tunnels, apparently used to escape predators.

San Joaquin Kit Fox

San Joaquin kit fox (*Vulpes macrotis mutica*) is a state threatened species and a federally endangered species that is in population decline, particularly in California, largely due to widespread habitat loss from agriculture and urbanization. The species occurs from the San Joaquin Valley north to Contra Costa and Alameda counties. This species generally prefers open, level areas with loose-textured soils supporting scattered, shrubby vegetation with little human disturbance.

The San Joaquin kit fox is a small grayish fox about two and one half feet in length and weighing up to five and one half pounds. The kit fox is distinguished from other foxes by its large ears. The fox preys on rodents, rabbits, and lizards, and in turn is preyed upon by larger carnivores, particularly coyote.

Swainson's Hawk

Swainson's hawk (*Buteo swainsoni*) is a state threatened species that breeds regularly from southwestern Canada to northern Mexico. Typical habitat includes open desert, grassland, or croplands near scattered, large trees or small groves. This species nests in open riparian habitat or in scattered trees or small groves in sparsely vegetated flatlands. While it typically roosts in large trees, it will also roost on the ground in areas of suitable habitat, if no large trees are available. The nesting / breeding period for this species is from late March to mid-August, with peak activity in late May to late July. Swainson's hawks build their nests on a platform of sticks, bark, and fresh leaves in a tree, bush, or utility pole from 1.3 to 30 meters (4-100 feet) above ground. The Swainson's hawk forages in shrub-steppe habitats and agricultural lands. Swainson's hawk populations have declined markedly since the 1920s, with steep declines in the 1950s. In some areas there have been losses of 90 to 95 percent of past populations.

Valley Elderberry Longhorn Beetle

Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federally threatened species. The beetle's current distribution is patchy throughout the remaining riparian forests of the Central Valley, between Redding and Bakersfield. The beetle is locally common (i.e., found in population clusters that are not evenly distributed across the Central Valley). The species is nearly always found on or close to its host plant, elderberry (*Sambucus* sp.). Females lay their eggs on the bark and larvae hatch and burrow into the stems. The larval stage may last 2 years, after which the larvae enter the pupal stage and transform into adults. Adults are active from March to June, feeding and mating. It appears that in order to serve as habitat, the shrubs must have stems that are 1.0 inch or greater in diameter at ground level. Use of the plants by the animal is rarely apparent.

Vernal Pool Fairy Shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally threatened species. Populations of this species are known to live in ephemeral freshwater habitats, such as vernal pools and swales. None are known to occur in running or marine waters or other permanent bodies of water. This species has a sporadic distribution within vernal pool complexes, wherein the majority of pools in a given complex typically are not inhabited by the species.

Although the vernal pool fairy shrimp has a relatively wide range, the majority of known populations inhabit vernal pools with clear to tea-colored water, most commonly in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands, but one population occurs in sandstone rock outcrops and another population in alkaline vernal pools (Collie and Lathrop 1976). They are ecologically dependent on seasonal fluctuations in their habitat, such as absence or presence of water during specific times of the year, duration of inundation, and other environmental factors that include specific salinity, conductivity, dissolved solids, and pH levels. Water chemistry is one of the most important factors in determining the distribution of fairy shrimp. The vernal pool fairy shrimp occurs at temperatures between 6-20 degrees C, in soft and poorly buffered waters.

Yellow-Billed Cuckoo

Yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a candidate for federal listing and a state endangered species. The yellow-billed cuckoo breeds in large blocks of riparian habitat (willow and cottonwood stands in river floodplains). This bird feeds primarily on large insects, including caterpillars and cicadas, and occasionally on small frogs and lizards. Breeding coincides with the emergence of cicadas and tent caterpillar. Historically, yellow-billed cuckoos nested primarily in coastal counties from San Diego County, near the Mexican border, to Sonoma County, to the Central Valley from Kern through Shasta Counties, and along the lower Colorado River. Primary threats to its habitat include conversion of riparian habitat to agriculture, urban development, and flood control, as well as disease, predation and lack of regulatory mechanisms.

Other Special-status Wildlife Species

In addition to the eight listed wildlife species, there are nine "other" special-status wildlife species that have the potential to occur or are known to occur within the Planning Area. Direct take of these species should be avoided and significant reductions in suitable habitat and project impacts that result in significant population decline should be avoided to the maximum extent feasible.

American Badger

American badger (*Taxidea taxus*) is a California Species of Special Concern that is known to occur within a variety of open, arid habitats, most commonly associated with grasslands, savannas, mountain meadows, and open areas of desert scrub. Principle habitat requirements include sufficient prey base, friable soils, and relatively open, uncultivated ground. They typically occur at elevation ranges from below sea level to over 12,000 feet above mean sea level. American badger habitat is threatened by habitat conversion to urban and agricultural uses, farming operations, shooting and trapping, poisoning, and reduction of prey base because of rodent control activities. This species occurs as far north as Canada, and as far south as central Mexico. In the United States, it currently extends east from the Pacific coast to Texas, Oklahoma, Missouri, Illinois, Indiana, and Ohio. In California, American badger is an uncommon, permanent resident throughout most of the state, with the exception of the North Coast area.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is designated as a California Species of Special Concern. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. Typical habitat associated with the

species includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), prairies, coastal dunes, desert floors, and some artificial, open areas as a year-round resident. Burrowing owls may also use golf courses, cemeteries, road easements and rights-of-way within cities, airports, vacant lots in residential areas, and irrigation ditches.

Burrowing owls often use existing rodent burrows (or other burrows) for roosting and nesting. They may also use pipes and culverts where burrows are scarce. If left undisturbed, a burrowing owl pair will use the same burrow year after year for nesting

Hardhead

Hardhead (*Mylopharodon conocephalus*), a fish, is a California Species of Special Concern that occurs in low to mid-elevation streams in the Sacramento-San Joaquin drainage and the Russian River. Microhabitat requirements include clear, deep pools with a mix of sand, gravel and boulder bottoms with slow water velocity. This species is not found where exotic centrarchids (commonly known as sunfish) predominate. Populations of this species are well established in mid-elevation reservoirs used exclusively for hydroelectric power generation, such as the Redinger and Kerkhoff Reservoirs on the San Joaquin River in Fresno County. Hardhead is a bottom feeder that forages for benthic invertebrates and aquatic plant material in quiet water. They will also occasionally feed on plankton and surface insects. This species is in decline due to predation by smallmouth bass, and damming of large to medium-sized warm water streams with natural flow regimes.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a California Species of Special Concern and a High Priority species as designated by the Western Bat Working Group. This species ranges throughout California and occurs within a wide range of habitat types, typically below 6,000 feet above mean sea level. Pallid bats are non-migratory and hibernate during the winter, during which they experience very little activity. Pallid bats occur in a variety of habitats throughout the State and are most abundant in xeric ecosystems. Pallid bats roost alone and in both large and small groups. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees, and human structures such as bridges, barns, porches, bat boxes, and buildings. This species also has been found roosting on or near the ground under stone piles, rags, and baseboards. Pallid bat is a gregarious species and often roost in colonies of 20 to several hundred individuals. The tendency to roost gregariously, combined with a relative sensitivity to disturbance, makes it vulnerable to mass displacement. Pallid bats are generalists that surface glean for arthropods and capture insects on the wing. Breeding occurs from October to February. Pups are born from late April to July and are volant at 4 to 6 weeks of age. Breeding colonies disperse between August and October.

Spotted Bat

The spotted bat (*Euderma maculatum*) is a California Species of Special Concern and a High Priority species as designated by the Western Bat Working Group. The spotted bat is easily identifiable by its unique coloration of dorsal black fur with three white spots, white ventral surface and long, pink ears. In addition to being found in California, the species is known to occur in all of the states west of (and including) Montana, Wyoming, Colorado, New Mexico and Texas. The species generally occurs in arid, low desert habitats to high elevation conifer forests. Prominent rock features appear

to be a necessary feature for roosting. The winter range and hibernacula are unknown for most of its range, though the species has been captured year-round in the southern part of its range. This species likely breeds in late summer with females giving birth to a single pup in early summer (May or June). They appear to be solitary animals but occasionally roost or hibernate in small groups. Roost sites are cracks, crevices, and caves usually high in fractured rock cliffs. In general, the long-term persistence of this bat, as well as most bats, is threatened by the loss of clean, open water; modification or destruction of roosting and foraging habitat, and disturbance or destruction of hibernacula.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a California Species of Special Concern (CSC) that commonly occurs throughout central and coastal California. The species is often found near fresh water, as it prefers emergent wetlands with tall, dense cattails or tules, but it can also be found in thickets of willow, blackberry, wild rose, and other tall herbs. Tricolored blackbird is known to forage on the ground in croplands, grassy fields, flooded land, and along the edges of ponds. The tricolored blackbird diet generally consists of insects and spiders as a juvenile, and seeds and cultivated grains, such as rice and oats, as an adult. The breeding season for this colonial breeding species generally ranges from mid-April to late July.

Western Mastiff Bat

The western mastiff bat (*Eumops perotis*) is a California Species of Special Concern and a High Priority species as designated by the Western Bat Working Group. The western mastiff bat occurs throughout California in a wide range of habitat types, typically below 9,000 feet in elevation. Distribution is correlated with suitable rock features required for roosting. Western mastiff bats are non-migratory; however, they may move short distances within their home ranges. This bat species does not hibernate and is active periodically throughout the winter. Western mastiff bat is generally a cliff-dwelling species, but also uses building crevices for day roosts. This species forages most frequently in broad open areas such as flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas, and requires large lakes or ponds at least 100 feet long for drinking. Western mastiff bat generally roosts high above the ground, allowing a clear vertical drop of at least 7 feet for flight. Maternity colonies range from 30 to several hundred individuals and generally include adult males. This species has an audible echolocation call and is easily detected while foraging. This bat forages primarily on moths, but also takes crickets and katydids. Breeding occurs from October to March, from which pups are born primarily in July and are volant at 4 to 6 weeks of age.

Western Pond Turtle

The western pond turtle (*Emys marmorata*) is a California Species of Special Concern that inhabits ponds, lakes, rivers, streams, creeks, marshes and irrigation ditches containing abundant vegetation and either rocky or muddy bottoms in woodlands, forests and grasslands. It can be found basking on logs, rocks, cattail mats, and exposed banks within brackish water and seawater. This turtle feeds primarily on aquatic plants, invertebrates, worms, frog and salamander eggs and larvae, crayfish, carrion, and occasionally frogs and fish. It mates in April and May, eggs are laid sometime between April and August, and hatchlings emerge in early fall or overwinter in the nest.

Western Spadefoot

Western spadefoot (*Spea hammondi*), a California Species of Special Concern, can be found primarily in grassland habitats and valley-foothill hardwood woodlands. It prefers open areas with sandy or gravelly soils in sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools and rain pools that do not contain bullfrogs, fish or crayfish are necessary for breeding. The species can be found from sea level up to 4,500 feet. Western spadefoot eats a variety of invertebrates, including adult beetles, larval and adult moths, crickets, flies, ants, and earthworms. This species is nocturnal and almost completely terrestrial, entering water only to breed. It can burrow underground to escape hot, arid environments, and will spend most of its life underground. The species is typically active between October and May.

Other Wildlife Species for Consideration

Species that are not state or federally listed, and are not afforded additional state or federal protection include: California horned lark (*Eremophila alpestris actia*), hoary bat (*Lasiurus cinereus*), San Joaquin pocket mouse (*Perognathus inornatus inornatus*), California linderiella (*Linderiella occidentalis*), Antioch efferian robberfly (*Efferia antiochi*), molestan blister beetle (*Lytta molesta*), Hurd's metapogon robberfly (*Metapogon hurdi*), and midvalley fairy shrimp (*Branchinecta mesovallensis*).

5.4.3 - Regulatory Setting

This section describes the relevant federal, state, and local (County and City) laws, regulations and policies pertaining to environmental impacts within the Planning Area.

Federal Regulations

Federal Endangered Species Act

The United States Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (ESA). The ESA provides a process for listing species as either threatened or endangered and methods of protecting listed species. The ESA defines as "endangered" any plant or animal species that is in danger of extinction throughout all or a significant portion of its known geographic range. A "threatened" species is a species that is likely to become endangered. A "proposed" species is one that has been officially proposed by the USFWS for addition to the federal threatened and endangered species list.

Per Section 9 of the ESA, "take" of threatened or endangered species is prohibited. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct (codified at 16 U.S.C.A. § 1532(19)). "Take" can include disturbance to habitats used by a threatened or endangered species during any portion of its life history. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in "take" of the species or its habitat. Under the regulations of the ESA, the USFWS may authorize "take" when it is incidental to, but not the purpose of, an otherwise lawful act.

Federal Clean Water Act - Section 404

The US Army Corps of Engineers (USACE) administers Section 404 of the federal Clean Water Act (CWA). This section regulates the discharge of dredge and fill material into waters of the United States. "Discharge of fill material" is defined as the addition of fill material into waters of the United States, including, but not limited to, the following: placement of fill that is necessary for the construction of any structure or impoundment requiring rock, sand, dirt, or other material for the structure's construction; site development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes and sub-aqueous utility lines (33 C.F.R. §328.2[f]).

The USACE has established a series of nationwide permits that authorize certain activities in waters of the United States, if a proposed activity can demonstrate compliance with standard conditions. Normally, USACE requires an individual permit for an activity that will affect an area equal to or in excess of 0.5 acre of waters of the United States. Projects that result in impacts to less than 0.5 acre can normally be conducted pursuant to one of the nationwide permits, if consistent with the standard permit conditions. USACE also has discretionary authority to require an Environmental Impact Statement for projects that result in impacts to an area between 0.1 and 0.5 acre. Use of any nationwide permit is contingent on the activities having no impacts to endangered species.

Federal Clean Water Act - Section 401

Per Section 401 of the CWA, "any applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable waters at the point where the discharge originates or will originate, that any such discharge will comply with the applicable provisions of sections 1311, 1312, 1313, 1316, and 1317 of this title" (33 U.S.C.A. § 1341(a)(1)). Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the RWQCB.

Waters of the United States

Waters of the United States, as defined in 33 Code of Federal Regulations (CFR) Section 328.3, include all waters or tributaries to waters such as lakes, rivers, intermittent and perennial streams, mudflats, sand-flats, natural ponds, wetlands, wet meadows, and other aquatic habitats. Wetlands are also included and defined as "those areas that are inundated or saturated by surface 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. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 C.F.R. §328.3[b]). Frequently, waters of the United States with at least intermittently flowing water or tidal influences are demarcated by an ordinary high water mark (OHWM). The OHWM is defined in 33 CFR Section 328.3(e) as the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a 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 areas. In this region, the OHWM is typically indicated by the presence of an incised streambed with defined bank shelving.

In June 2001, the USACE South Pacific Division issued Guidelines for Jurisdictional Delineations for Waters of the United States in the Arid Southwest. The purpose of this document was to provide background information concerning physical characteristics of dryland drainage systems. These guidelines were reviewed and used to identify jurisdictional drainage features within the Planning Area.

Wetlands

According to the USACE Wetlands Delineation Manual, Technical Report, three criteria must be satisfied to classify an area as a jurisdictional wetland:

- A predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation)
- Soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils)
- Permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology)

Wetland vegetation is characterized by vegetation in which more than 50 percent of the composition of dominant plant species are obligate wetland, facultative wetland, and/or facultative species that occur in wetlands. As a result of the 2001 Solid Waste Agency of North Cook County (SWANCC) case, a wetland must show connectivity to a stream course in order for such a feature to be considered jurisdictional. Although wetland criteria was used to identify if areas were considered wetlands, the exact limits of jurisdiction were not measured based on the standard wetland delineation protocol as described in the 1987 USACE manual.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects all common wild birds found in the United States (U.S.) except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Resident game birds are managed separately by each state. Under the MBTA, "it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, possess, offer for sale, sell, offer to barter, barter, offer to purchase, purchase, deliver for shipment, ship, export, import, cause to be shipped, exported, or imported, deliver for transportation, transport or cause to be transported, carry or cause to be carried, or receive for shipment, transportation, carriage, or export, any migratory bird, any part, nest, or egg of any such bird, or any product, whether or not manufactured, which consists, or is composed in whole or part, of any such bird or any part, nest, or egg thereof ..." (16 U.S.C.A. § 703(a)).

California Regulations

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA). CESA applies to "endangered" or "threatened" birds, mammals, fish, amphibians, reptiles, and plants, but does not apply to insects (see 81 Cal. Op. Att'y Gen. 222 (1998)). The State of California considers an "endangered" species one whose prospects of survival and reproduction are in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. Any species determined by the commission as "endangered" on or before January 1, 1985, is an "endangered species." A "threatened" species is one present in such small numbers throughout its range that it is likely to become an endangered species in the foreseeable future in the absence of special protection or management. The California Endangered Species Act of 1970 created the categories of "Endangered" and "Rare." The California Endangered Species Act of 1984 created the categories of "Endangered" and "Threatened." On January 1, 1985, all animal species designated as "Rare" were reclassified as "Threatened" (see Fish and Game Code § 2067).

Section 2080 of the Fish and Game Code prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project caused losses of listed species populations and their essential habitats.

"Candidate species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list (Fish and Game Code § 2068).

The CDFW exercises authority over mitigation projects involving State-listed species, including those resulting from CEQA mitigation requirements. Lead agencies are directed by the CESA to consult with the CDFW on projects or actions that could affect listed species. A "taking" may be authorized by the CDFW if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. In addition, the CDFW requires preparation of mitigation plans in accordance with published guidelines.

California Department of Fish and Wildlife "Species of Special Concern"

A Species of Special Concern (SSC) is a species, subspecies, or distinct population of an animal (i.e., fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;

- is listed as Federally-, but not State-, threatened or endangered;
- meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

SSCs tend to have a number of factors in common, including that they:

- occur in small, isolated populations or in fragmented habitat, and are threatened by further isolation and population reduction;
- show marked population declines;
- depend on a habitat that has shown substantial historical or recent declines in size and/or quality or integrity;
- have few California records, or which historically occurred in the State but for which there are no recent records; and
- occur largely in areas where current management practices are inconsistent with the animal's persistence.

"Species of Special Concern" is an administrative designation that carries no formal legal status per se, but signifies that the species is recognized as sensitive by the CDFW. Section 15380 of the CEQA Guidelines clearly indicates that species of special concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

California Native Plant Protection Act

In 1977, the Legislature formally recognized the status of rare or endangered plants with the passage of the Native Plant Protection Act (NPPA) (Fish and Game Code, Section 1900 et seq.). The NPPA directed the CDFW to preserve, protect, and enhance rare and endangered plants in California. The NPPA also authorized the Fish and Game Commission to designate native plants as "rare" or "endangered" and to require permits for collecting, transporting, or selling such plants. The Commission listed 24 plants in 1978.

Under Section 1901 of the Fish and Game Code, "native plant" means a plant growing in a wild uncultivated state, which is normally found native to the plant life of this state. A species, subspecies, or variety is considered "endangered" when its prospects of survival and reproduction are in immediate jeopardy from one or more causes. A species, subspecies, or variety is considered "rare" when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens.

Under Section 1913(c) of the NPPA, the owner of land where a rare or endangered native plant is growing is required to notify the department at least 10 days in advance of changing the land use to allow for salvage of plant.

Fish and Wildlife Protection -California Fish and Game Code, Sections 1600 to 1603

The California Fish and Game Code mandates that “it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.” CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses, including dry washes, characterized by the presence of hydrophytic vegetation, the location of definable bed and banks, and the presence of existing fish or wildlife resources.

Furthermore, CDFW jurisdiction is often extended to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that function as part of the riparian system. Historic court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdiction. However, CDFW does not regulate isolated wetlands; that is, those that are not associated with a river, stream, or lake.

Porter-Cologne Water Quality Act

The RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, within any region that could affect the water of the state” (Water Code Section 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Act. “Waters of the State” are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code Section 13050 (e)).

Regional Water Quality Control Board Regulated Activities

Under Section 401 of the CWA, the RWQCB regulates all activities that are regulated by the USACE. Additionally, under the Porter-Cologne Water Quality Act, the RWQCB regulates all activities, including dredging, filling, or discharge of materials into waters of the state that are not regulated by the USACE due to a lack of connectivity with a navigable water body and/or lack of an OHWM.

California Fish and Game Code - Section 3503 and Section 3511

The CDFW administers the California Fish and Game Code. There are particular sections of the Fish and Game Code that are applicable to natural resource management. For example, Section 3503 of the Fish and Game Code states it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird that is protected under the MBTA. Fish and Game Code Section 3503.5 further protects all birds in the orders Falconiformes and Strigiformes, birds of prey such as hawks and owls, and their eggs and nests, from any form of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is also considered a “taking” by the CDFW. Fish and Game Code Section 3511 lists fully protected bird species where the CDFW is unable to authorize the issuance of permits or licenses to take these species.

Natural Community Conservation Planning Act -Fish and Game Code Sections 2800 et seq.

The State of California has adopted the Natural Community Conservation Planning and Habitat Conservation Planning (NCCP/HCP) program to focus on creating a multiple-species, multiple-habitat subregional Reserve System and implementing a long-term “adaptive management” program. To accomplish this, the NCCP/HCP creates a subregional habitat Reserve System and implements a coordinated program to manage biological resources within the habitat reserve. The creating of a defined Reserve System provides certainty to the public and to affected landowners with respect to the location of future development and open space within the subregion. The NCCP/HCP was developed with coordination through the CDFW and the USFWS, in order to account for the CESA and the federal ESA.

The Planning Area does not occur within any NCCP/HCP designated area.

California Native Plant Society

The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Plants of California. Potential impacts to populations of CNPS-listed plants require consideration under CEQA. The following identifies the definitions of the California Rare Plant Ranks (formerly known as the CNPS lists):

- California Rare Plant Rank 1A: Plants believed extirpated in California and either rare or extinct elsewhere.
- California Rare Plant Rank 1B: Plants rare, threatened, or endangered in California and elsewhere.
- California Rare Plant Rank 2A: Plants presumed extirpated in California, but more common elsewhere.
- California Rare Plant Rank 2B: Plants rare, threatened or endangered in California, but more common elsewhere.
- California Rare Plant Rank 3: Plants about which more information is needed - a review list.
- California Rare Plant Rank 4: Plants of limited distribution – a watch list.

The CNPS Threat Rank is an extension added onto the California Rare Plant Rank, which designates the level of threats by a 1 to 3 ranking, with 1 being the most threatened and 3 being the least threatened. Each threat rank is defined as follows:

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
- 0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).

- 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

County of Fresno Regulations

The County of Fresno Open Space and Conservation Element of the General Plan is concerned with protecting and preserving natural resources, preserving open space areas, managing the production of commodity resources, protecting and enhancing cultural resources, and providing recreational opportunities.

The Open Space and Conservation Element sets out goals, policies, and implementation measures under three main headings: Productive Resources, Natural Resources, and Recreation and Cultural Resources. Productive Resources encompasses three sections: Water Resources, Forest Resources, and Mineral Resources. Natural Resources encompass four sections: Wetland and Riparian Areas, Fish and Wildlife Habitat, Vegetation and Air Quality. The Recreation and Cultural Resources sections encompass: Parks and Recreation, Recreational Trails, Cultural, Geologic Resources, Scenic Resources, and Scenic Roadways.

City of Fresno Regulations

The guidelines outlined in the City of Fresno General Plan and Municipal Codes, in conjunction with the County of Fresno General Plan, ensure project level compliance with all applicable state and federal regulations.

General Plan

The City of Fresno General Plan is intended to serve as a guide to enable government at all levels, private enterprise, community groups, and individual citizens to make decisions and use community resources in a manner that will realize progress toward a common vision of a measurably physical, economic, and social environment. The goal of the 2025 Fresno General Plan is to provide a mechanism to identify potential issues upfront and provide mitigation to expedite project approval within the Planning Area. The General Plan contains specific objectives and policies to protect biological resources within the Planning Area. These objectives and policies regarding native plants and wildlife are outlined in Chapter 4, Resource Conservation Element, of the General Plan, as follows:

G-12. Objective: To provide for long-term preservation, enhancement, and enjoyment of plant, wildlife, and aquatic habitat resources in the Fresno area by protecting, improving, and restoring these resources.

G-12-a. Policy: Support state, federal, and local programs to acquire significant habitat areas in and near Fresno for permanent protection and/or conjunctive educational and recreational use.

G-12-b. Policy: The City of Fresno will participate in cooperative, multi-jurisdictional approaches (involving the Counties of Fresno and Madera, the City of Clovis, the San Joaquin River Conservancy, the Metropolitan Flood Control District, and other agencies and organizations) for area-wide habitat

conservation plans to preserve and protect rare, threatened, and endangered species that could be adversely affected by continued population growth and development.

G-12-c. Policy: In development projects, consider the incorporation of natural features (such as ponds to be designed and managed for habitat values, or hedgerows and wooded strips) such that these features can serve as a buffer for adjacent natural areas and/or an enhancement to the ecological values of Fresno.

G-12-d. Policy: Projects that could adversely affect rare, threatened, or endangered wildlife and vegetative species (or may have impacts on wildlife, fish, and vegetation restoration programs) may be approved only when findings are made by the California Department of Fish and Game and the U.S. Fish and Wildlife Service, as appropriate) that adequate mitigation measures are incorporated in the project's design.

G-12-e. Policy: Open Space land use designations, appropriate zoning, setbacks, and conservation easements will be used to preserve areas identified as sensitive or critical habitat for rare, threatened, or endangered vegetation and wildlife species, with particular attention paid to the North and Southeast Growth Areas and to the preparation of the required community and/or specific plans for these expansion areas of the proposed 2025 Fresno General Plan.

G-12-f. Policy: If the California Department of Fish and Game or federal conservation agencies require habitat replacement as a condition of, or mitigation for, any development project in Fresno's planning area, such replacement or mitigation habitat should be located, if possible, within or near the Fresno-Clovis Metropolitan Area.

G-12-g. Policy: Mitigation programs involving restoration of natural habitats shall include measures needed to create functional, sustainable wildlife habitat. Specific components of these programs will include:

- an evaluation of the site's pre-project environmental setting and the proposed design and operating parameters of the mitigation measures, to be evaluated in the project's CEQA/NEPA environmental review processes.
- a graphic depiction of land to be acquired or set aside for mitigation activities.
- permitting required by local, state, and federal agencies for the project.
- mitigation site preparation plans.
- specification of the types and sources of plant material used for any revegetation.
- water supply and distribution for plants and wildlife.
- post-planting maintenance and other operation measures to ensure successful mitigation.
- monitoring at an appropriate frequency by qualified personnel and reporting of data collected during monitoring to permitting agencies.

G-12-h. Policy: Establish, in consultation with appropriate public agencies with special expertise, development and operational standards that may be needed to supplement existing law and regulations to avoid or reduce any adverse impacts of development adjacent to important habitat areas. Standards could include such measures as controls on noise and glare, or restrictions on disturbance of vegetated areas.

G-12-i. Policy: For drainage and flood detention basins in agricultural or industrial areas, and for those basins where design or other factors preclude developed recreational uses, Fresno Metropolitan Flood Control District and the City of Fresno will consider development of public or private fisheries and habitat areas for native plants and wildlife, in consultation with the state Department of Fish and Game.

G-12-j. Policy: Where appropriate in flood zones along water courses and flood detention basins, pursue development of conjunctive habitat and recreational trail uses in flood control and drainage projects.

G-12-k. Policy: Encourage property owners to reestablish, maintain, and protect continuous wildlife corridors along riparian areas, by use of building setbacks and the planting of suitable native vegetation along the riverbanks and bluffs, streambanks, drainage or irrigation ditches, and, where appropriate, fence lines.

G-12-l. Policy: Coordinate habitat restoration programs with federal, state, and local flood control and natural resource agencies, to achieve useful restoration and take advantage of the opportunity for a coordinated regional mitigation program, while avoiding flood control problems and the undesirable introduction of non-native plant and animal species.

G-13. Objective: Maintain and restore, where feasible, the ecological values of the San Joaquin River corridor, because (1) this area is Fresno's main scenic feature and natural area; (2) it is important for maintenance of good-quality water resources in the region; and (3) it constitutes unique, irreplaceable habitat for valley native species.

G-13-a. Policy: Adopted plans, codes/ordinances, regulations, and policies of the city will continue to indicate strong concern for, and protection of, the San Joaquin River bluffs and the river bottom, to promote Fresno's scenic amenities and protect the river's water quality, fisheries, and associated riparian environment.

G-13-b. Policy: Support Fresno County General Plan policies which promote the preservation and enhancement of natural resources in Fresno County's river influence areas.

G-13-c. Policy: Apply, and continue to honor, the open space land use designation in the entire San Joaquin river bottom and bluffs when considering land use decisions in the vicinity of the river. Ensure that development projects in the vicinity of the river corridor protect and complement its habitats and natural settings, including development within the proposed North Growth Area of the 2025 Fresno General Plan.

G-13-d. Policy: Implement the multi-use open space land use designation through the following actions:

- apply “O”/Open Conservation District or “AE-20”/Exclusive Twenty-Acre Agricultural District zoning when land use plans, rezonings and annexations are proposed for land on the San Joaquin River bluffs and river bottom.
- continue to prohibit new residential land use entitlements (zoning, special permits, and subdivisions) in the river bottom, pursuant to the multi-use open space land use designation and zoning districts adopted for the area.
- require a finding of plan consistency for all land use entitlements (including land divisions and all types of special permits) and all infrastructure projects in the river corridor.
- prohibit the location of any solid waste facilities of any type (including transfer and waste material recovery stations) in the river bottom.
- adjacent to the river corridor, incorporate natural topography with respect to the design and siting of all physical improvements, in order to minimize grading and disturbances of the viewshed.
- complete studies addressing the limitations of the area’s biotic community and hydrologic status prior to the approval of any project which involves land in, or immediately abutting, the San Joaquin river bottom.
- carefully plan and regulate outdoor lighting visible in, and from, the river corridor. In instances where such lighting is necessary, it shall be of the lowest feasible intensity and directed away from, or shielded from, the reserve or corridor. Adverse impacts of lighting will be further mitigated by planting tall vegetation for screening between light sources and wildlife corridors/reserves.

G-13-e. Policy: Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.

- Discharge of runoff from industrial and commercial land uses to the San Joaquin River or other riparian corridors shall be avoided.
- Development entitlements for sites, which have drainage (directly or indirectly), to the San Joaquin River or other riparian areas shall be conditioned upon adequate measures for preventing pollution of natural bodies of water from their runoff.
- Water quality and sediments shall be frequently monitored near drainage outfalls to riparian areas.
- If unacceptable levels of contaminant(s) occur, remedial measures shall be promptly instituted.

G-14. Objective: Support the San Joaquin River Conservancy in its efforts to develop a river parkway that strikes an appropriate balance between facilitating recreational pursuits; protecting water

resources; meeting economic and development needs through sand and gravel production; and long-term preservation, enhancement, and public enjoyment of the river's unique and irreplaceable plant, wildlife, and aquatic resources.

G-14-a. Policy: Encourage natural reserve areas and a wildlife corridor in the river bottom to protect, enhance, and restore riparian and aquatic habitats, adjacent wetlands, and upland areas integral to the life cycle of river wildlife.

G-14-b. Policy: Natural reserves and wildlife corridors need to be acquired and expanded through purchase, easements, mitigation for proposed activities, or other mutually satisfactory transactions.

G-14-c. Policy: Natural reserves should be sited where highest-quality habitat exists adjoining the river's wildlife corridor and in such other location where endangered, threatened, or rare species are established or are being reestablished.

G-14-d. Policy: The San Joaquin River's wildlife corridor is to provide continuous land and water areas parallel to the river.

- A minimum width of 200 feet of riparian vegetation should be preserved on both sides of the river. The corridor should be wider when possible and/or necessary to protect additional areas of native plants and critical habitat (such as wildlife breeding areas). In areas where 200 feet of riparian vegetation no longer exists along the river bank, a 200-foot or wider band of native plants is recommended to be reestablished, to the maximum extent feasible from topologic and hydrologic standpoints. Consider exceptions where the minimum-width corridor is infeasible due to topography, hydrology, or other constraints. In those instances, an offsetting expansion is recommended on the opposite side of the river. Where steep bluffs drop directly into or close to the river, incorporate the bluff face into the wildlife corridor.

G-14-e. Policy: Routine monitoring shall be done to determine the status of conditions and mitigation measures required for projects within, and in the vicinity of, the river corridor.

- A memorandum of understanding or other agreement should be implemented so that the San Joaquin River Conservancy can perform, or participate in, this monitoring program in order to furnish additional expertise, provide for cost efficiency, and to ensure consistency throughout the river corridor.
- Based on information obtained from monitoring, modifications in special permits, reclamation plans, and other documents, operating parameters for uses may be necessary to insure human health and safety and the well-being of riparian plants and wildlife.

G-14-f. Policy: As specified in the San Joaquin River Parkway Master Plan and EIR (1997), natural reserve areas and the wildlife corridor areas would be protected whenever more intensive human uses exist or are proposed on adjacent lands. Buffer zones would allow multiple uses on parts of the parkway while still protecting wildlife and native plants.

- Any studies done to determine appropriate buffer widths, along with the conclusions and recommendations drawn from the studies, shall be performed by, or be reviewed and approved by, state and federal wildlife agencies before variances from standard buffer zone widths can be granted.
- The vegetation and permitted uses of the buffer zones need to be tailored to the adjacent habitat it is designed to protect. Natural riparian buffer zones should be maintained, rehabilitated, or reestablished with appropriate native plants (seed material and cuttings locally derived).
- Open space uses such as pasture, low-intensity agricultural activities, and the “rough” or marginal areas of golf courses, may be incorporated into buffer zones when they constitute an improvement in habitat over a previous use or degraded area. However, the potential impacts of construction, cultural, and operational practices (such as grading, number of livestock per acre, lighting, and use of pesticides, herbicides, and fertilizers) need to be thoroughly evaluated and addressed before these uses can be used for buffering.

Open Space and Biological Resources

Municipal Code (Section 13-305-Tree Preservation)

The City of Fresno Municipal Code Section 13-305 protects all public trees in the City, including but not limited to trees that are affecting surface improvements or underground facilities or which are diseased, or located where construction is being considered or will occur. No person, except authorized City personnel, shall remove, destroy, deface or injure any tree on public property by any means including but not limited to: pouring material on or immediately adjacent to any tree, attaching any sign or notice to a tree without supervision of the Director, causing or encouraging fire around any tree, or covering the ground within a 4-foot radius around any tree with concrete or other unnatural surface. Any removal of trees shall be conducted only after an evaluation and inspection by the Director, and written authorization.

5.4.4 - Thresholds of Significance

In accordance with CEQA, the effects of a project are evaluated to determine if they will result in a significant adverse impact on the environment. The criteria used to determine the significance of an impact to biological resources are based on the initial study checklist in Appendix G of the State CEQA Guidelines and identified below. Accordingly, biological resource impacts resulting from the proposed project are considered significant if the project would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? (See Effect on Species, Impact BIO-1)
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California

- Department of Fish and Wildlife or US Fish and Wildlife Service? (See Riparian Habitat, Impact BIO-2)
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (BIO-3)
 - d) 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? (See Wildlife Corridors and Nursery Sites, Impact BIO-4)
 - e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (See Local Policies or Ordinances Protecting Biological Resources, Impact BIO-5)
 - f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (See Conservation Plans, Impact BIO-6)

5.4.5 - Impact Analysis, Mitigation Measures, and Level of Significance After Mitigation

Effect on Species

Impact BIO-1	The project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
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Project Level Impact Analysis

Development within the Planning Area could result in the loss of natural vegetation communities that provide suitable habitat for 30 special-status plant and wildlife species that have the potential to occur or are known to occur within the Planning Area. The vegetation communities within the Planning Area boundary that provide suitable habitat for listed and other special-status species are described above, under Section 5.4.2 of this Master EIR. Development within the Planning Area could result in the loss or degradation of natural habitats such as annual grassland, oak woodland, lacustrine, riverine, and pasture, which may support special-status plant and wildlife species. Project-related impacts to any of these habitat types may result in a substantial adverse effect, if it is determined that a special-status species will be impacted, either directly or through habitat modifications.

Direct project impacts to species listed as a candidate, sensitive, or special-status species by local, state, and federal agencies should be avoided to the greatest extent feasible; however, it is acknowledged that future projects may not be able to avoid these species. Project-related impacts that result in the direct take of a special-status species may be considered a significant impact. The presence/absence of a special-status species on a project site and the potential to impact a special-status species must be determined prior to project construction. If development within the Planning

Area results in the direct take or loss of suitable habitat for any of the 30 special-status species that have the potential to occur in the Planning Area, project-level mitigation will be required. Project impacts to special-status species listed as threatened or endangered by CDFW and/or USFWS may also require agency consultation and/or take permits.

Proposed projects within the Planning Area will incorporate project design features outlined in the objectives and policies of the Fresno General Plan Update. The General Plan Update includes specific implementing policies pertaining to biological resources that must be adhered to for development within the Planning Area, specifically within the Open Space and Biological Resources Section of Chapter 5, the Parks, Open Space, and Schools Element. Project-level implementation of the General Plan Policies POSS-5-a through POSS-5-f will reduce potential project impacts to special-status species and their associated habitats.

To reduce potential project-specific impacts on biological resources, the General Plan Update includes the following policies.

Policy POSS-5-a: Habitat Area Acquisition. Support state, federal, and local programs to acquire significant habitat areas for permanent protection and/or conjunctive educational and recreational use.

Policy POSS-5-b: Habitat Conservation Plans. Participate in cooperative, multi-jurisdictional approaches for area-wide habitat conservation plans to preserve and protect rare, threatened, and endangered species.

Policy POSS-5-c: Buffers for Natural Areas. Require development projects, where appropriate and warranted, to incorporate natural features (such as ponds hedgerows and wooded strips) to serve as buffers for adjacent natural areas with high ecological value.

Policy POSS-5-d: Guidelines for Habitat Conservation. Establish guidelines for habitat conservation and mitigation programs. These programs will include:

- An evaluation of the site's environmental setting and proposed design and operating parameters of proposed mitigation measures.
- A graphic depiction of land to be acquired or set aside for mitigation activities.
- Mitigation site preparation plans.
- Specification of the types and sources of plant material used for any revegetation.
- Water irrigation plans.
- Post-planting maintenance and other operational measures to ensure successful mitigation.
- Monitoring at an appropriate frequency by qualified personnel and reporting of data collected to permitting agencies.

Policy POSS-5-e: Pursue development of conjunctive habitat and recreational trail uses in flood control and drainage projects.

Policy POSS-5-f: Regional Mitigation and Habitat Restoration. Coordinate habitat restoration programs with responsible agencies to take advantage of opportunities for a coordinated regional mitigation program.

Cumulative Impact Analysis

Development within the San Joaquin Valley study area during buildout of the Planning Area primarily focuses on the conversion of agricultural land to development, which will reduce the availability of suitable habitat for special-status species, including suitable foraging habitat for raptor species. Additionally, agricultural land and open space conversion has the potential to reduce the size, extent, and/or quality of existing wildlife movement corridors, due to habitat fragmentation of undeveloped open space areas within the San Joaquin Valley study area.

The loss of potentially suitable habitat for special-status species as a result of cumulative development would primarily result from the total conversion of agricultural and undeveloped land to urban and rural development. This potential conversion by cumulative development is considered a potential significant impact on special-status species. Since the proposed project would also result in potential significant impacts on special-status species, the project's contribution is considered cumulatively considerable, and therefore, would result in a significant cumulative impact.

Mitigation Measures

Project Level

The following measures are required to be implemented to reduce the project's impact on special-status species to less than significant. In addition, the implementation of the measures below would reduce the project's contribution to a potential significant cumulative loss of a population(s) of a special-status species to less than significant.

MM BIO-1 Construction of a proposed project should avoid, where possible, vegetation communities that provide suitable habitat for a special-status species known to occur within the Planning Area. If construction within potentially suitable habitat must occur, the presence/absence of any special-status plant or wildlife species must be determined prior to construction, to determine if the habitat supports any special-status species. If a special-status species are determined to occupy any portion of a project site, avoidance and minimization measures shall be incorporated into the construction phase of a project to avoid direct or incidental take of a listed species to the greatest extent feasible.

MM BIO-2 Direct or incidental take of any state or federally listed species should be avoided to the greatest extent feasible. If construction of a proposed project will result in the direct or incidental take of a listed species, consultation with the resources agencies and/or additional permitting may be required. Agency consultation through the CDFW 2081 and USFWS Section 7 or Section 10 permitting processes must take place prior to any action that may result in the direct or incidental take of a listed species. Specific mitigation measures for direct or incidental impacts to a listed species will be determined on a case-by-case basis through agency consultation.

- MM BIO-3** Development within the Planning Area should avoid, where possible, special-status natural communities and vegetation communities that provide suitable habitat for special-status species. If a proposed project will result in the loss of a special-status natural community or suitable habitat for special-status species, compensatory habitat-based mitigation is required under CEQA and CESA. Mitigation will consist of preserving on-site habitat, restoring similar habitat or purchasing off-site credits from an approved mitigation bank. Compensatory mitigation will be determined through consultation with the City and/or resource agencies. An appropriate mitigation strategy and ratio will be agreed upon by the developer and lead agency to reduce project impacts to special-status natural communities to a less than significant level. Agreed-upon mitigation ratios will depend on the quality of the habitat and presence/absence of a special-status species. The specific mitigation for project level impacts will be determined on a case-by-case basis.
- MM BIO-4** Proposed projects within the Planning Area should avoid, if possible, construction within the general nesting season of February through August for avian species protected under Fish and Game Code 3500 and the Migratory Bird Treaty Act (MBTA), if it is determined that suitable nesting habitat occurs on a project site. If construction cannot avoid the nesting season, a pre-construction clearance survey must be conducted to determine if any nesting birds or nesting activity is observed on or within 500-feet of a project site. If an active nest is observed during the survey, a biological monitor must be on site to ensure that no proposed project activities would impact the active nest. A suitable buffer will be established around the active nest until the nestlings have fledged and the nest is no longer active. Project activities may continue in the vicinity of the nest only at the discretion of the biological monitor.

Cumulative

Implementation of Mitigation Measures BIO-1 through BIO-4 is required.

Level of Significance After Mitigation

Project Level

Less than significant impact.

Cumulative

Less than significant impact.

Riparian Habitat

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- Impact BIO-2** The project may have a substantial adverse effect on any riparian habitat or other special-status natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
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Project Level Impact Analysis

The Planning Area contains riparian habitat areas and special-status natural communities, primarily along the Planning Area boundaries. The riparian habitat within the Planning Area provides suitable habitat for a number of special-status plant and wildlife species known to occur in the region. There are two (2) special-status natural communities with a potential to occur within the Planning Area: northern claypan vernal pool and valley oak woodland. Planned development within the Planning Area is primarily limited to existing disturbed, developed and agricultural areas located around the geographic center of the Planning Area. However, as development continues within the Planning Area, it likely will continue towards existing water features. Future development that occurs in the vicinity of the San Joaquin River, its tributaries, any lakes or streams, and/or open grasslands with seasonal wetlands, may result in a significant impact to riparian habitat or a special-status natural community. The presence of riparian habitat and/or a special-status natural community on a project site must be evaluated prior to project approval. Any project-related impacts to riparian habitat and/or a special-status natural community are considered a significant impact and require mitigation.

Project level implementation of the General Plan Implementing Policies POSS-6-a through POSS-7-d will reduce potential project impacts to riparian habitat, and areas such as the San Joaquin River corridor.

Objective POSS-6: Maintain and restore, where feasible, the ecological values of the San Joaquin River corridor.

Policy POSS-6-a: San Joaquin River Parkway Master Plan. Update the San Joaquin River Parkway Master Plan, working with the other jurisdictions and the River Conservancy, to create a comprehensive and feasible plan for preservation, conservation, and development.

Policy POSS-6-b: Effects of Stormwater Discharge. Support efforts to identify and mitigate cumulative adverse effects on aquatic life from stormwater discharge to the San Joaquin River.

- Discharge of runoff from industrial and commercial land uses to the San Joaquin River or other riparian corridors shall be avoided.
- Approve development on sites having drainage (directly or indirectly) to the San Joaquin River or other riparian areas upon a finding that adequate measures for preventing pollution of natural bodies of water from their runoff will be implemented.
- Periodically monitor water quality and sediments near drainage outfalls to riparian areas. If unacceptable levels of contaminant(s) occur, remedial measures shall be promptly instituted.

Object POSS-7: Support the San Joaquin River Conservancy in its efforts to develop a river parkway.

Policy POSS-7-a: Preserve Wildlife Corridors. Acquire and expand natural reserves and wildlife corridors through purchase, easements, mitigation for proposed activities, or other mutually satisfactory transactions.

Policy POSS-7-b: Wildlife Corridor along San Joaquin River. Create a wildlife corridor to provide continuous land and water areas parallel to the San Joaquin River.

A minimum width of 200 feet of riparian vegetation should be preserved on both sides of the river. The corridor should be wider when possible and/or necessary to protect additional areas of native plants and critical habitat (such as wildlife breeding areas). In areas where 200 feet of riparian vegetation no longer exists along the river bank, a 200-foot or wider band of native plants is recommended to be reestablished, to the maximum extent feasible from topologic and hydrologic standpoints. Consider exceptions where the minimum-width corridor is infeasible due to topography, hydrology, or other constraints. In those instances, an offsetting expansion is recommended on the opposite side of the river. Where steep bluffs drop directly into or close to the river, incorporate the bluff face into the wildlife corridor.

Policy POSS-7-c: Monitoring River Corridor Conditions. Undertake periodic monitoring to determine the status of conditions and mitigation measures required for projects within, and in the vicinity of, the river corridor.

- A memorandum of understanding or other agreement should be executed so that the San Joaquin River Conservancy can perform, or participate in, this monitoring program in order to furnish additional expertise, provide for cost efficiency, and to ensure consistency throughout the river corridor.
- Based on information obtained from monitoring, modifications in special permits, reclamation plans, and other documents, operating parameters for uses may be necessary to insure human health and safety and the well-being of riparian plants and wildlife.

Policy POSS-7-d: Buffer Zones near Intensive Uses. Protect natural reserve areas and the wildlife corridor areas in the River Corridor whenever more intensive human uses exist or are proposed on adjacent lands. Buffer zones will allow multiple uses on parts of the parkway while still protecting wildlife and native plants.

- Require studies of appropriate buffer widths to be approved by state and federal wildlife agencies before variances from standard buffer zone widths are granted.
- Maintain natural riparian buffer zones with appropriate native plants (seed material and cuttings locally derived).

Incorporate open space uses such as pasture, low-intensity agricultural activities, and the “rough” or marginal areas of golf courses, into buffer zones when they constitute an improvement in habitat over a previous use or degraded area. However, the potential impacts of construction, cultural, and operational practices (such as grading, number of livestock per acre, lighting, and use of pesticides, herbicides, and fertilizers) will need to be thoroughly evaluated and addressed before these uses can be approved for buffer zones.

With the implementation of the above objectives and policies, potential impacts to riparian habitat areas would be reduced; however, the impact would remain significant.

Cumulative Impact Analysis

Implementation of cumulative development within the San Joaquin Valley could result in potential impacts to riparian habitat. Cumulative development could encroach into areas adjacent to existing rivers and streams that could contain riparian habitat. In addition, cumulative development near the San Joaquin River corridor could result in potential impacts on riparian habitat. Since development in accordance with the General Plan Update could result in potential impacts on riparian habitat, the project's contribution to cumulative impacts would be considerable and would represent a significant cumulative impact.

Mitigation Measures

Project Level

MM BIO-5 If a proposed project will result in the removal or impact to any riparian habitat and/or a special-status natural community with potential to occur in the Planning Area, compensatory habitat-based mitigation shall be required to reduce project impacts. Compensatory mitigation must involve the preservation or restoration or the purchase of off-site mitigation credits for impacts to riparian habitat and/or a special-status natural community. Mitigation must be conducted in-kind or within an approved mitigation bank in the region. The specific mitigation ratio for habitat-based mitigation will be determined through consultation with the appropriate agency (i.e., CDFW or USFWS) on a case-by-case basis.

MM BIO-6 Project impacts that occur to riparian habitat may also result in significant impacts to streambeds or waterways protected under Section 1600 of Fish and Wildlife Code and Section 404 of the CWA. CDFW and/or USACE consultation, determination of mitigation strategy, and regulatory permitting to reduce impacts, as required for projects that remove riparian habitat and/or alter a streambed or waterway, shall be implemented.

MM BIO-7 Project-related impacts to riparian habitat or a special-status natural community may result in direct or incidental impacts to special-status species associated with riparian or wetland habitats. Project impacts to special-status species associated with riparian habitat shall be mitigated through agency consultation, development of a mitigation strategy, and/or issuing incidental take permits for the specific special-status species, as determined by the CDFW and/or USFWS.

Cumulative

Implementation of Mitigation Measures BIO-5 through BIO-7 is required.

Level of Significance After Mitigation

Project Level

Less than significant impact.

Cumulative

Less than significant impact.

Federally Protected Wetlands

Impact BIO-3 **The project could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.**

Project Level Impact Analysis

Development within the Planning Area, particularly in undeveloped areas, could result in the loss of jurisdictional wetland habitat, which includes vernal pools, seasonal wetlands, waters of the U.S. or intermittent/permanent water bodies. Proposed projects that encroach into grassland, agricultural, lake or riverine areas may result in the significant disturbance and/or fill of potentially jurisdictional wetlands. Any project-related impacts that result in the significant alteration or fill of a federally protected wetland is considered a significant impact. Additionally, special-status species associated with wetlands and vernal pool habitats, such as vernal pool fairy shrimp, may be impacted as a result of project impacts to protected wetlands. Project-specific agency (i.e., CDFW, RWQCB, and/or USACE coordination and/or regulatory permitting would be required to reduce project impacts to wetland habitat.

The implementation of Policies POSS-6-a through POSS-7-d, as listed in Impact BIO-2, would reduce potential project impacts to wetlands and wetland habitat, and areas such as the San Joaquin River corridor.

Cumulative Impact Analysis

The conversion of grassland and undeveloped areas to cumulative development, within the San Joaquin Valley, may increase effects on protected wetland habitats. Cumulative development that encroaches into wetland habitat areas or indirectly impacts wetland habitat through the increase of upstream urban runoff could result in significant impact. Since the development in accordance with the General Plan Update could increase impacts on wetland habitats, the project's contribution to potential impacts on wetland habitat is cumulatively considerable. Thus, the proposed project would result in a significant cumulative impact.

Mitigation Measures

Project Level

MM BIO-8 If a proposed project will result in the significant alteration or fill of a federally protected wetland, a formal wetland delineation conducted according to USACE accepted methodology is required for each project to determine the extent of wetlands on a project site. The delineation shall be used to determine if federal permitting and mitigation strategy are required to reduce project impacts. Acquisition of permits from USACE for the fill of wetlands and USACE approval of a wetland mitigation plan would ensure a "no net loss" of wetland habitat within the

Planning Area. Appropriate wetland mitigation/creation shall be implemented in a ratio according to the size of the impacted wetland.

MM BIO-9 In addition to regulatory agency permitting, Best Management Practices identified from a list provided by the USACE shall be incorporated into the design and construction phase of the project to ensure that no pollutants or siltation drain into a federally protected wetland. Project design features such as fencing, appropriate drainage and incorporating detention basins shall assist in ensuring project-related impacts to wetland habitat are minimized to the greatest extent feasible.

Cumulative

Implementation of Mitigation Measures BIO-8 and BIO-9 are required.

Level of Significance After Mitigation

Project Level

Less than significant impact.

Cumulative

Less than significant impact.

Wildlife Corridors and Nursery Sites

Impact BIO-4 **The project would not 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 wildlife nursery sites.**

Project Level Impact Analysis

Project development within the Planning Area is primarily focused on existing disturbed and developed areas situated near the geographic center of the Planning Area. These areas are mainly surrounded by existing development and disturbed habitat areas. The majority of habitat within the Planning Area consists of urban areas characterized by disturbed land and development. Planned land use within the Planning Area includes residential, commercial, industrial, and associated infrastructure.

Open space areas, undeveloped land, and agricultural land are mainly located along the boundaries of the Planning Area, particularly near the northern boundary along the San Joaquin River corridor. The San Joaquin River corridor functions as a wildlife movement corridor for a number of terrestrial and aquatic mammals and birds. The San Joaquin River corridor facilitates movement of wildlife species from the Planning Area to the Sierra Nevada Mountains to the east and open agricultural land to the west. The proposed project could include development within and adjacent to the San Joaquin River corridor. This development could result in potential impacts to the wildlife movement corridor. The General Plan Update includes policies POSS-6-a through POSS-7-d that would reduce impacts to species that use the San Joaquin River corridor as a wildlife movement corridor by providing buffer zones, control stormwater runoff, and providing periodic monitoring of the

biological resource conditions. These policies would reduce potential impacts to wildlife movement corridors along the San Joaquin River to less than significant.

In the remaining portions of the Planning Area, there are open space parks and recreational use areas, but these areas are scattered throughout the Planning Area. Due to the isolation of these areas, there are no substantive linkages to consider them as part of a wildlife movement corridor. Therefore, implementation of future development within the Planning Area in accordance with the General Plan Update would result in less than significant impacts on wildlife movement corridors.

Cumulative Impact Analysis

The San Joaquin Valley study area contains vast areas of agricultural land, open space areas, several rivers and mountains that serve to facilitate wildlife movement across the San Joaquin Valley study area and most of the Central Valley. Development within the Planning Area and cities within the San Joaquin Valley study area are characterized by existing disturbed and developed land. As development has occurred over the years, it has been within or immediately adjacent to the existing cities and communities within the San Joaquin Valley study area. Open areas for wildlife movement typically occur outside cities and communities within the study area, particularly along river corridors, connected open space, and the foothills along the east and west sides of the valley. Development within the San Joaquin Valley study area could have a significant impact on wildlife movement corridors. However, the project's potential contribution to cumulative impacts on wildlife movement corridors is less than cumulatively considerable. Thus, the project's cumulative impacts to potential wildlife movement corridors or wildlife nursery sites within the San Joaquin Valley study area, through development of the Planning Area, are considered less than significant.

Mitigation Measures

Project Level

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project Level

Less than significant impact.

Cumulative

Less than significant impact.

Local Policies or Ordinances Protecting Biological Resources

Impact BIO-5	The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
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Project Level Impact Analysis

Project development within the Planning Area may result in the removal or alteration of existing street and public trees within the boundaries of the Planning Area. Existing preserved trees and landscaped trees within public property, including parkways, must be preserved in order to beautify the City, purify its air, and provide shade for its inhabitants. Project development within the Planning Area could have the potential to impact trees on public property; however, the future development would be required to comply with Article 3 of Section 13 of the City of Fresno Municipal Code. Therefore, potential impact to the City's public tree ordinance would be less than significant.

Cumulative Impact Analysis

Implementation of cumulative development throughout the San Joaquin Valley would primarily not impact trees within public property of the Planning Area. However, there could be other cumulative projects within the Planning Area, such as the High Speed Rail project, that could impacts trees within public property. Since cumulative development within the Planning Area as well as development in accordance with the General Plan Update would be required to comply with Article 3 of Section 13 of the City of Fresno Municipal Code, potential impacts on trees within public property would be less than significant. Therefore, the project's contribution to potential cumulative impacts on the City's public tree ordinance would be less than cumulatively considerable and thus a less than significant cumulative impact.

Mitigation Measures

Project Level

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project Level

Less than significant impact.

Cumulative

Less than significant impact.

Conservation Plans

Impact BIO-6	A project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.
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Project Level Impact Analysis

The City of Fresno Planning Area is not located within the boundaries of any approved or draft Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other adopted

local, regional or state HCP. Therefore, development within the Planning Area will not result in any impacts to an adopted HCP or NCCP.

Cumulative Impact Analysis

Within the San Joaquin Valley, there is currently only one habitat conservation plan, the Metropolitan Bakersfield Habitat Conservation Plan (MBHCP). Cumulative development within the MBHCP could result in impacts to the plan. Since the City of Fresno Planning Area is not located within the MBHCP or any other HCP, development in accordance with the General Plan Update would not contribute to any potential cumulative impacts on a HCP. Therefore, the proposed project would result in no cumulative impacts.

Mitigation Measures

Project Level

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project Specific

No impact.

Cumulative

No impact.