

5. Environmental Analysis

5.4 BIOLOGICAL RESOURCES

This section of the Draft PEIR evaluates the potential for implementation of the Clovis General Plan and Development Code Update to impact biological resources in the City of Clovis, its Sphere of Influence (SOI), and plan areas beyond the SOI. The analysis in this section is based in part upon the following technical report(s):

- *Clovis General Plan Update Biological Evaluation*, Live Oak Associates, December 21, 2012.

A complete copy of this study is included in the Technical Appendices to this Draft PEIR (Volume II, Appendix F)

5.4.1 Environmental Setting

5.4.1.1 APPLICABLE PLANS AND REGULATIONS

Federal and State Regulations

Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, was promulgated to protect and conserve any species of plant or animal that is endangered or threatened with extinction and the habitats in which these species are found. "Take" of endangered species is prohibited under Section 9 of the FESA. "Take," as defined under the FESA, means to "harass, harm, pursue, hunt, wound, kill, trap, capture, collect, or attempt to engage in any such conduct." Section 7 of the FESA requires federal agencies to consult with the US Fish and Wildlife Service (USFWS) on proposed federal actions which may affect any endangered, threatened, or proposed (for listing) species or critical habitat that may support the species. Section 4(a) of the FESA requires that critical habitat be designated by the USFWS "to the maximum extent prudent and determinable, at the time a species is determined to be endangered or threatened." Critical habitat is formally designated by USFWS to provide guidance for planners/managers and biologists with an indication of where suitable habitat may occur and where high priority of preservation for a particular species should be given. Section 10 of the FESA provides the regulatory mechanism that allows the incidental take of a listed species by private interests and non-federal government agencies during lawful activities. Habitat conservation plans for the impacted species must be developed in support of incidental take permits for nonfederal projects to minimize impacts to the species and develop viable mitigation measures to offset the unavoidable impacts.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act of 1918 (MBTA) is the domestic law that affirms and implements the United States' commitment to four international conventions with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. It prohibits the take, possession, import, export, transport, sale, purchase, barter, or offer of these activities, except under a valid permit or as permitted in the implementing regulations. USFWS administers permits to take migratory birds in accordance with the regulations by the MBTA.

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Clean Water Act, Section 404

The United States Army Corps of Engineers (Corps) regulates discharges of dredged or fill material into “waters of the United States”¹ (including wetlands and nonwetland bodies of water that meet specific criteria). Pursuant to Section 404 of the federal Clean Water Act (CWA), a permit is required for any filling or dredging in waters of the United States. The permit review process entails an assessment of potential adverse impacts to Corps wetlands and jurisdictional waters, wherein the Corps may require mitigation measures. Where a federally listed species may be affected, a Section 7 consultation with USFWS may be required. If there is potential for cultural resources to be present, Section 106 review may be required. Also, where a Section 404 permit is required, a Section 401 Water Quality Certification would also be required from the Regional Water Quality Control Board (RWQCB).

Clean Water Act, Section 401 and 402

Section 401(a)(1) of the CWA specifies that any applicant for a federal license or permit to conduct any activity that may result in any discharge into navigable waters shall provide the federal permitting agency with certification, issued by the state in which the discharge originates, that any such discharge will comply with the applicable provisions of the CWA. In California, the applicable RWQCB must certify that the project will comply with water quality standards. Permits requiring Section 401 certification include Corps Section 404 permits and National Pollutant Discharge Elimination System (NPDES) permits issued by the US Environmental Protection Agency (EPA) under Section 402 of the CWA. NPDES permits are issued by the applicable RWQCB. The City of Clovis is within the jurisdiction of the Central Valley RWQCB (Region 5).

California Fish and Game Code, Section 1600

Section 1600 of the California Fish and Game Code requires that a project proponent notify the California Department of Fish and Wildlife (CDFW) of any proposed alteration of streambeds, rivers, and lakes. The intent is to protect habitats that are important to fish and wildlife. CDFW may review a project and place conditions on the project as part of a Streambed Alteration Agreement. The conditions are intended to address potentially significant adverse impacts within CDFW’s jurisdictional limits.

California Endangered Species Act

The California Endangered Species Act (CESA) generally parallels the main provisions of the FESA and is administered by the CDFW. Its intent is to prohibit take and protect state-listed endangered and threatened species of fish, wildlife, and plants. Unlike its federal counterpart, CESA also applies the take prohibitions to species petitioned for listing (state candidates). Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species. Under certain conditions,

¹ “Waters of the United States,” as it applies to the jurisdictional limits of the authority of the Corps under the Clean Water Act, includes: all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; all interstate waters including interstate wetlands; all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; water impoundments; tributaries of waters; territorial seas; wetlands adjacent to waters. The terminology used by Section 404 of the Clean Water Act includes “navigable waters” which is defined at Section 502(7) of the Act as “waters of the United States including the territorial seas.”

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CESA has provisions for take through a 2081 permit or Memorandum of Understanding. In addition, some sensitive mammals and birds are protected by the State as Fully Protected Species. California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's California Natural Diversity Data Base (CNDDDB) project which maintains a database of known and recorded occurrences of sensitive species. Informally listed taxa are not protected per se, but warrant consideration in the preparation of biological resources assessments.

Existing Conservation Plans and Areas

There are no habitat conservation plans or natural community conservation plans in effect in the Plan Area, and no land in the Plan Area is designated for wildlife conservation or habitat conservation under the existing, 1993 General Plan.

5.4.1.2 GENERAL BIOLOGICAL SETTING

The approximately 75-square-mile Plan Area encompasses the existing City limits, sphere of influence (SOI), and adjacent agricultural, rural residential, and urban lands (see Figure 5.4-1, *Habitats and Land Uses*). Topographically, much of the site is relatively level, ranging in elevation from approximately 338 feet above mean sea level (amsl) at the southwest corner of the Plan Area to 600 feet amsl at the City of Clovis Landfill outside the Plan Area.

Over the years, the Clovis area has been substantially disturbed by agricultural and residential activities, with lands within the City itself having primarily been converted to urban development. However, remnant natural habitats remain in the Plan Area, such as relatively undisturbed grasslands and associated drainages and wetlands, including vernal pools.

The Fresno/Clovis metropolitan area has a Mediterranean climate with warm-to-hot, dry summers and cool winters. Summers daytime temperatures commonly exceed 90° Fahrenheit. Winters are rainy and cool, and daytime temperatures rarely exceed 70°F. Average annual precipitation in the general vicinity of the site is approximately 12 inches, 80 percent of which falls between November and March. In urban areas, stormwater runoff is diverted to a stormwater drainage system. In agricultural and rural residential areas, stormwater readily infiltrates soils, but when field capacity has been reached, surface water flows out of the Plan Area via drainages.² Four major natural drainages cross the Plan Area—Redbank Slough, Dog Creek, Dry Creek and Little Dry Creek. Dry Creek and Redbank Slough have been dammed for flood control. Except for Little Dry Creek, which is relatively undisturbed in the Plan Area, large portions of these drainages have been channelized, realigned, dammed, and/or undergrounded, and lack many of their native characteristics.

Soils in the Plan Area have nearly all been paved (in urban areas) or highly modified (in rural areas) through years of agricultural cultivation of the land or residential development and associated human activity. However, large areas of grassland habitat used as rangeland for cattle, primarily in the northeast portion of the Plan Area, have relatively undisturbed soils.

² Field capacity is the amount of soil moisture after excess water has drained away and the rate of downward movement has decreased, which usually occurs two to three days after rain or irrigation in pervious soils.

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Habitats and Land Uses

The primary habitats/land uses of the Plan Area are characterized as “urban,” “agriculture,” “rural residential,” “drainages/canals,” “artificial lakes/ponds,” “seasonal wetland,” and “grassland” (see Figure 5.4-1, *Habitats and Land Uses*).

Urban

The urban center of Clovis is developed with single- and multifamily residential units, commercial units, schools, industrial and manufacturing plants and warehouses, transportation corridors, city parks, other developments and infrastructure associated with urbanized communities, and vacant lots. Small areas within the urban footprint that are zoned as rural residential or agriculture have been included in this discussion due to the overwhelming urban influence on these parcels.

Vegetation in urban areas is dominated by nonnative ornamental trees, shrubs, forbs,³ and grasses. Vacant lots within the urban footprint may contain naturalized, nonnative grasses and forbs such as horseweed (*Conyza canadensis*), prickly lettuce (*Lactuca serriola*), red-stemmed filaree (*Erodium cicutarium*), and foxtail barley (*Hordeum murinum* ssp. *leporinum*).

Animals typically occurring in urban environments are well adapted to the presence of humans, and some species amass large populations. These areas provide limited habitat for reptiles and amphibians. Pacific chorus frogs (*Pseudacris regilla*) may breed and forage in wet areas associated with residential areas or parks. Western fence lizards (*Sceloporus occidentalis*) likely occur in various portions of this area as well, foraging on invertebrates.

Various bird species are expected to use these areas. Birds known to occur in this portion of the Plan Area include house sparrows (*Passer domesticus*), rock pigeons (*Columba livia*), European starlings (*Sturnus vulgaris*), mourning doves (*Zenaidura macroura*), western scrub jays (*Apelocoma californica*), American robins (*Turdus migratorius*), American crows (*Corvus brachyrhynchos*), bushtits (*Psaltriparus minimus*), and northern mockingbirds (*Mimus polyglottos*), and others. Raptors such as red-tailed hawks (*Buteo jamaicensis*) and Cooper’s hawks (*Accipiter cooperi*) are also known to occur in this area.

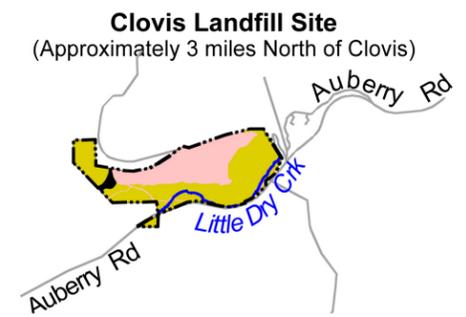
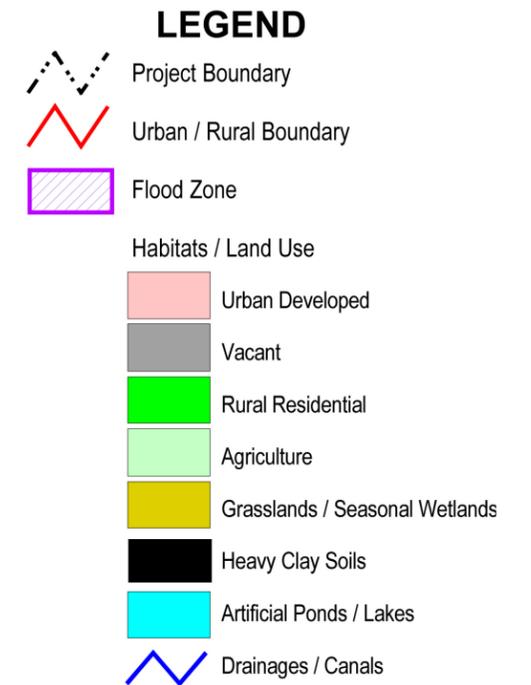
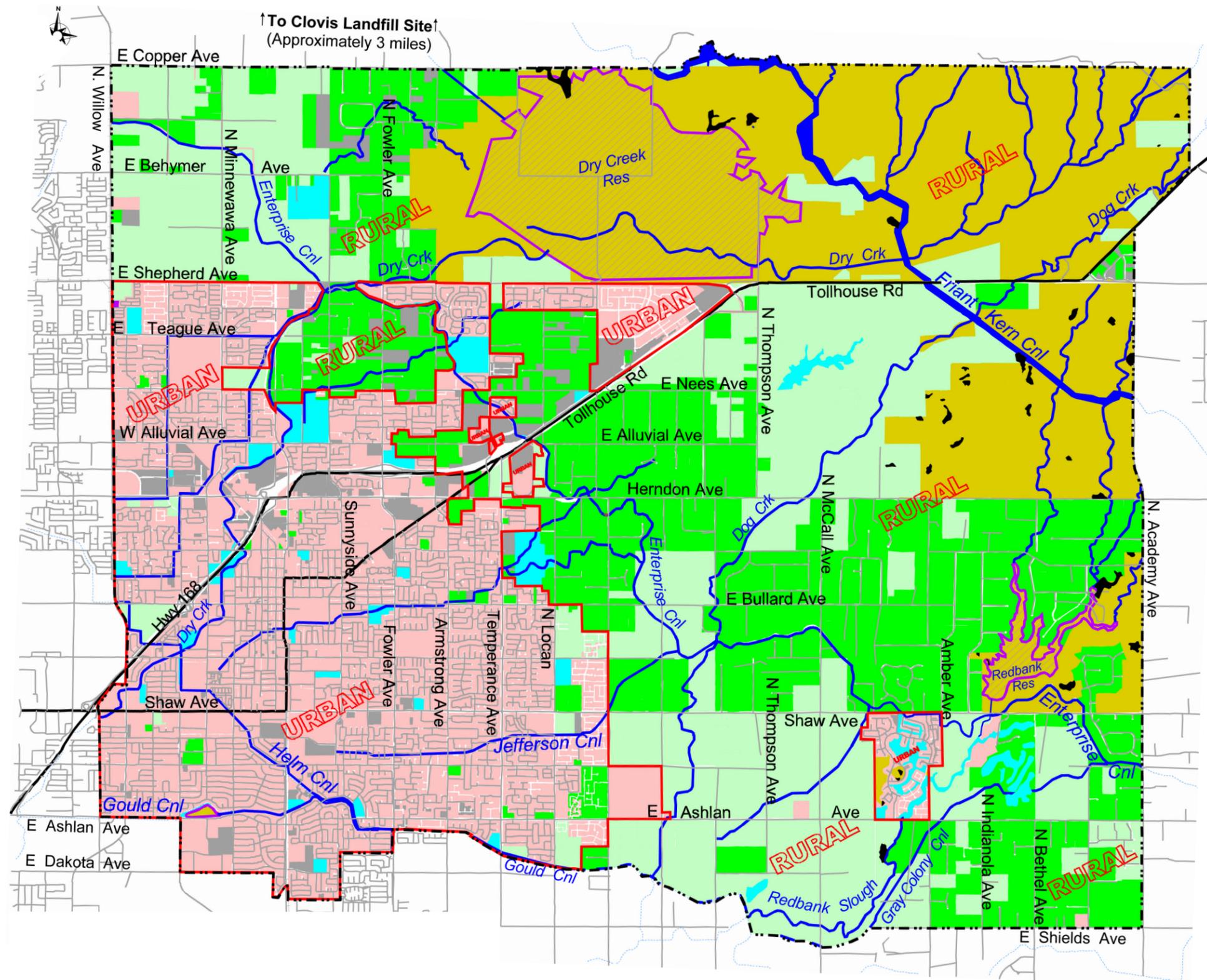
Mammals in these areas may include house mice (*Mus musculus*) and Norway rats (*Rattus norvegicus*) attracted to human-generated food. The eastern fox squirrel (*Sciurus niger*) is known to inhabit wooded portions of the Clovis urban zone such as city parks and residential areas. In addition, animals such as raccoons (*Procyon lotor*) and Virginia opossums (*Didelphis virginiana*) are common to urban environments and likely breed and forage in the urban area for human-generated food.

³ Forbs are nonwoody flowering plants other than grasses.

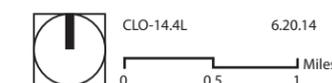
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Figure 5.4-1

Habitats and Land Uses



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Agriculture

A large portion of the Plan Area consists of actively farmed agricultural fields. Cultivated lands contain orchards, vineyards, row crops, or grain.⁴ Common weedy nonnative grasses and forbs found in agricultural fields in the Clovis area include horseweed, prickly lettuce, slender wild oats (*Avena barbata*), foxtail barley, Russian thistle (*Salsola tragus*), shepherd's purse (*Capsella bursa-pastoris*), and stinging nettle (*Urtica dioica*). There may be small, isolated patches of seasonal wetlands in these fields; however, none were identified by the biological evaluation, included as Appendix F.

Compared to natural habitats, managed agricultural lands provide relatively low habitat value for wildlife due to the lack of understory vegetation, upon which many wildlife species depend for food and cover. Annual management practices such as discing and harvesting eliminate breeding and foraging habitat for many small birds and mammals native to the region. The use of chemical pesticides may also pose a threat to such species.

Although none were observed, reptiles can occur in the agricultural fields. The sparse cover described above, the likelihood of rodent burrows in this habitat, and the presence of fluctuating populations of invertebrate and rodent prey make the site suitable for at least one native species of lizard, the western fence lizard, and several species of snake, including the gopher snake (*Pituophis catenifer catenifer*) and California kingsnake (*Lampropeltis getulus californiae*).

Common resident bird species known to forage in agricultural lands in the Clovis area include the northern mockingbird, European starling, and western meadowlark (*Sturnella neglecta*), red-tailed hawk, northern harrier (*Circus cyaneus*), killdeer (*Charadrius vociferus*), and American crow. Winter migrants may include the ferruginous hawk (*Buteo regalis*), yellow-rumped warbler (*Setophaga coronata*), and white-crowned sparrow. A common summer visitor to these lands is the western kingbird (*Tyrannus verticalis*).

Small mammals occur in agricultural lands such as those of the Plan Area, but populations would be highly variable depending on the condition of the fields. Freshly plowed or cultivated barren fields provide little cover for most terrestrial vertebrates. Small mammals, such as California ground squirrels (*Spermophilus beecheyi*), Botta's pocket gophers (*Thomomys bottae*), deer mice, and California meadow voles (*Microtus californicus*) would occur in agricultural lands.

Common mammalian predators attracted to these small mammals would likely be limited to coyotes (*Canis latrans*) and red foxes (*Vulpes vulpes*), because these species are well adapted to human disturbance. Various bat species, including the pallid bat (*Antrozous pallidus*) and Mexican free-tailed bat (*Tadarida brasiliensis*), may forage over the site for flying insects.

Rural Residential

The Plan Area has numerous residences, many on parcels of one to five acres or more. Residential lots include homes, landscaping, disced areas supporting sparse weedy vegetation, small patches of annual grassland, irrigated pasture, ponds, animal paddocks, etc. Many residential parcels contain extensive landscaping, often composed of

⁴ The top five crops by dollar value in Fresno County in 2010, in descending order, were grapes, almonds, tomatoes, poultry, and milk (Fresno County 2011).

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mature nonnative trees and shrubs. Ornamental species include conifers such as coast redwood (*Sequoia sempervirens*), Canary Island pine (*Pinus canariensis*), Japanese black pine (*Pinus thunbergii*), and deodar cedar (*Cedrus deodora*); broad leaved trees such as sweet gum (*Liquidambar styraciflua*), fruitless mulberry (*Morus alba*), London plane trees (*Platanus acerifolia*), and European olive (*Olea europea*); and various shrubs such as oleander (*Nerium oleander*), crape myrtle (*Lagerstroemia* sp.), and low-growing junipers (*Juniperus* sp.).

Scrap piles near the buildings provide suitable cover for the same reptile species that would be found in the surrounding agricultural areas. Bird species expected in this habitat include a mix of the same species that would be found in nearby urban and agricultural areas. Larger trees in this area provide nesting habitat for raptors such as red-tailed hawks, red-shouldered hawks (*Buteo lineatus*), and white-tailed kites (*Elanus caeruleus*).

Residences in the area attract a number of animal species that have adapted to developed areas. Residential landscaping provides cover and nesting opportunities for resident birds such as western scrub jays, house finches (*Carpodacus mexicanus*), house sparrows, and northern mockingbirds. Cover provided by horticultural trees and shrubs can also be important to migrants passing through the area during spring and fall. Small mammals occurring in rural residential areas include California ground squirrels, deer mice (*Peromyscus maniculatus*), Norway rats, and house mice. Botta's pocket gophers and broad-footed moles (*Scapanus latimanus*) are common in garden beds and lawns. Bats of various species may roost in residential buildings and forage overhead. Mammalian predators in this area would include the coyote, raccoon, and striped skunk (*Mephitis mephitis*).

Grassland

Large tracts of land in the northeast section of the Plan Area have nonnative grassland, used as rangeland for cattle. Grasslands are the least disturbed portions of the Plan Area and, along with vernal pool habitat within them, provide important habitat for a variety of native plants and animals, including a number of special-status species.

Grasses and forbs of European origin dominate this habitat. Grass species common to this habitat include ripgut brome (*Bromus diandrus*), soft chess brome (*Bromus hordeaceus*), wild oats (*Avena fatua*), and rattail fescue (*Vulpia myuros*). Common forbs associated with these grass species include red-stem filaree, broad-leaf filaree (*Erodium botrys*), and smooth cat's-ear (*Hypochaeris glabra*). Grasslands of the Plan Area would also support a large variety of native spring-flowering annuals and perennials, including rusty popcorn flower (*Plagiobothrys nothofulvus*), Eastwood's fiddleneck (*Amsinckia eastwoodeae*), blow-wives (*Achyrochaena mollis*), Ithuriel's spear (*Triteleia laxa*), and bi-color lupine (*Lupinus bicolor*). Annuals occurring on the Plan Area late in the summer and throughout the fall include Heerman's tarweed (*Holocarpha beermanii*), vinegar weed (*Trichostemma lanceolata*), and dove weed (*Eremocarpus setigerus*).

Annual grasslands of the Plan Area, like grasslands throughout the region, are productive habitats supporting a large diversity of native terrestrial vertebrates. Grasslands of the region provide significant foraging habitat for a variety of resident and wintering raptors as well as for large numbers of other birds. Furthermore, the dense cover of native and nonnative grasses and forbs provide cover for large populations of small mammals that in turn attract a diversity of predatory species.

Grasslands of the Plan Area provide suitable habitat for a number of amphibian and reptile species. Rodent burrows in grassland areas provide suitable estivation habitat for western toads (*Bufo borealis*), western spadefoot

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toads (*Scaphiopus hammondi*), and California tiger salamanders (*Ambystoma californiense*),⁵ all species that potentially breed in the numerous vernal pool wetlands in these grasslands. Common reptile species likely to forage and seek cover in this habitat include common side-blotched lizards (*Uta stansburiana*), western whiptails (*Aspidoscelis tigris*), gopher snakes, common kingsnakes (*Lampropeltis getulus*), and western rattlesnakes (*Crotalus viridis*).

Raptors known to use grassland habitats in the Plan Area include golden eagle (*Aquila chrysaetos*), red-tailed hawk, American kestrel (*Falco sparverius*), ferruginous hawk, and burrowing owl (*Athene cunicularia*). Other raptor species expected in this habitat include the northern harrier, white-tailed kite, merlin (*Falco columbarius*), barn owl (*Tyto alba*), and others. These species prey on the reptiles and small birds and mammals of the Plan Area. Other resident bird species observed included common ravens (*Corvus corax*), mourning doves, western meadowlarks, and rock wren (*Salpinctes obsoletus*). Spring and summer migrants that frequent these grasslands would include barn swallows (*Hirundo rustica*), California horned larks (*Eremophila alpestris actia*), and western kingbirds. Common winter migrants attracted to grasslands of the region include savannah sparrows (*Passerculus sandwichensis*), American pipits (*Anthus rebescens*), and Say's phoebes (*Sayornis saya*).

A number of mammal species use grasslands of the Plan Area as well, including California ground squirrels, Botta's pocket gophers, California voles (*Microtus californicus*), deer mice, and house mice. A number of large mammalian species may move through the Plan Area from time to time. These would include the coyote, gray fox (*Urocyon cinereoargenteus*), and bobcat (*Lynx rufus*). Various species of bats would forage over the grasslands.

Drainage/Canal

This habitat consists of seasonal drainages and canals and associated riparian habitat. The four major drainages running through the Plan Area are Dog Creek, Dry Creek, Redbank Slough, and Little Dry Creek. These drainages carry variable seasonal flows in natural and human-altered sections of their channels. Large sections of these creeks have been engineered to contain flood water. Nonetheless, portions of each of these creeks and the entire reach of Little Dry Creek through the Plan Area contain riparian vegetation. Riparian vegetation on Dry Creek above Dry Creek Reservoir and Little Dry Creek includes sycamore (*Platanus racemosa*) riparian woodland. Riparian vegetation occurs sporadically along Dog Creek, regularly along Redbank Slough below Redbank Reservoir, and for about 2.5 miles south of the Enterprise Canal on Dry Creek. Riparian trees across the Plan Area consist primarily of sycamores, Fremont cottonwoods (*Populus fremontii*), willows (*Salix sp.*), and valley oaks (*Quercus lobata*). Canals across the Plan Area range from large, cement-lined canals such as the Friant-Kern Canal and Enterprise Canal to small, earthen irrigation canals. Cement-lined canals would lack vegetation and generally carry relatively swift currents; therefore, they would provide little habitat value for native wildlife. Earthen canals, as well as engineered portions of natural drainages, may contain areas of shrubby riparian trees and understory vegetation such as Himalayan blackberry (*Rubus discolor*), pearly everlasting (*Gnaphalium californicum*), willowherb (*Epilobium ciliatum*), henbit (*Lamium amplexicaule*), lambs quarters (*Chenopodium alba*), panicled willowherb (*Epilobium bachycarpum*), common groundsel (*Senecio vulgaris*), mugwort (*Artemisia douglasii*), and stinging nettles (*Urtica dioica*).

Portions of the onsite creeks and earthen canals provide potential breeding habitat during the spring for amphibians such as western toads, Pacific chorus frogs, and bullfrogs (*Rana catesbiana*). These species, in turn, would attract

⁵ Estivation is dormancy during a hot dry season.

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common garter snakes (*Thamnophis sirtalis*) and aquatic garter snakes (*Thamnophis atratus*) to forage in this habitat. Other reptiles that may use this habitat include the western fence lizard and Gilbert skink (*Eumeces gilberti*).

The presence of amphibians may attract avian species that prey on them, such as the great egret (*Casmerodius albus*) and great blue heron (*Ardea herodias*). Dabbling ducks such as the mallard (*Anas platyrhynchos*) would be attracted to areas of still water. A number of bird species may forage in the riparian canopy, such as house finches; western scrub jays; and, in the winter, yellow-rumped warblers. Raptors such as the red-tailed hawk and red-shouldered hawk would nest in riparian trees in these areas.

Riparian habitat often facilitates the movement and persistence of small and large mammal populations. Muskrats (*Ondatra zibethicus*) often inhabit the aquatic habitat and creek banks in riparian zones, and raccoons commonly forage along watercourses. A number of bat species frequently forage over aquatic areas. Larger mammal species such as the gray fox and coyote may drink from and forage in these areas.

Artificial Ponds and Lakes

Artificial waters in the Plan Area consist of stormwater detention basins, constructed lakes and ponds, and waste treatment ponds. These features occur in both rural and urban environments. Larger ponds and lakes have been identified in Figure 5.4-1, *Habitats and Land Uses*, but numerous small ponds in rural residential areas are not mapped.

Vegetation characteristics in these areas are variable and dependent on water depth, the function of the pond/lake, and maintenance and management activities. Vegetation communities associated with ponds and lakes in the Plan Area consist of riparian vegetation described previously as well as wetland vegetation. Wetland vegetation in and next to some ponds and lakes may include broadleaf cattail (*Typha latifolia*), tall flatsedge (*Cyperus eragrostis*), knotweed (*Persicaria lapathifolia*), and barnyard grass (*Echinochloa crus-gali*).

Various species of fish could use this habitat. Largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), green sunfish (*Lepomis cyanellus*), and mosquito fish (*Gambusia affinis*) are commonly found in similar aquatic habitats throughout California.

The margins of Red Bank and Dry Creek reservoirs provide habitat for various amphibian and reptile species. Pacific chorus frogs, bullfrogs, and western toads would breed in such places, especially where emergent vegetation would provide cover for both young and adults.⁶ These species would in turn attract common garter snakes and aquatic garter snakes to forage in this habitat.

Ponds and lakes also provide habitat for a number of bird species. Great egrets and great blue herons may occasionally forage along the shallows of the shoreline for the various fish and amphibian species mentioned above. A variety of waterbirds such as lesser scaup (*Aythya affinis*), greater yellow legs (*Tringa melanoleuca*), American coot (*Fulica Americana*), ruddy duck (*Oxyara jamaicensis*), common sandpiper (*Califris minutilla*), avocet (*Recurvirostra californica*), northern shoveler (*Anas chyeata*), cinnamon teal (*Anas cyanoptera*), mallards, and Canada geese (*Branta canadensis*) are expected to use this habitat in the Plan Area. Many of these species were observed during the field investigation of the site. Other bird species to be found in this habitat include the black phoebe (*Sayornis nigricans*),

⁶ Emergent wetland vegetation is rooted in soil beneath the water surface but has leaves, stems, and flowers extending above the water surface.

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which often forages over the water's edge, and the barn swallow and American cliff swallow (*Petrochelidon pyrrhonota*), both of which forage over open water.

Relatively few mammals are found in such habitats, but several species may come here to drink and occasionally forage along the shallow portions of the shoreline. Muskrats often inhabit water, and raccoons commonly forage along the shore. A number of bat species probably forage over these areas at various times of year.

Seasonal Wetland

Wetlands are defined under the federal Clean Water Act as land that is flooded or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that normally does support, a prevalence of vegetation adapted to life in saturated soils. Wetlands include areas such as swamps, marshes, and bogs. Seasonal wetlands in the form of vernal pools and wetland swales occur throughout the grassland habitat in the Plan Area. Formed as a result of rolling terrain and soil characteristics, these wetlands support a variety of native plant and animal species, many of which are endemic, which means restricted to this habitat. Endemic vernal pool plants common in the region include the federally threatened succulent owl's-clover (*Castilleja campestris* spp. *succulenta*), hairgrass (*Deschampsia* sp.), Great Valley button celery (*Eryngium castrense*), and stalked popcornflower (*Plagiobothrys stipitatus*). Other species occurring in these areas that are often associated with wetlands include spikerush (*Eleocharis* sp.), nit grass (*Gastridium ventricosum*), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), Baltic rush (*Juncus balticus*), Mexican rush (*Juncus mexicanus*), hyssop loosestrife (*Lythrum hyssopifolium*), rabbit's foot grass (*Polygogon monspeliensis*), and California canarygrass (*Phalaris californica*). When dry, these habitats would be used by the same wildlife species that are expected to occur in the grasslands.

When flooded, vernal pools in the Plan Area may support a number of aquatic and terrestrial species, some of which would be unique to vernal pool habitats. Many of the vernal pools support invertebrate species, such as the federally protected vernal pool fairy shrimp (*Branchinecta lynchi*), which has been documented in vernal pools in the Plan Area; the midvalley fairy shrimp (*Branchinecta mesovallensis*); and common aquatic insects.

Habitat Zones

The Plan Area was divided into three habitat zones—broader categories of habitat types than those discussed above—to localize suitable habitats for sensitive species and impacts to such habitats to portions of the Plan Area. The three habitat zones, mapped on Figure 5.4-1, are:

- **Urban:** The great majority of the Urban Zone is within the City limits. Urban lands include all highly developed lands associated with commercial, industrial, single- and multifamily residential areas, associated infrastructure such as detention basins, and other land uses under significant influence of the urban environment.
- **Rural:** Rural areas include rural residential, agriculture, and grassland/seasonal wetland areas.
- **Drainage/Canal:** Drainage/canals include all natural, altered-natural, and manmade water conveyance features and associated riparian habitat.

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5.4.1.3 SENSITIVE RESOURCES

Several species of plants and animals in the state of California have low populations and/or limited distributions. Such species may be considered rare and are vulnerable to extinction as the state’s human population grows and the species’ habitats are converted to agricultural and urban uses. As described more fully in Section 5.4.1.1, *Applicable Plans and Regulations*, state and federal laws have provided CDFW and USFWS with a method for conserving and protecting the diversity of plant and animal species native to the state. A sizable number of native plants and animals have been formally designated “threatened” or “endangered” under state and federal endangered species acts. Others have been designated as candidates for such listing. Still others have been designated “species of special concern” by the CDFW. The California Native Plant Society (CNPS) has developed its own set of lists of native plants considered rare, threatened, or endangered (CNPS 2012). Collectively, these plants and animals are referred to as “special status species.”

A number of special status plants and animals occur in the vicinity of the Plan Area. Locations of observations of special status species in the Plan Area recorded on the CNDDDB are mapped on Figure 5.4-2, *Special Status Species Observations*.

Special Status Plant Species

Special status plant species occurring in the region and their potential to occur in the Plan Area are listed in Table 5.4-1.

Table 5.4-1 Plant Species Listed as Threatened or Endangered

Species	Status	Habitat	Occurrence in the Plan Area
California Jewel-Flower (<i>Caulanthus californicus</i>)	FE, CE, CNPS 1B	Chenopod scrub, valley, and foothills grassland, pinyon-juniper grassland. Blooms Feb–May.	Unlikely Although suitable habitat exists in grassland areas in the Plan Area, populations in the Fresno area are presumed extirpated.
Greene’s Tuctoria (<i>Tuctoria greenei</i>)	FE, CR, CNPS 1B	Occurs in vernal pools of California’s Central Valley. Blooms May–September	Possible. Suitable habitat in the form of vernal pools is present in the Plan Area. This species has been historically documented in the Plan Area; however, the location of the sighting no longer supports vernal pool habitat, and that particular population is considered extirpated.
Hartweg’s Golden Sunburst (<i>Pseudobahia bahiifolia</i>)	FE, CE, CNPS 1B	Occurs in grasslands of the western foothills of the Sierra Nevada in volcanic pumice soils. Often found in soils of the Rocklin series. Blooms March–April.	Absent. Suitable habitat in the form of Rocklin Sandy Loam, Pumiceous Variant soil, the obligate soil type for Fresno and Madera County populations of this species, is absent from the Plan Area. This species has been observed in the Friant area approx. 4.0 air miles northeast of the Plan Area.
Hairy Orcutt Grass (<i>Orcuttia pilosa</i>)	FE, CE, CNPS 1B	California’s Central Valley pools. Requires deep pools with prolonged periods of inundation. Blooms May–September.	Possible. Suitable habitat in the form of vernal pools is present in the Plan Area. A number of occurrences of this species have been documented near the Plan Area.

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Table 5.4-1 Plant Species Listed as Threatened or Endangered

Species	Status	Habitat	Occurrence in the Plan Area
San Joaquin Adobe Sunburst (<i>Pseudobahia peirsonii</i>)	FT, CE, CNPS 1B	Occurs in Centerville and Porterville heavy clay soils in valley and foothill grassland habitat. Blooms March–April.	Present. This species has been recently documented in the Plan Area (i.e. Quail Lakes development). This species may occur elsewhere in the Plan Area in undisturbed heavy clay soils.
San Joaquin Valley Orcutt Grass (<i>Orcuttia inaequalis</i>)	FE, CE CNPS 1B	Vernal pools of California's Central Valley. Requires deep pools with prolonged periods of inundation. Blooms April–September.	Possible. Suitable habitat in the form of vernal pools is present in the Plan Area. A number of occurrences of this species have been documented near the Plan Area.
Succulent Owl's Clover (<i>Castilleja campestris succulenta</i>)	FT, CE CNPS 1B	Vernal pools of California's Central Valley. Blooms April–May.	Present. This species has been documented in the Plan Area, most recently in 2008. Vernal pool habitat within grassland areas provides suitable habitat for this species.
Dwarf Downingia (<i>Downingia pssilla</i>)	CNPS 2.2	Occurs in vernal pools of California's Central Valley. Blooms March–May.	Possible. Suitable habitat in the form of vernal pools is present in the Plan Area. This species has been observed in vernal pool habitat in the vicinity of the Plan Area.
Forked Hare-Leaf (<i>Lagophylla dichotoma</i>)	CNPS 1B	Occurs in Valley Grassland and Foothill Woodland. Blooms April–June.	Possible. Suitable habitat exists in grassland areas in the Plan Area. The nearest documented occurrence is approximately 2.5 miles east of the Plan Area on the north slope of Round Mtn.
Madera Leptosiphon (<i>Leptosiphon serrulatus</i>)	CNPS 1B	Occurs in cismontane woodland, foothill grasslands, and lower montane forest from Madera County south through Kern County. Blooms April–May.	Possible. This species may occur in grassland habitats in the Plan Area. The nearest known population of this species is approx. 7.5 air miles north of the Plan Area in oak woodland habitat.
Spiny-Sepaled Button Celery (<i>Eryngium spinosepalum</i>)	CNPS 1B	Found in vernal pools of Fresno and Tulare Counties. Blooms April–May.	Possible. Suitable habitat in the form of vernal pools is present in the Plan Area. This species has been observed in the vicinity of the Plan Area.
Sanford's Arrowhead (<i>Sagittaria sanfordii</i>)	CNPS 1B	Freshwater marshes, pond margins, slow moving rivers, irrigation canals of California's Central Valley and low Sierra Foothills. Blooms May–October.	Likely. This species has been observed by LOA biologist Jeff Gurule in Redbank Slough immediately downstream from the Plan Area's southern boundary. Other documented occurrences are reported in canals, ditches, and detention basins in and around the Fresno/Clovis area.
Caper-Fruited Tropicocarpum (<i>Tropicocarpum capparideum</i>)	CNPS 1B	Valley and foothill grassland. Blooms March–April.	Unlikely. Although suitable habitat exists in grassland areas in the Plan Area, populations in the Fresno area are likely extirpated. The only record of this species in the vicinity of the Plan Area was recorded in the 1930s in Fresno.

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Table 5.4-1 Plant Species Listed as Threatened or Endangered

Species	Status	Habitat	Occurrence in the Plan Area
Occurrence Designations:			
Present:	Species observed on the site at time of field surveys or during recent past.		
Likely:	Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.		
Possible:	Species not observed on the site, but it could occur there from time to time.		
Unlikely:	Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.		
Absent:	Species not observed on the site, and precluded from occurring there because habitat requirements not met.		
Status Codes:			
FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CR	California Rare
FC	Federal Candidate	CSC	California Species of Special Concern
		CP	California Fully Protected
		CNPS 1B	Plant is threatened or endangered (California Native Plant Society Rare Plant Rank)

Special Status Animal Species

Special status animal species occurring in the region and their potential to occur in the Plan Area are listed in Tables 5.4-2 and 5.4-3.

Table 5.4-2 Animal Species Listed as Threatened or Endangered

Species	Status	Habitat	Occurrence in the Plan Area
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT	Found in ruderal pools and vernal pools of California Central Valley.	Present. This species has been documented in numerous vernal pools within grassland habitats of the Plan Area.
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE	Primarily found in vernal pools of California's Central Valley.	Possible. Although no occurrences of this species have been recorded in the Plan Area, vernal pool habitat apparently suitable for this species is present. The nearest known population occurs on McKenzie Table approximately 10.5 miles to the north.
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT	Lives in mature elderberry shrubs of California's Central Valley and Sierra Foothills.	Possible. Suitable habitat for this species in the form of elderberry shrubs occurs in the Plan Area. The distribution of elderberry shrubs across the Plan Area is unknown.
California Tiger Salamander (<i>Ambystoma californiense</i>)	FT, CT	Found primarily in annual grasslands; requires seasonal pools for breeding and rodent burrows for refuge.	Present. This species has been documented in vernal pools within grassland habitats of the Plan Area (LOA obsv. and CNDDB 2012). Numerous vernal pools in the Plan Area provide suitable breeding habitat for this species. Ground squirrel and gopher burrows in surrounding grasslands provide suitable estivation habitat for this species.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	CE, CP	Winters near reservoirs of California's Central Valley. Mostly feeds on fish in large bodies of water or rivers.	Unlikely. Although bald eagles winter and occasionally nest at Millerton Lake, the Plan Area provides little to no foraging habitat and unsuitable nesting habitat. Therefore, this species, at most, would occasionally pass over the site.

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Table 5.4-2 Animal Species Listed as Threatened or Endangered

Species	Status	Habitat	Occurrence in the Plan Area
Swainson's Hawk (<i>Buteo swainsoni</i>)	CT	Uncommon resident but increasingly common migrant in the Central Valley. Forages in grasslands and fields close to riparian areas.	Possible. This species has been observed in the vicinity of the project site numerous times by LOA biologist Jeff Gurule. Grassland and agricultural habitats provide suitable foraging habitat. Onsite trees in less developed areas provide potential nesting habitat. No instance of Swainson's hawk nesting has been documented in the Plan Area.
Western Yellow-Billed Cuckoo (<i>Coccyzus americanus occidentalis</i>)	FC, CE	Occurs in valley foothill and desert riparian habitats in scattered locations in California. Requires extensive gallery riparian forests for nesting.	Absent. The remnant riparian woodland is not nearly extensive enough to fulfill nesting requirements of this species. This species has not been observed in the Fresno area for more than 100 years.
Fresno Kangaroo Rat (<i>Dipodomys nitratooides exilis</i>)	FE, CE	Occurs in alkali scrub and herbaceous habitats with scattered shrubs in the southwestern San Joaquin Valley.	Absent. Suitable habitat is absent from the Plan Area.
San Joaquin Kit Fox (<i>Vulpes macrotis mutica</i>)	FE, CT	Occurs in desert alkali scrub and annual grasslands and may forage in adjacent agricultural habitats.	Unlikely. Numerous surveys conducted by LOA within and adjacent to the Plan Area have found no evidence of kit fox.

Occurrence Designations:

- Present: Species observed on the site at time of field surveys or during recent past.
- Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
- Possible: Species not observed on the site, but it could occur there from time to time.
- Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
- Absent: Species not observed on the site, and precluded from occurring there because habitat requirements not met.

Status Codes:

- | | | | |
|-----|---------------------------------|-----|---------------------------------------|
| FE | Federally Endangered | CE | California Endangered |
| FT | Federally Threatened | CT | California Threatened |
| FPE | Federally Endangered (Proposed) | CR | California Rare |
| FC | Federal Candidate | CSC | California Species of Special Concern |
| | | CP | California Fully Protected |

Table 5.4-3 Animal Species Listed as State Species of Special Concern (CSC) or State Fully Protected Species (CP)

Species	Status	Habitat	Occurrence in the Plan Area
Hardhead (<i>Mylopharodon conocephalus</i>)	CSC	Prefer clear, deep pools, and runs with sand-gravel-boulder substrates in undisturbed areas of larger low- to mid-elevation streams.	Absent. Historically abundant in larger perennial waters of central California. Habitat required by this species is absent from creeks and waters in the Plan Area.
Western Spadefoot Toad (<i>Scaphiopus hammondi</i>)	CSC	Frequents annual grasslands and foothill hardwood woodlands;	Present. This species has been documented in vernal pools within grassland habitats of the Plan Area. Numerous vernal pools in the Plan Area

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Table 5.4-3 Animal Species Listed as State Species of Special Concern (CSC) or State Fully Protected Species (CP)

Species	Status	Habitat	Occurrence in the Plan Area
		requires vernal pools or other temporary wetlands for breeding.	provide suitable breeding habitat. Ground squirrel and gopher burrows within surrounding grasslands provide suitable estivation habitat for this species.
Western Pond Turtle (<i>Clemmys marmorata</i>)	CSC	Occurs in suitable aquatic habitats such as ponds and rivers throughout California.	Possible. This species may occur in natural or constructed aquatic environments in the Plan Area.
Golden Eagle (<i>Aquila chrysaetos</i>)	CSC, CP	Typically frequents rolling foothills, mountain areas, sage-juniper flats, and desert.	Present. A golden eagle was observed foraging in the Plan Area by LOA biologist Jeff Gurule in 2009. Suitable foraging habitat is present, but nesting habitat is absent.
Northern Harrier (<i>Circus cyaneus</i>)	CSC	Frequents grasslands, open rangelands, and emergent wetlands.	Likely. This species likely forages over the site and may breed in marsh habitat associated with Dry Creek Reservoir.
White-Tailed Kite (<i>Elanus caeruleus</i>)	CSC, CP	Open grasslands and agricultural areas throughout central California.	Possible. Grassland and agricultural habitats provide suitable foraging habitat. Onsite trees in less developed areas provide potential nesting habitat.
Burrowing Owl (<i>Athene cunicularia</i>)	CSC	Frequents open, dry grasslands, deserts, and ruderal areas; requires rodent burrows for nesting and roosting cover.	Present. Burrowing owls have been observed by LOA biologists in grassland habitat east of Herndon Avenue. Grassland habitat in the Plan Area provides suitable foraging and nesting habitat.
Long-Eared Owl (<i>Asio otus</i>)	CSC	Frequents riparian woodlands and forests of California.	Possible. Possible nesting and roosting habitat is present in riparian trees associated with creeks in the Plan Area. Dave Hartesveldt of LOA has observed long-eared owls in riparian trees adjacent to agricultural land in Madera County.
Short-Eared Owl (<i>Asio flammeus</i>)	CSC	Frequents marshes, grasslands, irrigated lands, dunes, and other treeless habitats of the Central Valley and western Sierra Nevada foothills.	Possible. This species is not known to breed in this portion of Fresno County. Grasslands in the Plan Area provide suitable foraging habitat for this species. LOA biologists have observed short-eared owls in the vicinity of the Plan Area.
Loggerhead Shrike (<i>Lanius ludovicianus</i>)	CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low herbaceous cover. Can often be found in cropland.	Present. LOA biologists have observed this species in less-developed areas of the Plan Area. Less-developed portions of the Plan Area provide potential foraging habitat and nesting habitat.
Tricolored Blackbird (<i>Agelaius tricolor</i>)	CSC	Frequents grassland and cropland habitats; requires proximity to fresh water and emergent wetland vegetation with dense cattails and thickets of willow for nesting.	Possible. This species nests in large colonies. Historic records document nesting colonies in the Plan Area. Habitat suitable to support a breeding colony potentially occurs along Redbank Slough, Dry Creek Reservoir, and in ponds supporting suitable emergent wetland vegetation. This species would potentially forage in the Plan Area with mixed flocks of red-winged blackbirds and Brewer's blackbirds.

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Table 5.4-3 Animal Species Listed as State Species of Special Concern (CSC) or State Fully Protected Species (CP)

Species	Status	Habitat	Occurrence in the Plan Area
Spotted Bat (<i>Euderma maculatum</i>)	CSC	Typically associated with prominent rocky habitats where it roosts in crevices, but is known to occur in a wide range of habitats.	Possible. The Plan Area provides suitable foraging habitat for this species, but provides no suitable roosting habitat.
Townsend's Western Big-Eared Bat (<i>Corynorhinus townsendii townsendii</i>)	CSC	Frequents all but subalpine and alpine habitats; requires buildings, mines, caves, or tunnels for roosting and nesting.	Possible. The Plan Area provides possible foraging habitat for this species; potential roosting may occur in abandoned or little-used buildings.
Pallid Bat (<i>Antrozous pallidus</i>)	CSC	Frequents grasslands, shrub lands, woodlands and forests habitats; requires mines, caves, or crevices for roosting and nesting.	Possible. The Plan Area provides possible foraging habitat for this species; potential roosting may occur in hollows of large trees or abandoned or little-used buildings.
Western Mastiff Bat (<i>Eumops perotis</i>)	CSC	Frequents grasslands to woodland habitats along the central and southern coast and the Central Valley; requires high buildings, cliff faces, or tunnels for roosting and nesting.	Possible. The Plan Area provides suitable foraging habitat for this species, but no suitable roosting habitat.
American Badger (<i>Taxidea taxus</i>)	CSC	Found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Possible. Grassland habitats in the Plan Area provide suitable foraging and breeding habitat for this species.

Occurrence Designations:

- Present: Species observed on the site at time of field surveys or during recent past.
- Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis.
- Possible: Species not observed on the site, but it could occur there from time to time.
- Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient.
- Absent: Species not observed on the site, and precluded from occurring there because habitat requirements not met.

Status Codes:

- CE California Endangered
- CT California Threatened
- CR California Rare
- CSC California Species of Special Concern
- CP California Fully Protected

Endangered, Threatened, or Special Status Plant and Animal Species Meriting Further Discussion

An expanded discussion of a few special status species listed in Tables 5.4-1 through 5.4-3 is provided due to the impacts implementation of the GPU could have on them. Omitted from this expanded discussion are special status species that may be present on the Plan Area from time to time (or even regularly), but that will not be appreciably affected in any way by the implementation of the Clovis GPU.

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Special Status Vernal Pool Plants

Numerous vernal pools occur in the Plan Area. These pools, most of which occur in grassland areas north of Herndon Avenue, provide habitat suitable for four federally and state listed plant species endemic to vernal pools. These include the succulent owl's-clover, San Joaquin Valley Orcutt grass, hairy Orcutt grass, and Greene's tuctoria. In addition, these pools provide suitable habitat for the spiny-sealed button celery and dwarf downingia, species listed as rare by the CNPS. All of these species have been documented in vernal pools within five miles of the Plan Area. A historic record has documented Greene's tuctoria in the Plan Area, but the species is considered absent from that location. The succulent owl's-clover has been documented in the Plan Area and populations are presumed present.

San Joaquin Adobe Sunburst

The federally endangered San Joaquin adobe sunburst has a very limited range in California, from Fresno County on the north to Kern County on the south. This annual member of the sunflower family occurs as widely scattered populations in annual grasslands on heavy clay soils. Almost all populations have been documented within the margin between the eastern end of the San Joaquin Valley and the lowest foothills of the Sierra Nevada Range.

This species is documented in the Plan Area in remaining grassland habitat containing Centerville clay soils in the Quail Lakes development (CNDDDB 2012). Undeveloped Centerville and Mt. Olive clay soils in the Plan Area may support additional populations of this species (see Heavy Clay Soils on Figure 5.4-1, *Habitats and Land Uses*).

Madera Leptosiphon

The nonnative grassland habitat of the Plan Area provides suitable habitat for the Madera leptosiphon. This species is on CNPS List 1B (Plants Rare, Threatened, or Endangered in California and Elsewhere). The Madera leptosiphon occurs in nonnative grasslands and oak woodlands of the Sierra Nevada foothills from Madera County on the north to Kern County on the south. Although most documented occurrences of this species are at elevations greater than 1,000 feet, a population has been observed by LOA biologists in Millerton Lake State Park 7.5 miles north of the Plan Area at an elevation of approximately 600 feet amsl. The proximity of the Planning area to Millerton Lake State Park suggests that grassland areas in the Plan Area could provide habitat for this species.

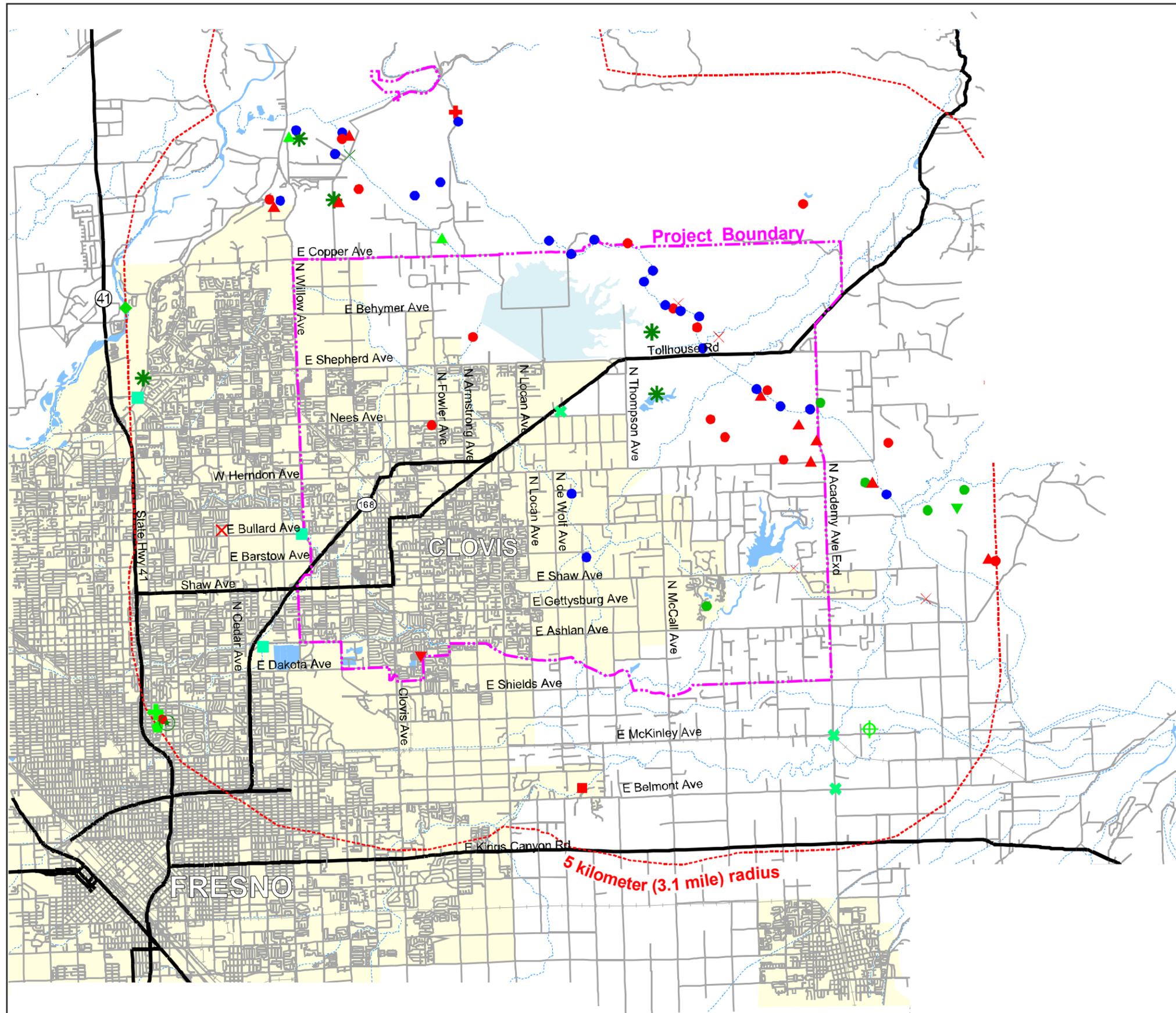
Vernal Pool Fairy Shrimp

The vernal pools in the Plan Area provide habitat for the federally threatened vernal pool fairy shrimp, an invertebrate species occurring in vernal pools (and other seasonal aquatic habitat throughout most of California west of the Sierra Nevada). This species has been identified in vernal pools north of Herndon Avenue by LOA biologists, and additional sightings in the Plan Area are in the CNDDDB (LOA 2007; CNDDDB 2012). Due to the documented presence of this species in the Plan Area and its widespread distribution in vernal pools of the region, it is reasonable to conclude that many of the vernal pools in the Plan Area are occupied by vernal pool fairy shrimp.

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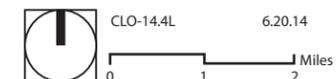
Figure 5.4-2

Special Status Species Observations



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Vernal Pool Tadpole Shrimp

The federally endangered vernal pool tadpole shrimp inhabits seasonal pools of the San Joaquin and Sacramento Valleys and adjoining basalt tabletops of the lower Sierra Nevada foothills. This species is known to inhabit vernal pools ranging in size from 2 square meters to the 89-acre Olcott Lake at Jepson Prairie. Vernal pool tadpole shrimp have been documented on the McKenzie Table, a plateau seven miles northeast of the Plan Area.

This species has not been documented in the Plan Area. However, the Plan Area offers suitable habitat for this species in the form of vernal pools of various sizes, and in the absence of focused surveys for crustaceans, this species may be assumed to occur in some of the Plan Area vernal pools.

California Tiger Salamander

The California tiger salamander (CTS) is listed as state and federally threatened. The CTS occurs in areas in Madera and Fresno Counties where vernal pool complexes occur within extensive grassland habitats. Vernal pools that hold water for three to four months of the winter and spring provide likely breeding habitat for the CTS. The CTS larvae mature in these vernal pools as they begin to dry in April and May. When they are young adults, the CTS leave the drying pools to find the burrows of California ground squirrels and pocket gophers in which to estivate (i.e. pass the summer).

A number of vernal pools scattered throughout grassland habitats in the Plan Area provide suitable breeding habitat for the CTS. CTS presence has been documented by LOA biologists in vernal pools north of Herndon Avenue, and additional sightings in the Plan Area are in the CNDDB. The surrounding grasslands provide suitable estivation habitat for this species. Where the CTS occurs on a site, it is generally assumed that CTS breed in all accessible pools that hold water for a duration sufficient for its larvae to mature into young adults. The many large deep vernal pools scattered throughout Plan Area grasslands are presumed to harbor breeding populations.

Western Spadefoot

CDFW has listed the western spadefoot as a California Species of Special Concern. The western spadefoot typically breeds between January and May in seasonal ponds occurring in chaparral, shortgrass plains, or coastal sage scrub. For the larvae to survive, development must be complete before the ponds dry. Mostly active at night, the spadefoot has adapted to digging in sandy soils and finding refuges in small rodent burrows, creating estivation habitat that protects it from hot, arid daytime conditions.

Vernal pools in the Plan Area provide suitable breeding habitat for the western spadefoot. Rodent burrows in surrounding grasslands provide suitable estivation habitat. Western spadefoot have been documented in the Plan Area and are presumed present throughout grassland habitats in the Plan Area.

Western Pond Turtle

The western pond turtle is the only native, aquatic, freshwater turtle in California and normally associates with permanent or nearly permanent aquatic habitats, including streams, lakes, and ponds. Historically, this species occurred in Pacific Coast drainages from Washington to Mexico. This species occurs in aquatic habitats with: 1) basking sites such as rocks and logs, 2) dense stands of submergent or emergent vegetation, 3) abundant

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aquatic invertebrate resources, 4) suitable nearby nesting sites, and 5) a lack of native and exotic predators. This species can move along streams up to 3.1 miles (5 kilometers) in a short period of time, and they can tolerate at least seven days without water. The many ponds and small lakes in rural areas of the Plan Area provide suitable habitat for this species.

Swainson's Hawk

The California threatened Swainson's hawk is a migrant species that spends much of the spring, summer, and early fall in California's Central Valley. Preferred nesting habitat consists of valley oaks, cottonwoods, and other tall trees adjacent to agricultural fields and grasslands. Swainson's hawks are becoming increasingly common in the Central Valley and have been observed in grassland and agricultural habitats adjacent to the Fresno/Clovis Metropolitan Area numerous times in the last five years. Given recent expansion of the Central Valley Swainson's hawk population, it is possible that agricultural, grassland, and rural residential areas may support foraging and possibly nesting Swainson's hawks.

Burrowing Owl

The burrowing owl, a California species of concern, is a small owl occurring in grassland habitats of the Central Valley that support California ground squirrels. This owl seeks shelter in ground squirrel burrows throughout the year and breeds in these burrows from February through July. Owl populations have declined sharply in some portions of California during the past two decades (e.g. the San Francisco Bay Area, Sacramento County, San Joaquin County), but they have increased greatly in some agricultural counties (particularly Imperial). In Fresno and Madera Counties, these owls most commonly occur on the valley floor. They are not as common in foothill habitats and are entirely absent from areas of oak woodlands and chaparral.

Grassland habitats of the Plan Area provide suitable foraging and nesting habitat for the burrowing owl. Burrowing owls have been observed in grasslands north of Herndon Avenue. Burrowing owls could be distributed widely over grasslands of the Plan Area.

San Joaquin Kit Fox

The federally endangered and California threatened San Joaquin kit fox once occurred throughout much of the San Joaquin Valley, but this species favored areas of alkali sink scrub and alkali grassland in the trough of the San Joaquin Valley and Tulare Basin, as well as areas further west. The low foothills of the Sierra Nevada found at the eastern edge of the San Joaquin Valley must at best be considered at the margin of this species' natural range. The nearest confirmed record of a small kit fox population to the Plan Area is western Madera County approximately 40 miles away.

There are a number of mostly unverified sightings of kit fox in Fresno County from just south of the San Joaquin River south to Piedra, which is about 10 miles east of the Plan area. Two of these sightings are highly unlikely, since they appear to be at elevations of 1,000 to 2,000 feet in oak woodland habitat with a known brushy understory, habitat not known to be used by kit foxes. These two records must almost certainly be gray foxes.

A number of kit fox surveys conducted in recent years have failed to turn up any evidence of this species in the Millerton and Friant area approximately seven miles north of the Plan Area's northern boundary (see Appendix F

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for further discussion). Based on the available evidence, it appears that a kit fox population is absent from the Plan Area and surrounding lands.

Sensitive Habitats

Sensitive habitats are those that are of limited distribution, distinguished by significant biological diversity, home to special status plant and animal species, of importance in maintaining water quality or sustaining flows, etc. Examples of sensitive habitats in the vicinity of the Plan Area would include vernal pools and various types of riparian forest.

The Plan Area supports several large areas of vernal pool habitat (including vernal swales), also known as “Northern Hardpan Vernal Pools” by the CDFW. CDFW recognizes that this habitat supports plants and animals endemic to such habitats, many of which have been designated threatened or endangered by the state and/or federal government. This habitat type has been eliminated throughout much of its former range and is now relatively uncommon in the San Joaquin Valley.

The Plan Area supports some areas of riparian forest associated with portions of Little Dry Creek, Dry Creek, Dog Creek, and Redbank Slough. Riparian areas are also recognized by CDFW as having special value for a diversity of native plants and animals. Riparian habitat, once extensive throughout the San Joaquin Valley, has been eliminated throughout much of its former range and is now relatively uncommon.

Movement Corridors

Many terrestrial animals need more than one habitat in order to perform all of their biological activities. With increasing encroachment of humans on wildlife habitats, it has become important to establish and maintain linkages, or movement corridors, for animals to be able to access locations containing different resources essential to maintaining their life cycles. Terrestrial animals use ridges, canyons, riparian areas, and open spaces to travel between their required habitats.

The importance of an area as a “movement corridor” depends on the species in question and its consistent use patterns. Animal movements generally can be divided into three major behavioral categories:

- Movements within a home range or territory
- Movements during migration
- Movements during dispersal

Estimates of the types of movements occurring in the region are based on knowledge of the Plan Area, its habitats, and the ecology of the species potentially occurring in the Plan Area.

The natural drainages in the Plan Area provide movement corridors, though often broken by urban development, for local wildlife species. However, these drainages are expected to facilitate regional movements of only some wildlife species, as the natural characteristics of these drainages such as developed riparian vegetation, associated wetlands, and natural banks have been significantly altered through urban and agricultural land uses in the Plan Area. Moreover, with the exception of the very small portion of Little Dry Creek that flows near the Clovis

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Landfill, these drainages lead to the Fresno/Clovis Metropolitan Area which serves neither as an origin nor destination for significant wildlife movement.

A number of reptiles, birds, and mammals may use the Plan Area itself as part of their home range and dispersal movements. The movements of these species, however, do not indicate that any portion of the Plan Area outside of the Clovis landfill section functions as a significant movement corridor. Given the linkage provided by Little Dry Creek between the San Joaquin River and foothill environments, this feature is a potentially important movement corridor to native wildlife. Little Dry Creek passes just south of the Clovis Landfill, but is otherwise entirely outside of the Planning Area boundary. Little Dry Creek originates in the Sierra Nevada foothills about 6.5 miles northeast of the Planning Area boundary and discharges into the San Joaquin River about 1.7 miles northwest of the Planning Area boundary.

Migratory Birds

In addition to the Swainson's hawk, numerous other migratory bird species occur in various portions of the Plan Area, including northern harriers, red-tailed hawks, and loggerhead shrike.

Jurisdictional Waters and Wetlands

Waters of the United States and other jurisdictional waters (hereafter referred to as "jurisdictional waters") include rivers, creeks, and drainages that have a defined bed and bank and which, at the very least, carry ephemeral flows.⁷ Jurisdictional waters also include lakes, ponds, reservoirs, and wetlands. Such waters may be subject to the regulatory authority of the Corps, CDFW, and the RWQCB.

Dog Creek, Dry Creek, Redbank Slough, and Little Dry Creek (and their tributaries, impoundments, and adjacent wetlands) have all been claimed as Waters of the United States and Waters of California by the Corps and RWQCB, respectively. These drainages are characterized as having a defined bed and bank and are hydrologically connected to other waters of the United States, since they are tributary to the San Joaquin River. The limit of Corps jurisdiction, as well as that of the RWQCB, would be the ordinary high water level. The creeks are also subject to the jurisdiction of the CDFW up to the top of bank or the edge of associated riparian vegetation, whichever is greater.

Three major irrigation canals—Friant-Kern Canal, Enterprise Canal, and Gould Canal—run through the Plan Area. Although artificial waterways such as canals are typically not claimed by the agencies, these canals are connected on both ends to Waters of the United States, and thus have been claimed as jurisdictional by the Corps. The jurisdictional status of other minor canals, though likely not jurisdictional, would have to be determined on a case-by-case basis.

Constructed lakes and ponds adjacent to or hydrologically connected to jurisdictional drainages and canals may, themselves, be considered jurisdictional by the Corps and RWQCB as well as the CDFW. Areas meeting the three wetland criteria (i.e. vegetation, hydrology, and soils) such as vernal pools and wetland swales adjacent or hydrologically connected to jurisdictional drainages or canals may, themselves, be considered jurisdictional by the Corps and RWQCB. If wetland features can be demonstrated to be hydrologically isolated from jurisdictional

⁷ Ephemeral flows are brief, as in flow after a rainstorm in a streambed that is usually dry.

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drainages, the Corps may not exert jurisdiction over them. However, the RWQCB would still likely regulate activities affecting these features. The CDFW typically only claims jurisdiction over natural drainages, and therefore is unlikely to regulate wetlands or manmade irrigation features such as the canals mentioned above. However, CDFW would likely claim jurisdiction over constructed ponds that supported aquatic life and/or riparian vegetation.

Known jurisdictional waters and undeveloped grassland areas containing likely jurisdictional waters are shown on Figure 5.4-1, *Habitats and Land Uses*. This information is based on LOA's knowledge of the area, a USGS blue-line GIS layer, past correspondence with the above agencies regarding jurisdictional status of hydrologic features in the Plan Area, and the presence of vernal pool or seasonal wetland signatures within undeveloped grassland areas on high-resolution aerial photography. No jurisdictional delineation of the Plan Area was conducted for this Draft PEIR; thus, many small wetland areas and ponds within developed lands, primarily in rural residential areas, have not been included in Figure 5.4-1, *Habitats and Land Uses*. The jurisdictional status of these areas is unknown at this time and would need to be evaluated on a case-by-case basis to determine if these features would be regulated by the Corps, CDFW, and/or RWQCB.

Functioning wastewater treatment ponds and constructed stormwater detention basins would not be regulated by the Corps, RWQCB, or CDFW. However, it is important to note that these three agencies are the final arbiters and reserve the right to claim or disclaim jurisdiction over any hydrologic feature.

5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- BIO-1 Have a substantial 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 US Fish and Wildlife Service.
- BIO-2 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.
- BIO-3 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-4 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.
- BIO-5 Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

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BIO-6 Conflict with the provisions of an adopted habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The Initial Study, included as Appendix A, substantiates that impacts associated with the Threshold BIO-5 would be less than significant. This impact will not be addressed in the following analysis.

5.4.3 Environmental Impacts

Impacts to Potential Habitats for Sensitive Species

Existing and proposed changes to land that could have potential value as habitat for sensitive species are listed below in Table 5.4-4. No existing land use category consists of native habitat. Some of the Open Space designation may consist of restored or created native habitat; however, all other proposed land use designations in Table 5.4-4 would be modified by human activities and would not consist of native habitat. Habitat value would vary between land use categories; the habitat values of all of the categories identified are expected to be intermediate between fully developed urban uses and natural native habitat. As shown in the table below, the General Plan Update buildout would cause a net decrease of 9,546 acres in the Plan Area that could have some habitat value for sensitive species, compared to existing land uses. Note that about seven percent of that net decrease—6,759 acres—would result from anticipated development in the 2035 scenario.

Table 5.4-4 Acreages, Land Uses/Designations with Potential Habitat Value for Sensitive Species

Land Use/ Designation	2035 Scenario			Beyond 2035 Scenario			Entire Plan Area		
	Existing Acreage (2011)	2035 Scenario	Net increase/ (decrease)	Existing Acreage (2011)	Buildout	Net increase/ (decrease)	Existing Acreage (2011)	Full Buildout	Net increase/ (de-crease)
Vacant	1,043	0	(1,043)	206	0	(206)	1,249	0	(1,249)
Rural Residential	2,387	957	(1,430)	8,187	10,157	1,970	10,574	11,114	540
Agriculture	4,673	68	(4,605)	14,010	5,501	(8,509)	18,683	5,569	(13,114)
Open Space	0	319	319	0	3,958	3,958	0	4,277	4,277
Total	8,103	1,344	(6,759)	22,403	19,616	(2,787)	30,506	20,960	(9,546)

Note: A Water designation of existing land uses (205 acres) is omitted because constructed drainage basins are combined into the water category for General Plan Update designations at buildout (1,152 acres Water category), and because constructed drainage basins are expected to have little habitat value for sensitive species.

Although potentially suitable habitat is present in the General Plan Update area for a number of sensitive species, these resources would be restricted to certain parts of the Plan Area. Therefore, habitat zones have been identified in the Plan Area consisting of Urban, Rural, and Drainage/Canal, described above in Section 5.4.1.2, *General Biological Setting*, and mapped on Figure 5.4-1, *Habitats and Land Uses*. Areas assumed to be developed by full buildout of the General Plan Update are mapped on Figure 5.4-1, *Habitats and Land Uses*, as either Rural or Drainage/Canal, except the existing Quail Lake development, which is mapped as Urban.

Impacts to specific biological resources have been evaluated for each of these three zones. Evaluation of impacts by zones was established to aid City planners in their consideration of potential impacts to sensitive or protected biological resources when considering certain areas for future projects and growth.

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Distribution of the nine types of habitats and land uses described above in Section 5.4.1, *Environmental Setting*, relative to the 2035 scenario and full buildout are detailed in Table 5.4-5 and shown in Figure 5.4-1, *Habitats and Land Uses*.

Table 5.4-5 Distribution of Habitats and Land Uses in Plan Area

Habitat/Land Use	City and SOI	Non-SOI Plan Area
Urban Developed	X	X*
Vacant	X	X
Rural Residential	X	X
Agriculture	X	X
Grasslands/Seasonal Wetlands		X
Heavy Clay Soils		X
Artificial Ponds/Lakes	X	X
Drainages/Canals	X	X
Flood Zone ¹		X

¹ Flood zones identified in the biological evaluation are limited to Dry Creek and Red Bank reservoirs. Such flood zones differ from flood zones designated by the Federal Emergency Management Agency (FEMA) and described in Section 5.9, *Hydrology and Water Quality*, of this Draft PEIR. Additional areas designated 100-year flood zones by FEMA in the Planning Area include drainage basins and drainage channels.

* The only existing urban development is the Quail Lake development.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.4-1: Developments pursuant to the General Plan Update could impact plant species listed as endangered or threatened under the federal and/or California endangered species acts and/or by the California Native Plant Society. [Threshold B-1]

Impact Analysis: Two sensitive plant species, San Joaquin adobe sunburst and succulent owl’s clover, were documented as present in the Plan Area in the *Biological Evaluation*. The following additional sensitive plant species were determined to be likely present or possibly present: Sanford’s arrowhead, succulent owl’s clover, San Joaquin Valley Orcutt grass, hairy Orcutt grass, Greene’s tuctoria, dwarf downingia, forked hare-leaf, spiny-sepaed button celery, and Madera leptosiphon. The habitat preference of each of these species is described above in Table 5.4-1.

The distribution of habitats and land uses that would be impacted by each of the two buildout scenarios is described above.

2035 Scenario

Projects built pursuant to the General Plan Update would convert some suitable habitat for sensitive species to developed land uses. Sanford’s arrowhead has been observed in canals, ditches, and detention basins in and around the Fresno/Clovis area, and may occur in all three zones due to the presence of suitable habitat. The remainder of the sensitive plant species identified as present, likely present, or possibly present do not occur in habitats mapped within the 2035 Scenario area on Figure 5.4-1, *Habitats and Land Uses*.

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Full Buildout

Projects built pursuant to the General Plan Update in the SOI and Non-SOI Plan Area would convert some suitable habitat for sensitive species to developed land uses. Succulent owl's clover and San Joaquin adobe sunburst occur in the rural zone of the Plan Area. Sanford's arrowhead may occur in all three zones due to the presence of suitable habitat. Hairy Orcutt grass, Greene's tuctoria, San Joaquin valley Orcutt grass, dwarf downingia, forked hare-leaf, spiny-sepaled button celery, and Madera leptosiphon may also occur in the rural zone of the Plan Area due to the presence of suitable habitat. The listing status and habitat preference of each of these ten species is shown in Table 5.4-1.

Impact 5.4-2: Developments pursuant to the General Plan Update could impact animal species listed as endangered or threatened under the federal and/or California endangered species acts. [Threshold BIO-1]

Impact Analysis: Two animal species listed as endangered or threatened under the federal and/or California endangered species acts, vernal pool fairy shrimp and California tiger salamander, were identified as present in the Plan Area in the *Biological Evaluation*. Three other animal species with such classifications, Swainson's hawk, vernal pool tadpole shrimp, and valley elderberry longhorn beetle, are considered possibly present in the Plan Area. The habitat preference for each of these species is described above in Table 5.4-2.

2035 Scenario

Development in the 2035 scenario would potentially develop some suitable habitat for the Swainson's hawk, listed as threatened under the California Endangered Species Act; and for the valley elderberry longhorn beetle, listed as a federally threatened species

Full Buildout

Buildout of the SOI and Non-SOI Plan Area would allow some suitable habitat for animal species listed as endangered or threatened under the federal and/or California endangered species acts to be developed. Vernal pool fairy shrimp and California tiger salamander are known to occur in this portion of the Plan Area, and Swainson's hawk, vernal pool tadpole shrimp, and valley elderberry longhorn beetle may also be present in these areas due to the presence of suitable habitat. Habitat preferences for each of these species are described above in Section 5.4-1.

Impact 5.4-3: Buildout of the General Plan Update could impact animal species listed by the California Department of Fish and Wildlife as California Species of Special Concern or California Fully Protected Animals. [Threshold BIO-1 (part)]

Impact Analysis: : The following species listed as California Species of Special Concern or California Fully Protected Animals were identified as present in the Plan Area in the *Biological Evaluation*: western spadefoot toad, golden eagle, burrowing owl, and loggerhead shrike. The following additional species with such status are considered possibly present in the Planning Area: western pond turtle, northern harrier, white-tailed kite, long-

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ered owl, short-eared owl, tricolored blackbird, spotted bat, Townsend's western big-eared bat, pallid bat, western mastiff bat, and American badger. The habitat preference for each of these species is described above in Table 5.4-3.

2035 Scenario

Buildout under the 2035 scenario would allow development of some suitable habitats for species listed as California species of special concern (CSC) or California fully protected animal (CP) by CDFW. Golden eagle and loggerhead shrike are known to occur in the Plan Area. Foraging habitat for golden eagle is present in the Plan Area, but nesting habitat is not. Foraging and nesting habitat are present in the Plan Area for burrowing owl and loggerhead shrike.

Western pond turtle, northern harrier, white-tailed kite, long-eared owl, short-eared owl, loggerhead shrike, tricolored blackbird, spotted bat, Townsend's western big-eared bat, pallid bat, and western mastiff bat may be present in the City and SOI area due to the presence of suitable habitat. Habitat preferences of each of these species are listed above in Table 5.4-3.

Full Buildout

All of the habitats and land uses described in Section 5.4.1, *Environmental Setting*, above are present in the SOI and Non-SOI Plan Area. Thus, in addition to the presence of species mentioned above in the 2035 Scenario analysis, full buildout of the proposed project could also impact western spadefoot toad, burrowing owl, and American badger. Habitat preferences for each of these species are listed above in Table 5.4-3.

Impact 5.4-4: Developments pursuant to the General Plan Update could impact sensitive natural communities, including vernal pools and riparian habitats. [Threshold BIO-2]

Impact Analysis:

2035 Scenario

Developments approved pursuant to the 2035 Scenario could impact riparian habitats, which are considered sensitive habitats. Sanford's arrowhead, western pond turtle, northern harrier, long-eared owl, and tricolored blackbird occur in these riparian habitats.

Full Buildout

Full buildout of the General Plan Update could impact sensitive natural communities, including vernal pools and riparian habitats. Several special-status species discussed above in Impacts 5.4-2 through 5.4-3 occur in vernal pools: vernal pool fairy shrimp, vernal pool tadpole shrimp, and western spadefoot toad. Six special-status plants discussed in Impact 5.4-1 occur in vernal pools: Greene's tuctoria, hairy Orcutt grass, San Joaquin Valley Orcutt grass, succulent owl's clover, dwarf downingia, and spiny-sepaled button celery. Sanford's arrowhead, western pond turtle, northern harrier, long-eared owl, and tricolored blackbird occur in riparian habitats.

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Impact 5.4-5: Buildout of the General Plan Update could impact federally protected wetlands. [Threshold BIO-3].

Impact Analysis:

2035 Scenario

Wetlands next to or hydrologically connected to jurisdictional waterways in the Plan Area—Dog Creek, Dry Creek, and Redbank Creek—are protected under the federal Clean Water Act and would be jurisdictional to the Corps. Development of projects pursuant to the General Plan Update could impact federally protected wetlands through dredging or filling, and developments upstream to wetlands could impact water quality in wetlands. The area of protected wetlands in the Plan Area that could be impacted by General Plan Update buildout is unknown. Each development project considered for approval under the General Plan Update would require a jurisdictional delineation to identify any Corps-jurisdictional wetlands on the project site.

Full Buildout

The analysis of impacts under the 2035 scenario also applies to full buildout of the proposed project.

Impact 5.4-6: Developments pursuant to the General Plan Update could impact local wildlife movement corridors. [Threshold BIO-4 (part)]

Impact Analysis:

2035 Scenario

Projects built pursuant to the General Plan Update could impact natural drainages in the Plan Area that function as local wildlife movement corridors and may function as regional wildlife movement corridors for some species. The Plan Area is used for dispersal movements by a number of species, as described above in Section 5.4.1, *Environmental Setting*. Impacts to drainages may include filling, dredging, and pollution from proposed development or redevelopment of upstream land uses. General Plan Update implementation would not involve development along Little Dry Creek.

Full Buildout

The analysis of impacts under the 2035 scenario also applies to full buildout impacts.

Impact 5.4-7: Buildout of the General Plan Update could impact migratory birds. [Threshold BIO-4 (part)]

Impact Analysis:

2035 Scenario

Projects pursuant to implementation of the General Plan Update could cause nest abandonment by migratory birds protected under the Migratory Bird Treaty Act as well as state law. Impacts to vegetation used for nesting by

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migratory birds would include: vegetation removal, intrusion by humans, intrusion by domestic and feral cats and dogs, noise, and emissions of air pollutants including diesel emissions.

Full Buildout

The analysis of impacts under the 2035 scenario also applies to full buildout impacts.

Impact 5.4-8: Projects developed or redeveloped pursuant to the General Plan Update would comply with general plan policies. There are no habitat conservation plans or natural community conservation plans in effect in the Plan Area, and General Plan Update implementation would not conflict with any such plan. [Thresholds BIO-5 and BIO-6]

Impact Analysis:

2035 Scenario

The City of Clovis has no local ordinance protecting biological resources, such as a tree-preservation ordinance. Projects approved pursuant to the General Plan Update would comply with policies therein. No habitat conservation plans or natural community conservation plans are in effect in the Plan Area, and implementation of the General Plan Update would not conflict with any such plan. No impact would occur.

Full Buildout

The analysis of 2035 Scenario also applies to full buildout impacts.

5.4.4 Relevant General Plan Policies and Development Code Sections

The following are relevant policies of the proposed Clovis General Plan and Development Code Update that would reduce potential biological impacts of future development in the Plan Area.

General Plan

Open Space and Conservation Element

Goal 2: Natural, agricultural, and historic resources that are preserved and promoted as key features for civic pride and identity.

- **Policy 2.6 Biological resources** - Support the protection of biological resources through the conservation of high quality habitat area.
- **Policy 2.7 Native plants** - Encourage the use of native and climate-appropriate plant species and prohibit the use of plant species known to be invasive.
- **Policy 2.8 Urban forest** - Maintain and enhance a diverse and healthy urban forest on public and private lands.

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5.4.5 Existing Regulations and Standard Conditions

- Endangered Species Act
- Migratory Bird Treaty Act
- Clean Water Act
- California Fish and Game Code, Section 1600
- California Endangered Species Act

5.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant for both 2035 Scenario and Full Buildout: Impacts 5.4-5, 5.4-6, and 5.4-8.

Without mitigation, the following impacts would be **potentially significant** for both 2035 Scenario and Full Buildout:

- **Impact 5.4-1** General Plan Update implementation could impact plant species identified in Impact 5.4-1 which are listed as endangered or threatened under the federal and/or California endangered species acts and/or by the California Native Plant Society.
- **Impact 5.4-2** Projects developed pursuant to the General Plan Update could impact animal species enumerated in Impact 5.4-2 which are listed as endangered or threatened under the federal and/or California endangered species acts.
- **Impact 5.4-3** Developments pursuant to the General Plan Update could impact animal species identified in Impact 5.4-3 which are listed by the California Department of Fish and Wildlife as California species of special concern or California fully protected animals.
- **Impact 5.4-4** Buildout of the General Plan Update could impact sensitive vernal pool and riparian natural communities.
- **Impact 5.4-7** Implementation of the General Plan Update could impact migratory birds.

5.4.7 Mitigation Measures

Impacts 5.4-1, 5.4-2, 5.4-3, 5.4-4, and 5.4-7

2035 Scenario and Full Buildout

- 4-1 For each development or redevelopment project that would disturb vegetated, vacant land pursuant to the General Plan Update and subject to CEQA, a qualified biologist shall determine the potential for a potentially significant biological resource impact and determine whether a field survey of the project site is warranted. If warranted, a qualified biologist shall conduct a

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reconnaissance level field survey for the presence and quality of biological resources potentially affected by project development. These resources include, but are not limited to, special status species or their habitat, sensitive habitats such as wetlands or riparian areas, and jurisdictional waters. If sensitive or protected biological resources are absent from the project site and adjacent lands potentially affected by the project, the biologist shall submit a written report substantiating such to the City of Clovis before issuance of a grading permit by the City, and the project may proceed without any further biological investigation. If sensitive or protected biological resources are present on the project site or may be potentially affected by the project, implementation of Mitigation Measure 4-2 shall be required.

- 4-2 A qualified biologist shall evaluate impacts to sensitive or protected biological resources from development. The impact assessment may require focused surveys that determine absence or presence and distribution of biological resources on the site. These surveys may include, but are not limited to: 1) focused special status animal surveys if suitable habitat is present; 2) appropriately timed focused special status plant surveys that will maximize detection and accurate identification of target plant species; 3) a delineation of jurisdictional boundaries around potential waters of the United States or State. The results of these surveys will assist in assessing actual project impacts. Alternatively, the project applicant may forgo focused plant and animal surveys and assume presence of special status species in all suitable habitats on the project site. The qualified biologist shall substantiate the impact evaluation or the assumed presence of special-status species in all suitable habitats onsite in a written report submitted to the City of Clovis before issuance of a grading permit by the City.
- 4-3 Proponents of projects developed pursuant to the General Plan Update shall avoid potential impacts to sensitive or protected biological resources. Depending on the resources potentially present on the project site, avoidance may include: 1) establishing appropriate no-disturbance buffers around onsite or adjacent resources and/or 2) initiating construction at a time when special status or protected animal species will not be vulnerable to project-related mortality (e.g. outside the avian nesting season or bat maternal or wintering roosting season). Consultation with relevant regulatory agencies may be required in order to establish suitable buffer areas. If the project avoids all sensitive or protected biological resources, no further action is required. If avoidance of all significant impacts to sensitive or protected biological resources is not feasible, the project shall minimize such impacts as set forth in Mitigation Measure 4-4.
- 4-4 Proponents of projects developed pursuant to the General Plan Update shall design respective projects to minimize potential impacts to sensitive or protected biological resources in consultation with a qualified biologist and/or appropriate regulatory agency staff. In addition to an environmentally sensitive project design, other minimization measures may include: 1) exclusion and/or silt fencing; 2) relocation of impacted resources; 3) construction monitoring by a qualified biologist; and 4) an informative training program conducted by a qualified biologist for construction personnel on sensitive biological resources that may be impacted by project construction. If minimization of all significant impacts to sensitive or protected

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biological resources is infeasible, the project shall compensate for such impacts as set forth in Mitigation Measure 4-5.

- 4-5 A qualified biologist will develop appropriate mitigations that will reduce project impacts to sensitive or protected biological resources to a less than significant level. The type and amount of mitigation will depend on the resources impacted, the extent of the impacts, and the quality of habitats to be impacted. Mitigations may include, but are not limited to: 1) Compensation for lost habitat or waters in the form of preservation or creation of in-kind habitat or waters, either onsite or offsite, protected by conservation easement; 2) Purchase of appropriate credits from an approved mitigation bank servicing the Clovis General Plan Update Area; 3) Payment of in-lieu fees.

5.4.8 Level of Significance After Mitigation

The mitigation measures identified above would reduce potential impacts associated with biological resources to a level that is less than significant for both 2035 Scenario and Full Buildout. Therefore, no significant unavoidable adverse impacts relating to biological resources remain.