

## 3.5 Biological Resources

This section addresses the potential direct and indirect effects of implementation of the proposed General Plan on biological resources in the Lemoore Planning Area. The setting descriptions and impact analyses presented in this section are based on a review of existing documentation and biological databases, and correspondence with resource agencies.

### ENVIRONMENTAL SETTING

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The San Joaquin Valley historically supported a diverse assemblage of plant and animal species. The conversion of native and naturalized plant communities by agricultural development, road construction, and urbanization has significantly reduced available wildlife and plant habitat. As a result of this conversion, several species of both plants and animals have been extirpated from the San Joaquin Valley, and populations of other species have declined significantly as well. As a result, and as directed by State and federal legislation, the California Department of Fish and Game and the United States Fish and Wildlife Service have listed many San Joaquin Valley species as threatened, endangered, candidates for State or federal listing, “sensitive species”, “special-status species”, or “species of concern.” The likelihood of their appearance in the urban portions of the Planning Area is greatly reduced by the conversion of native grasslands, valley sink scrub, freshwater marsh, and riparian natural communities, which once dominated the Planning Area, to intensive agriculture.

### HABITAT

A wildlife habitat is an area that offers feeding, roosting, breeding, nesting, and refuge areas for a variety of bird and mammal species native to the region. Habitats are classified in broad terms with an emphasis on vegetation structure, and include other elements such as vegetation species composition, soil structure, and water availability.

The majority of the Planning Area is composed of agricultural land, with very few patches of valley sink scrub and Great Valley cottonwood riparian forest. Areas of native habitat exist in the western and southern portion of the Planning Area. While not fully mapped, according to CDFG these areas are characterized by valley sink scrub habitat with seasonally flooded vernal pools and other wetlands. This habitat type is rare in the region and generally supports sensitive species such as the Tipton kangaroo rat, blunt-nosed leopard lizard, and the San Joaquin kit fox. An 871-acre freshwater emergent wetland complex is located in the western portion of the Planning Area. This wetland follows an old overflow channel of the North Fork of the Kings River. Underground water originating from the Kings River and agricultural drainage and urban runoff supply the marsh, which is dominated by obligate wetland species, such as bulrush, saltgrass, and sedges (Urban Futures, 1997). Another large forested/shrub wetland is at the southern boundary of the Planning Area, south of Jackson Avenue. **Figure 3.5-1** shows the distribution of major vegetation and habitat within the Planning Area. **Table 3.5-1** provides the acreage data for the habitat types within the Planning Area.

**Table 3.5-1 Habitat Types in the Planning Area**

<i>Habitat Type</i>	<i>Acres</i>	<i>Percent of Total</i>
Valley Sink Scrub	16	< 1
Great Valley Cottonwood Riparian Forest	64	1
Wetlands	706	6
Freshwater Pond	8	<1
Agricultural Land	7,282	59
Urban Land	4,151	34
<b>Total</b>	<b>12,227</b>	<b>100</b>

*Source: Natural Resources Conservation Service, 1994; USFWS Wetland Mapper, 2007.*

### **Agriculture**

Almost 59 percent of the habitat in the Planning Area is agriculture (approximately 7,300 acres), which can be broken down into several key categories including cropland, orchard, and vineyard. Agriculture habitats occur throughout the Planning Area in large adjoining parcels. Croplands comprise the majority of the agricultural lands; vegetation includes a variety of sizes, shapes, and growing patterns. Plants may either be annual (e.g. tomatoes) or perennial (e.g. alfalfa), and when grown in rows provide a varying amount of bare ground between rows. Annual crops are usually planted in spring and harvested in summer or fall. However, they may be planted in rotation with other irrigated crops. Some agriculture fields are flooded; this flooding may be required by the type of crop produced (e.g. rice), or may be a management tool to meet other objectives. Orchards and vineyards typically are composed of a single species, and are evenly spaced in uniform rows. Crops are typically grown on the most fertile soils, and typically have lower habitat values than the native habitats they replaced.

Numerous wildlife species, such as rodents and birds have adapted to agricultural areas. Agricultural lands can provide benefits to wildlife. Wildlife species, including raptors are known to forage in agricultural fields seasonally. Flooding of agricultural fields in the fall and winter often provides foraging and breeding habitat for waterfowl, while open irrigation ditches and canals provides potential movement corridors and foraging habitat for many species. Agricultural habitats can provide food and water for many species, however, they generally do not provide long-term shelter due to the frequency of disturbance. While these lands are repeatedly disturbed, patches, or large areas of sensitive habitat, such as vernal pools can occur. Freshwater emergent wetlands and vernal pools are known to exist in the western portion of the Planning Area, in agricultural lands.

### **Wetlands**

Within the Planning Area, water habitats can be composed of flooded agricultural fields, riverine and lacustrine habitat, or freshwater emergent wetlands (also referred to as “marsh”). The amount of water present in the Planning Area will vary seasonally. Riverine habitats are composed of rivers and streams (e.g. Lemoore Canal) or irrigation ditches and are defined by the presence of permanent or intermittent running water. Lacustrine habitats are primarily ponds containing open standing water. These habitats provide roosting, foraging and cover

opportunities for numerous species, including waterfowl, sandhill cranes (*Grus canadensis*) and western pond turtles (*Emys marmorata*).

The freshwater marsh in the western Planning Area within existing City limits is relatively undisturbed by farming, and appears to have been used only for light grazing in the recent past. This marsh provides habitat for wildlife, particularly water birds. The mix of emergent vegetation, open water, and drier sites covered by a low growth of saltgrass provides a mosaic of open areas and dense cover that are prime nesting areas for marsh birds, such as marsh wren, and song sparrow. The marsh is very productive for insects, crustaceans, amphibians (particularly bullfrogs), and aquatic plant life, which serve as a food source for many of the birds. Wildlife use of the marsh changes with each season; migratory birds stop over in the fall and spring, while water birds such as ducks, geese, sandhill cranes, and migratory raptors winter in the marsh. Their presence is sometimes limited by seasonal hunting activities. These wetlands also provide an area where urban stormwater is treated by natural processes, and acts as a receiving area that reduces potential for flooding of adjacent agricultural properties.

The City of Lemoore has historically discharged much of its storm water runoff into irrigation canals. While ditch users typically desired an opportunity to use surplus drainage water in dry years, the downstream property owners complained of localized flooding during wet years. Farmers had also expressed concerns about the possible negative impacts to water quality from potential pollutants that could be carried in urban runoff. In response to these problems, the City of Lemoore, working with property owners, ditch companies and the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS), cosponsored a project to convert approximately 871 acres of marginal farmland south and west of the original wetlands into re-created wetlands. Existing City storm water is currently diverted to the original wetlands. However, as development occurs on the Westside of SR-41, stormwater drainage will continue to be diverted towards the re-created wetlands, and appropriate infrastructure will need to be installed to allow for proper flow rates so that the entry point or points into the area will not be adversely affected by erosion. Pre-treatment will also ensure that wetlands are not adversely effected by pollution.

Another large wetlands complex is located in the south just outside of the Planning Area (USFWS, 2007). Other small wetlands are located along SR-198, and in areas adjacent to the Lemoore Canal, which, while graded and devoid of riparian vegetation, does have a natural substrate and allows for infiltration. These small wetlands are likely supplied by groundwater and infiltration from the canal.

### **Valley Sink Scrub**

Approximately 16 acres of valley sink scrub can be found in the southern portion of the Planning Area. Valley Sink Scrub is a low succulent scrubland dominated by alkali-tolerant species, especially iodine bush (*Allenrolfea occidentalis*). There is usually no understory, though sparse herbaceous cover of foxtail chess (*Bromus madritensis ssp. rubens*) sometimes develops. This community formerly surrounded the large San Joaquin Valley lakes (Kern, Buena Vista, Tulare, Goose) and along the San Joaquin Valley through Merced County to Solano and Glenn counties west of the Sacramento River. Valley Sink scrub has now been essentially extirpated by flood control, agricultural development, and ground water pumping (Holland 1986).

### **Great Valley Cottonwood Riparian Forest**

Approximately 64 acres of riparian forest can be found in the southwestern-most portion of the Planning Area. Great Valley cottonwood riparian forest is a dense, broad-leafed, winter deciduous riparian forest dominated by Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) and Goodding's black willow (*Salix gooddingii*). The understory is usually dense, with abundant vegetative reproduction of canopy dominants and California wild grape is the most conspicuous vine. Scattered seedlings and saplings of shade-tolerant species such as box elder (*Acer negundo* var. *californica*) or Oregon ash (*Fraxinus latifolia*) may be found, but frequent flooding prevents their reaching into the canopy. This habitat type is usually found along the major low-gradient streams throughout the Great Valley, but is now reduced to scattered, isolated remnants or young stands because of flood control, water diversion, agricultural development, and urban expansion (Holland, 1986).

### **Urban**

Large portions of the Planning Area (over 4,150 acres) are best characterized as urban habitat. A distinguishing feature of the urban wildlife habitat is the mixture of native and exotic species. This habitat type varies structurally, and can be categorized into three zones: downtown, urban residential, and suburbia. Downtown, the most heavily developed, is located at the center of the Planning Area, followed by concentric zones of decreasing development and increasing vegetative cover through urban residential to the suburbs. Both native and exotic plant species are valuable, with exotic species providing a good source of additional food in the form of fruits and berries, and cover. The richness and diversity of wildlife increases along this same gradient. These areas provide cover and foraging opportunities for some wildlife species, especially those adapted to human disturbance. Common examples include raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), northern mockingbird (*Mimus polyglottos*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), and European starling (*Sturnus vulgaris*).

### **SPECIAL STATUS SPECIES**

Special status species are those plants and animals that, because of their acknowledged rarity or vulnerability to various causes of habitat loss or population decline, are recognized in some fashion by federal, State, or other agencies as deserving special consideration.

According to records maintained by the California Natural Diversity Database (CNDDB), no sensitive status plant species occur within the Planning Area. The CNDDB does indicate that approximately 400 acres of land located in the northwest corner of the Planning Area is considered potential habitat for the San Joaquin kit fox, a federally-listed Endangered and California Threatened species. The CNDDB also notes occurrences of Tipton kangaroo rat, a State and federally-listed Endangered species, along the southern boundary of the Planning Area.

Also, according to CDFG, other species potentially occurring in the Planning Area includes the Fully Protected blunt-nosed leopard lizard, the State Species of Special Concern, western pond turtle, and the State Threatened Swainson's hawk. Further, while the sandhill crane, a State-listed Threatened species, is not noted in the CNDDB database, it is common knowledge to biologists, birders, and residents of the Central Valley that they do indeed frequent valley marshlands and

may occur in the wetland complex in the western portion of the planning area. Other sensitive status species with documented occurrences in the Planning Area are northern harrier, white-tailed kite, ferruginous hawk, tricolored blackbird. Further, a large population of burrowing owl occurs throughout the NAS Lemoore, and can be presumed to occur in the Planning Area as well. **Figure 3.5-1** illustrates the potential habitat areas for special status species located within and just outside of the Planning Area. Provided below is a brief description of the special status species known to occur, or have a high likelihood to occur in the Planning Area.

Blunt-nosed Leopard Lizard (*Gambelia sila*) is a Fully Protected species. The blunt-nosed leopard lizard occurs in open, sparsely vegetated, relatively flat areas on the valley floor and the surrounding foothills. Habitat types where this species is known to occur include alkali playas, alkali saltbush scrub, and also in chenopod scrub communities which are associated with non-alkaline, sandy soils. These burrows typically include abandoned ground squirrel tunnels and occupied or abandoned kangaroo rat tunnels (USFWS 2002).

Western pond turtle (*Clemmys marmorata marmorata*) is a California Species of Special Concern associated with permanent or nearly permanent water in a wide variety of habitats. It requires rocks, logs, or exposed soil for basking sites and may nest up to 0.3-mile (0.5-km) away from water (USFWS 2002). A previous biological survey noted this species occurrence in the 697-acre wetland complex in the western Planning Area.

San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally-listed Endangered and California Threatened species. San Joaquin kit foxes inhabit grasslands and scrublands, many of which have been extensively modified by oil exploration and extraction, wind turbines, and agricultural mosaics of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands. Oak woodland, alkali-sink scrub, and vernal pool and alkali meadow communities also provide habitat for the San Joaquin kit fox. Kit foxes construct their own dens, but they can also enlarge or modify burrows constructed by other animals, such as ground squirrels, badgers, and coyotes. They also den in human-made structures, such as culverts, abandoned pipes, and banks in roadbeds. Dens are usually scarce in areas with shallow soils due to the proximity to bedrock, high water tables, or impenetrable hardpan layers (Williams et al., 1997). The CNDDDB contains a record of this species in the northwestern portion of the Planning Area, but outside of the UGB.

Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*) is a federal and State Endangered species. Tipton kangaroo rats inhabit arid-land with level or nearly level terrain located within the floor of the Tulare Basin in the southern San Joaquin Valley. Many of the presently inhabited areas have one or more species of woody shrubs, such as saltbush, iodine bush, goldenbush, and honey mesquite, and a ground cover dominated by introduced and native grasses and forbs. Burrows are commonly located in slightly elevated mounds, road berms, canal embankments, railroad beds, and bases of shrubs and fences. Soft soils, such as fine sands and sandy loams, and powdery soils of finer texture and of higher salinity generally support higher densities of Tipton kangaroo rats than other soil types. Terrain not subject to flooding is essential to sustain a population of Tipton kangaroo rats (Williams et al., 1997). The CNDDDB notes occurrences along the southern boundary of the Planning Area, outside of the UGB.

Swainson's hawk (*Buteo swainsoni*) is listed as a Threatened species under the California Endangered Species Act and is also Fully Protected against take pursuant to Section 3503.5 of the

Fish and Game Code of California and the Federal Migratory Bird Treaty Act. The Swainson's hawk is a relatively large bird-of-prey that typically nests in large trees in riparian corridors as well as in isolated trees remaining in or adjacent to agricultural fields in the Central Valley. Swainson's hawks require suitable nest trees adjacent to or in close proximity to large open agricultural fields, grasslands, and pastures that have an abundant prey base. Breeding occurs in late March to late August. This species forages in open grassland habitats and has adjusted to foraging in certain types of agricultural lands. These raptors typically forage within a 10-mile radius of nest sites but may range up to 18 miles from a nest site in search of suitable foraging habitat and available prey. (Williams et al., 1997).

Ferruginous hawk (*Buteo regalis*) is a California Species of Special Concern. The wintering grounds for the ferruginous hawk consist of open grasslands. A previous occurrence of this species was noted in the wetland complex in the western portion of the Planning Area (Urban Futures, 1997).

Northern harrier (*Circus cyaneus*) is a California Species of Special Concern that nests in wet meadows and tall grasslands, and forages in grasslands and marshes. A previous occurrence of this species was noted in the large wetland complex in the western Planning Area (Urban Futures, 1997).

White-tailed kite (*Elanus leucurus*) is a Federal Species of Concern and a California Fully Protected species. The white-tailed kite forages in open plains, grasslands, and prairies; typically nests in trees. A previous occurrence of this species was noted in the wetland complex in the western Planning Area (Urban Futures 1997).

Burrowing owl (*Athene cunicularia*) is a California Species of Special Concern that forages in open plains, grasslands, and prairies, and typically nests in abandoned small mammal burrows. Medium. The Planning Area contains potentially suitable habitat and is within the range of this species. A relatively large population of burrowing owls occurs at Naval Air Station Lemoore (Rosenberg et al, 1998).

**INSERT -- Figure 3.5-1: SSPs and Vegetation and Habitat**

Back



Sandhill crane (*Grus canadensis tabida*) is listed as a Threatened species under the California Endangered Species Act. This species is known to breed on the plains east of the Cascade Range and south to Sierra County and winters in the Central Valley, southern Imperial County, Lake Havasu National Wildlife Refuge, and the Colorado River Indian Reserve. The sandhill crane summers in open terrain near shallow lakes or freshwater marshes and winters in plains and valleys near bodies of fresh water (USFWS 2006).

Tricolored blackbird (*Agelaius tricolor*) is a California Species of Special Concern which is most numerous in the Central Valley and surrounding areas. This species requires open water, protected nesting substrate, and foraging grounds within vicinity of the nesting colony. The Tricolored blackbird nests in dense thickets of cattails, tules, willow, blackberry, wild rose, and other tall herbs near fresh water. Also nests in crops such as silage. A previous occurrence of this species was noted in the large, 697-acre wetland complex (Urban Futures 1997).

Additional information on each of the known and potential special status species located within and near the Planning Area is provided in Appendix C, List of Special Status Species within the Lemoore Area.

### **Wildlife Corridors**

Open Space in the Planning Area provides movement corridors for regional wildlife. For the Planning Area, these corridors include the Kings River, which is just west of the Planning Area, Lemoore Canal, and other smaller watercourses. Larger agricultural and grassland areas may also serve as areas for regional wildlife movement, foraging, and dispersal corridors. Riparian vegetation associated with local watercourses, and the freshwater marsh along Marsh Drive may also provide cover for migrating or non-migrating birds and mammals.

Figure 3.5-1 illustrates the potential habitat areas for special status species, vegetation, and habitats located within and just outside of the Planning Area.

## **REGULATORY SETTING**

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Relevant federal, State, and local guidelines specific to biological resource issues are discussed in this section.

### **Federal Regulations**

**Clean Water Act Section 404.** Wetlands and other waters of the U.S. are subject to jurisdiction by the U.S. Army Corps of Engineers (“Corps”) and EPA under Section 404 of the Clean Water Act. Wet areas that are not regulated by this act would include stock watering ponds, agricultural ditches created in upland areas, and isolated wetlands that do not have a hydrologic link to other waters of the U.S., either through surface or subsurface flow. The discharge of fill into a jurisdictional feature requires a permit from the Corps.

The Corps has the option to issue a permit on a case-by-case basis (individual permit) or at a program level (general permit). Nationwide permits (NWP) are an example of general permits; they cover specific activities that generally have minimal environmental effects. Activities covered

under a particular NWP must fulfill several general and specific conditions, as defined by the NWP. If a proposed project cannot meet these conditions, an individual permit may be required.

***Federal Endangered Species Act.*** The U.S. Fish and Wildlife Service (USFWS) administers the Federal Endangered Species Act (16 USC Section 153 et seq.) and thereby has jurisdiction over federally-listed threatened, endangered, and proposed species. Projects that may result in “take” of a listed species must consult with the USFWS. Federal agencies that propose a project that may affect a listed species are required to consult with the USFWS under Section 7 of the Federal Endangered Species Act. If it is determined that a federally listed species may be adversely affected by the federal action, the USFWS will issue a Biological Opinion to the federal agency that describes minimization and avoidance measures that must be implemented as part of the federal action. Projects that do not have a federal nexus must apply for a take permit under Section 10 of the Act. Section 10 of the Act requires that the project applicant prepare a habitat conservation plan as part of the permit application.

Under the Federal Endangered Species Act the USFWS designates Critical Habitat, areas that are essential for the conservation of a threatened or endangered species and which may require special management considerations. A Critical Habitat designation only applies to projects with a federal nexus; it has no specific regulatory impact on landowners who take actions on their land that do not involve federal funding, permits, or other federal action. However, federal agencies must consult with the USFWS before taking actions that could harm or kill protected species or destroy their habitat.

***Federal Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act.*** The Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the U.S. Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of Prey are protected in California under the State Fish and Game Code (Section 3503.5, 1992). Section 3503.5 state that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a “taking” by the CDFG. The Bald and Golden Eagle Protection Act (16 USC Section 668) protects these birds from direct take. The Bald and Golden Eagle Protection Act prohibits the take or commerce of any part of these species. The USFWS administers both acts, and reviews federal agency actions that may affect species protected by the acts.

## **State Regulations**

***California Fish and Game Code Sections 1600 – 1616.*** The CDFG regulates the modification of streams, rivers, and lakes under Sections 1600 – 1616 of the California Fish and Game Code. Modification includes diverting, obstructing, or changing the natural flow or bed, channel, or bank of a regulated feature. While most of the features regulated by the Fish and Game Code meet the definition of other waters of the U.S., the Code may regulate some ephemeral features that do not have all the criteria to qualify as other waters of the U.S. A project proponent, including both private parties and public agencies, proposing an activity that may modify a feature regulated by the Fish and Game Code must notify the CDFG before project construction.

The CDFG will then decide whether to enter into a Streambed Alteration Agreement with the project proponent. The State Water Resources Control Board (SWRCB), acting through the Regional Water Quality Control Board (RWQCB), must certify that a Corps permit action meets State water quality objectives (Section 401 of the federal Clean Water Act).

*California Fully Protected Species.* Prior to the enactment of the California Endangered Species Act (CESA), the CDFG used the designation of “Fully Protected” to identify species that had been given special protection by the California legislature by a series of statutes codified in Sections 3503.5, 3505, 3511, 3513, 4700, 4800, 5050, and 5515 of the California Fish and Game Code. Many fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations; however, because the original statutes have not been repealed, the legal protection they give the species identified within them remains in place. Fully protected species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Because endangered or threatened species can be “taken” for development purposes with the issuance of a permit by the CDFG, fully protected species actually enjoy a greater level of legal protection than listed species.

*California Endangered Species Act.* The California Department of Fish and Game (CDFG) administers the California Endangered Species Act of 1984 (Fish and Game Code Section 2080), which regulates the listing and “take” of endangered and threatened species. A “take” may be permitted by CDFG through implementing a management agreement. Under the State laws, the CDFG is empowered to review projects for their potential impacts to listed species and their habitats.

CDFG maintains lists for Candidate-Endangered Species and Candidate-Threatened Species. California candidate species are afforded the same level of protection as listed species. California also designates Species of Special Concern (CSC) which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species, but may be added to official lists in the future. The CSC list is intended by CDFG as a management tool for consideration in future land use decisions.

*CEQA Guidelines Section 15380.* Although threatened and endangered species are protected by specific federal and State statutes, CEQA Guidelines section 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare, endangered, or threatened if the species can be shown to meet certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the Guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on, for example, a “candidate species” that has not yet been listed by either the USFWS or CDFG. Thus, CEQA provides an agency with the ability to protect a species from a project’s potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

### **Other Statutes, Codes, and Policies Affording Limited Species Protection**

The legal framework and authority for the State's program to conserve plants are woven from various legislative sources, including CESA, the California Native Plant Protection Act (Fish and Game Code Section 1900 – 1913), the CEQA Guidelines, and the Natural Communities Conservation Planning Act.

Vascular plants listed as rare or endangered by the California Native Plant Society (CNPS; Skinner and Pavlik, 1995), but which may have no designated status or protection under federal or State endangered species legislation, are defined as follows:

- *List 1A*: Plants Presumed Extinct.
- *List 1B*: Plants Rare, Threatened, or Endangered in California and elsewhere.
- *List 2*: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere.
- *List 3*: Plants About Which More Information is Needed – A Review List.
- *List 4*: Plants of Limited Distribution – A Watch List.

In general, plants appearing on CNPS List 1A, 1B, or 2 are considered to meet the criteria of Section 15380 of the CEQA Guidelines, which define endangered, rare and threatened species. Additionally, plants listed on CNPS List 1A, 1B or List 2 meet the definition of Section 1901, Chapter 10 (Native Plant Protection Act) and Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code.

## **IMPACT ANALYSIS**

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### **SIGNIFICANCE CRITERIA**

Implementation of the proposed General Plan would have a potentially significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- 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 Game or US Fish and Wildlife Service;
- 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;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### **METHODOLOGY AND ASSUMPTIONS**

This evaluation of biological resource impacts includes a review of vegetation and wildlife habitat, special-status species, and jurisdictional “waters of the United States” with the potential to occur at or in the vicinity of the Planning Area. The results of this assessment are based upon limited field reconnaissance of the Planning Area, literature searches, and database queries. The sources of reference data reviewed include the following:

- U.S. Fish and Wildlife Service (USFWS) Species List for the following USFWS Quadrangles: Lemoore, Vanguard, Burrel, Riverdale, Laton, Hanford, Guernsey, and Stratford (USFWS, 2007).
- California Natural Diversity Database (CNDDDB), Rarefind 3 computer program (CDFG, 2007a) for a 9-quad search centered on the Lemoore, California USGS quadrangle.
- California Native Plant Society (CNPS), Electronic Inventory computer program (CNPS, 2006) for a 9-quad search centered on the Lemoore, California USGS quadrangle.
- California Department of Fish and Game (CDFG) Special Vascular Plants, Bryophytes, and Lichens List (CDFG, 2007b).
- CDFG Special Animals List (CDFG, 2006).
- California Department of Forestry and Fire Protection (CDF 2002) Multi-source Land Cover Data v2.
- USFWS Wetlands Geodatabase, Wetland Inventory, 2007.

### **SUMMARY OF IMPACTS**

Development under the proposed General Plan would largely be on land contiguous to existing development, primarily expanding to developable sites within the UGB. However, many special status animal species utilize the wetland complex in the western portion of the Planning Area for habitat, foraging, and breeding. Agricultural lands within the Planning Area also provide habitat for a variety of species. Valley sink scrub habitat along the southern boundary the Planning Area provides habitat for numerous special status plant and animal species as well. Species which could be impacted by development under the proposed Plan include, but are not limited to: Blunt-nosed leopard lizard, Western pond turtle, San Joaquin kit fox, Tipton kangaroo rat, Swainson’s

hawk, ferruginous hawk, Northern harrier, white-tailed kite, burrowing owl, sandhill crane, and tricolored blackbird. The proposed General Plan provides mitigating policies which reduce these impacts. However, due to the amount of land conversion to urban uses, and indirect impacts such as noise, light, and air pollution, the impact on sensitive species, their movement corridors, and vegetative communities is considered significant and unavoidable.

Areas with known riparian habitat, such as the western wetland complex and the cottonwood riparian forest would not be subject to development under the proposed General Plan. It can be assumed that some drainages in the UGB could support riparian habitat. However, most drainages within the Planning Area are concrete lined and not likely to support riparian vegetation. The proposed General Plan does provide policies which protect and preserve riparian and wetland habitats, and would reduce impacts to less than significant.

The existing wetlands complex within City Limits is being preserved and expanded under current policy. Furthermore, the proposed General Plan provides new policies which prohibit the filling in of wetlands, establish a “no net loss” standard for sensitive habitat acreage (including wetlands and vernal pools), require buffering of existing wetlands, and place restrictions on use of invasive exotic plant species – thereby reducing impacts to less than significant.

The Lemoore General Plan would not conflict with the provisions of an adopted habitat conservation plan or other approved conservation plan. Implementation of the proposed General Plan also would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

## **IMPACTS AND MITIGATION MEASURES**

### **Impact**

#### **3.5-1 Implementation of the proposed General Plan could result in substantial adverse effects on candidate, sensitive, or special status species, their habitats, or other sensitive vegetation communities. (*Significant and Unavoidable*)**

Sensitive vegetation communities or habitats in the Planning Area include small areas of valley sink scrub, great valley riparian cottonwood forest, and wetlands (including vernal pool areas), of which many of these areas provide foraging, breeding and/or nesting habitat for various special status species (e.g., burrowing owls, San Joaquin kit fox, tricolored blackbird, etc.) in addition to a variety of common plant and wildlife species. Large portions of the Planning Area are currently composed of agricultural lands that also provide foraging habitat and movement corridors for various species including white-tailed kite and Swainson’s hawks. Overall, land within and adjacent to the Planning Area has the potential for high wildlife diversity and an abundant wildlife population, in particular the large open space areas to the west of the Planning Area (i.e., grasslands, etc.) that provide important foraging, dispersal, and migratory corridors for many sensitive wildlife species. Development resulting from build-out of the proposed General Plan, while affecting only a portion of the habitat within the larger Planning Area, will result in both direct and indirect significant impacts to plants and wildlife occurring in the Planning Area.

Buildout of the Lemoore General Plan will allow for the introduction of development (predominately residential land uses) into farmlands. Such construction has the potential to result in a significant impact on sensitive habitats, individual plants, and wildlife species. The primary impact will be the removal of sensitive habitats for building pad development and the construction of buildings, infrastructure and roadways. Additional impacts will result from increased erosion from roadways, and the introduction of non-native weed species. The introduction of developed land uses will also result in the elimination of habitat and food resources for wildlife through the removal of vegetative communities. The introduction of new sources of light and glare could affect nesting habitat and migratory corridors. These effects may be particularly pronounced for wildlife species with low tolerance for habitat modification or disturbance, especially some riparian bird and reptile species.

Swainson's hawk, ferruginous hawk, northern harrier, white-tailed kite, tricolored blackbird, and pond turtle have been known to occur in the wetland complex in the westernmost portion of the Planning Area, just outside of the UGB. Sandhill cranes and other marsh birds could occur in ponds associated with this wetland complex as well. Numerous other species have potential to occur in other small wetlands other drainages in the Planning Area and within the UGB. Project construction and development in or adjacent to drainages could potentially result in loss of habitat or mortality for these species. That said, the areas with known wetlands are not proposed for development under the proposed General Plan, and many are outside of the UGB. While development under the proposed General Plan is not proposed in known wetland habitat areas, indirect impacts to these species and their wetland habitat could occur.

Trees and shrubs throughout the Planning Area and within the UGB may provide potential nesting habitat for a number of protected migratory bird and raptor species (Swainson's hawk). Project construction could potentially result in mortality or disruption of nesting of these species.

Valley sink scrub habitat along the southern boundary the Planning Area, also provides habitat for numerous special status plant and animal species such as the Tipton kangaroo rat, blunt-nosed leopard lizard, and the San Joaquin kit fox. Most of this habitat area is separated from the UGB and the Planning Area by Jackson Avenue, yet approximately 15 acres are within the UGB and in an area with planned industrial uses. As development under the proposed General Plan is proposed in this habitat area, direct impacts to the 15 acres within the UGB, and indirect impacts to remaining adjacent sink scrub habitat could occur. **Table 3.5-2** demonstrates the habitat conversion that could result from implementation of the proposed General Plan.

**Table 3.5-2 Potential Habitat Conversion at Buildout (acres)**

<i>Habitat Type</i>	<i>Existing</i>	<i>Remaining After Buildout</i>	<i>Net Loss</i>
Valley Sink Scrub	16	1	15
Great Valley Cottonwood Riparian Forest	64	64	0
Wetlands	706	706	0
Freshwater Pond	8	1	7
Agricultural Land	7,282	3,981	3,301
<b>Total</b>	<b>8,076</b>	<b>8,076</b>	<b>3,323</b>

Source: Dyett & Bhatia, 2007.

Therefore, development of the opportunity areas within the UGB has the potential to impact sensitive status species and sensitive vegetation communities. Compliance with federal and State law through obtaining required permits, as well as policies in the proposed General Plan (listed below) would reduce the potential for adverse impacts. Further, as part of the development review process, site-specific biological resources assessments are required to consider the impacts on sensitive habitats and special status species. Appropriate mitigation measures to reduce impacts to sensitive habitats and special status species would be imposed on a project-by-project basis according to Lemoore’s environmental review process and consultation with appropriate State and federal regulatory agencies. However, even with implementation of the following General Plan policies and mitigation measures, potential impacts on sensitive status species, habitat, and wildlife corridors is considered significant and unavoidable primarily due to the conversion of agricultural land and valley sink scrub (sources of habitat and food for various sensitive status species) to urban uses.

***Proposed General Plan Policies and Actions that Reduce the Impact***

Implementation of the following proposed General Plan policies would reduce the impact; however, this impact would remain significant and unavoidable.

- COS-I-10      Require protection of sensitive habitat areas and “special status” species in new development in the following order: 1) avoidance; 2) onsite mitigation, and 3) offsite mitigation. Require assessments of biological resources prior to approval of any development within 300 feet of any creeks, sensitive habitat areas, or areas of potential sensitive status species.

*The term “special status” species includes species classified as rare and endangered. These priorities are consistent with the California Department of Fish and Game guidelines. When habitat preservation on-site is not feasible (i.e., preserved parcels would be too small to be of any value), then off-site mitigation should occur.*

- COS-I-11      Periodically monitor existing and future stormwater drainage system pre-treatment and flows entering wetlands.

*The City will impose monitoring requirements as part of development projects’ mitigation monitoring and reporting requirements under CEQA where a project could have a potentially significant impact on wetlands.*



COS-I-12 Require drainage basin buffers, maintenance of adequate water supply and reduced disturbance of the water table and wetlands systems.

COS-I-13 Establish a “no net loss” standard for sensitive habitat acreage, including wetlands and vernal pools potentially affected by development.

*The City will require that assessments for individual projects and Plan implementation activities are conducted by a qualified biologist to determine the presence or absence of any sensitive resources, to assess the potential impacts, to identify measures for protecting the resource and surrounding buffer habitat and to ensure that the no net loss standard is achieved and maintained.*

COS-I-14 Consult with trustee agencies (California Department of Fish and Game, U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers, Environmental Protection Agency, and Regional Water Quality Control Board) during environmental review of individual projects and Plan implementation activities when special status species, sensitive natural communities, or wetlands or vernal pools may be adversely affected.

*Applicants will be required to consult with all agencies with review authority for projects in areas supporting wetlands and special status species at the outset of project planning.*

COS-I-15 Prohibit the use of invasive plant species, such as Pampas grass, adjacent to wetlands and other sensitive habitat, where such landscaping could adversely impact wildlife habitat.

COS-I-25 Reduce the use of pesticides, insecticides, herbicides, or other toxic chemical substances by households and farmers by providing education and incentives for Integrated Pest Management (IPM) practices.

*IPM is an approach to plant care that uses biological controls instead of, or in conjunction with, chemical controls. IPM does not necessarily eliminate the use of pesticides and other chemical controls, but it strives to use them as sparingly as possible. Utilize regional resources such as the UC Davis Extension for informational materials and technical support.*

CD-I-11 Preserve and protect heritage trees:

- Adopt a Tree Protection Ordinance;
- Require developers to preserve protected trees and submit an inventory and a site plan showing the location of all trees prior to any grading, demolition, or site work. Cutting of protected trees will require a permit and will only be allowed if trees are diseased, dying, or pose a danger to human activity; and
- Require developers replace a similar tree of like size and species within 50 feet of its original location if a protected tree is removed during construction.

*The Tree Protection Ordinance will also stipulate which trees qualify as heritage trees by type and size, permit application details, inventory requirements, violation fines, maximum number of tree cuttings allowed per acreage of development, and different standards pertaining to heritage trees, old oak trees, riparian vegetation, and trees of community interest. These trees typically include Valley Oak, Magnolia Ash, California Sycamore, Cottonwood, Modesto Ash, Italian Stone Pine, California Fan Palm and Eucalyptus.*

No additional mitigation is feasible.

### **Impact**

- 3.5-2 Implementation of the proposed Lemoore General Plan could have a substantial adverse effect on riparian habitat identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. (*Less than Significant*)**

The great valley riparian cottonwood forest is in the southwestern-most portion of the Planning Area; however, this area is well outside of the UGB and would not be subject to development under the proposed General Plan. The large wetland complex in the western portion of the Planning Area just outside of the UGB does contain riparian habitat, but it too is preserved and maintained under City policy and is not subject to development under the proposed General Plan. It can be assumed that other drainages in the UGB have some riparian habitat as well. Riparian habitats support a variety of plant and wildlife species along watercourses or water bodies adaptable to seasonal flooding. However, the proposed General Plan imposes a policy which requires biological assessments within 300 feet buffers around wetlands and riparian habitat. The preservation of biological resources is a goal of the proposed General Plan, and with implementation of the policies listed under Impact 3.5-1, this impact would be less than significant.

#### ***Proposed General Plan Policies and Actions that Reduce the Impact***

Policies that would mitigate this impact are listed under Impact 3.5-1. No additional mitigation is needed.

### **Impact**

- 3.5-3 Development under the proposed General Plan could have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act**

(including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. (*Less than Significant*)

Kings River and its tributaries receive protection under Section 404. Wetlands associated with these drainage features (i.e. in-stream, stream fringe, and wetlands in proximity of streams), such as the large emergent freshwater wetland in the western Planning Area, also potentially receive protection under Section 404. Another wetland area along the southernmost boundary of the UGB exists, and is adjacent to the sink scrub habitat. Additional minor drainage features and wetlands occur and could potentially receive protection under Section 404.

Potential impacts in the form of temporary or permanent loss due to filling of wetlands or other waters, could result from new development within or in the vicinity of these wetlands and other waters. Intensive development and inadequate buffers threaten streams, ponds, wetlands, and protected open space lands. Riparian corridors, marshlands, and wetlands can be altered by filling, removal of vegetative cover, and other modifications, eliminating their habitat values and functions. Wetlands and other sensitive resources can also be indirectly affected by development as a result of water quality degradation, lighting, introduction and spread of invasive exotic species, and increased activity of humans and pets.

No direct modifications to known wetlands follow from development under the proposed General Plan. Areas with known wetlands are not proposed for development, and the majority of wetland areas are outside of the UGB. The General Plan policies listed in Impact 3.5-1 provide appropriate programmatic mitigation measures; additional site-specific measures will be identified during CEQA review of specific development proposals made to the City. Prior to new development in areas with potential federally or State protected wetlands or waters, applicants will be required to coordinate with the Corps, CDFG, and RWQCB depending on the jurisdiction potentially affected. Coordination will include evaluation of existing wetlands and waters and development of avoidance, minimization, and/or compensatory measures sufficient to procure the necessary permits from the applicable agencies. The combination of proposed policies and existing laws which protect wetlands further ensures that these impacts would be less than significant.

***Proposed General Plan Policies and Actions that Reduce the Impact***

Policies that mitigate this impact are listed under Impact 3.5-1. No additional mitigation is needed.

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