# 4.9 BIOLOGICAL RESOURCES

## INTRODUCTION

This section discusses the biological resources found in Fresno County and impacts associated with development under the Draft General Plan. Anticipated growth within Fresno County could affect common and special-status plant and wildlife species and the various habitats they depend upon for survival. Because Fresno County spans between the high sierras to the east and central coast range to the west, a wide variety of habitats occur within the county borders.

## ENVIRONMENTAL SETTING

A detailed description of each habitat type in Fresno County is provided in Chapter 7.6, Natural Resources, Biological Resources, of the *Fresno County General Plan Background Report (Background Report)*, which is hereby incorporated by reference, and summarized below.

### Plant and Wildlife Habitat

Fresno County supports a rich variety of habitat types as defined by the Wildlife Habitat Relationship (WHR) which include the following 28 habitats: annual/ruderal grassland, valley oak woodland, pasture, cropland, valley-foothill riparian, fresh emergent wetland, lacustrine, blue oak woodland, blue oak-foothill pine woodland, mixed chaparral, chamise-redshank chaparral, vernal pool, alkali scrub, orchard-vineyard, montaine chaparral, montaine hardwood-conifer, montaine riparian, sierran mixed conifer, ponderosa pine, Jeffery pine, white fir, lodgepole pine, subalpine, conifer, alpine dwarf scrub, wet meadow, bitterbush, and juniper.

### Special-Status Species

Over 164 special-status plant and wildlife species are known to occur in Fresno County. Special-status plants and wildlife have been designated as "rare," "threatened," "endangered," or "species of concern," under federal or state endangered species legislation, by state resource agencies, or by groups such as the California Native Plant Society (CNPS). The special-status species with potential to occur in Fresno County were determined by review of the California Natural Diversity Data Base (CNDDB) and CNPS electronic inventory of vascular plants. In general, special-status species are associated with a specific habitat such as vernal pools, chaparral, oak woodland, or riparian corridors, however some species can utilize common habitat such as cropland. Table 4.9-1, found at the end of this section, lists each species, status, general habitat description requirements, and known presence by geographic area.

## REGULATORY SETTING

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local level. Agencies with responsibility for protection of biological resources in Fresno County are:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States),
- U.S. Fish and Wildlife Service (endangered species and migratory birds),
- California Department of Fish and Game (waters of the State, endangered species, and other protected plants and wildlife),
- U.S. Forest Service,
- U.S. National Park Service, and
- Fresno County (General Plan Conservation Element Goals and Policies).

A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Please refer to the *Background Report*, Chapter 7, for a detailed description of the laws that are relevant to biological resources.

## PLAN ELEMENTS

By 2020, new development in Fresno County is projected to convert approximately 38,000 acres of land of which approximately 35,000 would be in incorporated areas and City spheres of influence, and 3,000 acres would be in unincorporated areas. The majority of development would occur on the San Joaquin Valley Floor in association with the City of Fresno sphere of influence and the towns and cities located along State Route (SR) 99. Development in these areas would primarily affect farmland habitat. Development of the Coalinga sphere of influence would impact habitats associated with the Central Coast Range. The lands located in unincorporated Fresno County could effect a variety of sensitive habitat types throughout the county.

The Draft General Plan contains the following policies for the protection of biological resources.

**Wetland And Riparian Areas**

OS-D.1 The County shall support the "no-net-loss" wetlands policies of the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

OS-D.2 The County shall require new development to fully mitigate wetland loss for function and value in regulated wetlands to achieve "no-net-loss" through any combination of avoidance, minimization, or compensation. The County shall support mitigation banking programs that can provide the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas.

OS-D.3 The County shall require development to be designed in such a manner that pollutants and siltation do not significantly degrade the area, value, or function of wetlands. The County shall require new developments to implement the use of Best Management Practices (BMPs) to aid in this effort.

OS-D.4 The County shall require riparian protection zones around natural watercourses and shall recognize that these areas provide highly valuable wildlife habitat. Riparian protection zones shall include the bed and bank of both low- and high-flow channels and associated riparian vegetation, the band of riparian vegetation outside the high-flow channel, and buffers of 100 feet in width as measured from the top of the bank of unvegetated channels and 50 feet in width as measured from the outer edge of the dripline of riparian vegetation.

OS-D.5 The County shall strive to identify and conserve remaining upland habitat areas adjacent to wetland and riparian areas that are critical to the feeding, hibernation, or nesting of wildlife species associated with these wetland and riparian areas.

OS-D.6 The County shall require new private or public developments to preserve and enhance existing native riparian habitat unless public safety concerns require removal of habitat for flood control or other purposes. In cases where new private or public development results in modification or destruction of riparian habitat for purposes of flood control, the developers shall be responsible for creating new riparian habitats within or near the project area. Adjacency to the project area shall be defined as being within the same watershed sub-basin as the project site. Compensation shall be at a ratio of three (3) acres of new habitat for every one (1) acre destroyed.

OS-D.7 The County shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, nutrient storage, and wildlife habitats.

OS-D.8 The County should consider the acquisition of necessary wetland, meadows, and riparian habitat areas for parks limited to passive recreational activities as a method of wildlife conservation.

**Fish and Wildlife Habitat**

OS-E.1 The County shall support efforts to avoid the "net" loss of important wildlife habitat where practicable. In cases where habitat loss cannot be avoided, the County shall impose adequate mitigation for the loss of wildlife habitat that is critical to supporting special-status species and/or other valuable or unique wildlife resources. Mitigation shall be at sufficient ratios to replace the function, and value of the habitat that was removed or degraded. Mitigation may be achieved through any combination of creation, restoration, conservation easements, and/or mitigation banking. Conservation easements should include provisions for maintenance and management in perpetuity. The County shall recommend coordination with the U.S. Fish and Wildlife Service and the California Department of Fish and Game to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed. Important habitat and habitat components include nesting, breeding, and foraging areas, important spawning grounds, migratory routes, migratory stopover areas, oak woodlands, vernal pools, wildlife movement corridors, and other unique wildlife habitats (e.g., alkali scrub) critical to protecting and sustaining wildlife populations.

OS-E.2 The County shall require adequate buffer zones between construction activities and significant wildlife resources, including both onsite habitats that are purposely avoided and significant habitats that are adjacent to the project site, in order to avoid the degradation and disruption of critical life cycle activities such as breeding and feeding. The width of the buffer zone should vary depending on the location, species, etc. A final determination shall be made based on informal consultation with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Game.

OS-E.3 The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the value of the habitat for wildlife is maintained.

OS-E.4 The County shall encourage private landowners to adopt sound wildlife habitat management practices, as recommended by the California Department of Fish and Game officials and the U.S. Fish and Wildlife Service.

OS-E.5 The County shall support preservation of habitats of rare, threatened, endangered, and/or other special-status species including fisheries. The County shall consider developing a formal Habitat Conservation Plan in consultation with Federal and State agencies, as well as other resource conservation organizations. Such a plan should provide a mechanism for the acquisition and management of lands that support special-status species.

OS-E.6 The County shall ensure the conservation of large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife populations, as long as this preservation does not threaten the economic well-being of the county.

OS-E.7 The County shall continue to closely monitor pesticide use in areas adjacent to habitats of special-status plants and animals.

OS-E.8 The County shall promote effective methods of pest (e.g., ground squirrel) control on croplands bordering sensitive habitat that do not place special-status species at risk, such as the San Joaquin kit fox.

OS-E.9 Prior to approval of discretionary development permits, the County shall require, as part of any required environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant resources and/or special-status plants or animals. Such evaluation will consider the potential for significant impact on these resources and will either identify feasible mitigation measures or indicate why mitigation is not feasible.

OS-E.10 The County shall support State and Federal programs to acquire significant fish and wildlife habitat areas for permanent protection and/or passive recreation use.

OS-E.11 The County shall protect significant aquatic habitats against excessive withdrawals that could endanger special-status fish and wildlife or would interrupt normal migratory patterns.

OS-E.12 The County shall ensure the protection of fish and wildlife habitats from environmentally-degrading effluents originating from mining and construction activities that are adjacent to aquatic habitats.

OS-E.13 The County should protect to the maximum extent practicable wetlands, riparian habitat, and meadows since they are recognized as essential habitats for birds and wildlife.

OS-E.16 The County should preserve, to the maximum extent practicable, significant wildlife migration routes such as the North Kings Deer Herd migration corridors and fawn production areas.

OS-E.17 Areas that have unusually high value for fish and wildlife propagation should be preserved in a natural state to the maximum possible extent.

OS-E.18 The County should preserve, to the maximum possible extent, areas defined as habitats for rare or endangered animal and plant species in a natural state consistent with State and Federal endangered species laws.

OS-E.19 The County should preserve areas identified as habitats for rare or endangered plant and animal species primarily through the use of open space easements and appropriate zoning that restrict development in these sensitive areas.

OS-B.2 The County shall work closely with agencies involved in the management of forest ecosystems and shall coordinate with State and Federal agencies, private landowners, and private preservation/ conservation groups in habitat preservation and protection of rare, endangered, threatened, and special concern species, to ensure consistency in efforts and to encourage joint planning and development of areas to be preserved. The County shall encourage State and Federal agencies to give notice to and coordinate with the County on any pending, contemplated, or proposed actions affecting local communities and citizens of the County. The County will encourage State and Federal agencies to address adverse impacts on citizens and communities of Fresno County, including environmental, health, safety, private property, and economic impacts.

**Vegetation**

OS-F.1 The County shall encourage landowners and developers to preserve the integrity of existing terrain and natural vegetation in visually-sensitive areas such as hillsides and ridges, and along important transportation corridors, consistent with fire hazard and property line clearing requirements.

OS-F.2 The County shall require developers to use native and compatible non-native plant species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permit approval or for project mitigation.

OS-F.3 The County shall support the preservation of significant areas of natural vegetation, including, but not limited to, oak woodlands, riparian areas, and vernal pools.

OS-F.4 The County shall ensure that landmark trees are preserved and protected whenever possible.

OS-F.5 The County shall establish procedures for identifying and preserving rare, threatened, and endangered plant species that may be adversely affected by public or private development projects. The County shall require, as part of the environmental review process, a biological resources evaluation of the project site by a qualified biologist. The evaluation shall be based on field reconnaissance performed at the appropriate time of year to determine the presence or absence of significant plant resources and/or special-status plant species. Such evaluation shall consider the potential for significant impact on these resources and shall either identify feasible mitigation measures or indicate why mitigation is not feasible.

OS-F.6 The County shall require that development on hillsides be limited to maintain valuable natural vegetation, especially forests and open grasslands, and to control erosion.

OS-F.7 The County should encourage landowners to maintain natural vegetation or plant suitable vegetation along fence lines, drainage and irrigation ditches and on unused or marginal land for the benefit of wildlife.

OS-F.8 The County shall support the continued use of prescribed burning to mimic the effects of natural fires to reduce fuel volumes and associated fire hazards to human residents and to enhance the health of biotic communities.

OS–F.9 The County shall require that new developments preserve natural woodlands to the maximum extent possible.

OS-F.10 The County shall promote the preservation and management of oak woodlands by encouraging landowners to follow the Fresno County Oak Management Guidelines shown below and to prepare an Oak Management Plan for their property.

**Fresno County Oak Woodlands Management Guidelines**
**(Policy OS-F.10)**

**1. When Building Within Oak Woodlands:**

- Develop an Oak Woodland Management Plan to retain existing oaks, preserve agriculture, retain wildlife corridors, and enhance soil and water conservation practices.
- Avoid tree root compaction during construction by limiting heavy equipment in root zones.
- Carefully plan roads, cuts and fills, building foundations, and septic systems to avoid damage to tree roots. Design roads and consolidate utility services to minimize erosion and sedimentation to downstream sources. Also, consider reseeding any disturbed ground.
- Avoid landscaping which requires irrigation within ten (10) feet of the trunk of an existing oak tree to prevent root rot.
- Consider replacing trees whose removal during construction was avoidable.
- Use fire-inhibiting and drought-tolerant and oak-compatible landscaping wherever possible.

**2. Take Steps to Increase Fire Safety on Wooded Parcels:**

- Recognize fire as a natural feature of the oak woodland landscape and plan accordingly.
- Set up a continuous management program as a part of your Oak Woodland Management Plan to maintain a fire-safe property environment.
- Identify and manage trees to be fire-safe.
- Recognize the impact of steep slopes on fire safety.
- Develop a fire-safe and oak-friendly landscape plan for your home or business.
- Create "Defensible Space" around buildings. Defensible space is that area which lies between a structure and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and which provides an opportunity for firefighters to safely defend a structure.

**3. When Implementing Range Improvement Practices in Oak Woodlands:**

- When using prescribed fire as a range improvement practice, obtain professional assistance to maximize benefits and minimize risk.
- When converting oak woodlands to other agricultural uses, consider incorporating an oak retention component or a conservation easement in your Oak Woodland Management Plan.
- Develop water sources--ponds, troughs, seeps, and springs for livestock and wildlife.

**4. When Harvesting Oaks for Fuel or Range Improvement, Plan Your Harvest to:**

- Maintain an average canopy cover of 10 to 30 percent depending on site, elevation, and precipitation.
- Retain some oak trees of all sizes and species represented at the site and in clusters where possible.
- When safety permits, leave old hollow trees and those actively being used for nesting, roosting, or feeding.
- Where low fire risk and aesthetics allow, pile limbs and brush to provide wildlife cover.
- Where commercial or extensive harvest is being contemplated, seek professional advice.

*Adopted by the Fresno County Board of Supervisors on March 10, 1998 (Resolution # 98-150).*

## IMPACTS AND MITIGATION MEASURES

### Methods of Analysis

This biological resource analysis evaluates the potential loss of habitat types based on the known geographic distribution of those habitats and the projected areas of development within the county. Because the development projections are regional, rather than project-specific, the impact analysis is necessarily general. The acreage anticipated to be developed in a particular region is identified, along with the types of habitat that could be affected. It is unlikely that all development in a given area would occur within a single habitat type, so this approach is conservative. For development anticipated in the unincorporated area, the extent to which current State and Federal regulations and proposed General Plan policies would protect identified habitats is evaluated. The type of habitat and extent of development within incorporated areas and spheres of influence is also discussed; however, only State and Federal regulations are considered in these areas, as the County cannot compel other jurisdictions to implement policies similar to those proposed in the Draft General Plan.

Evaluation of impacts has been based on habitat types that have the potential to support the species identified within the *Background Report*. Specific habitat types that could support the identified species has been encompassed under one impact for wildlife and one impact for plants. Identification of the special-status animal or plant species relies upon the use of the CNDDB data base.

### Standards of Significance

For the purposes of this EIR, an impact is considered significant if the Proposed Project could:

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

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.

## Impacts and Mitigation Measures

### 4.9-1 Development under the Draft General Plan could result in the loss of wetland habitat (e.g., seasonal wetland, vernal pool, riverine, riparian, and wet sierra meadows).

Development within Fresno County as anticipated by the Draft General Plan could result in the loss of jurisdictional wetland which could include vernal pools, seasonal wetland, waters of the U.S.(riverine habitats), or other undescribed wetlands. As grasslands and other undeveloped areas are converted to urban uses, wetlands could be filled and/or disturbed.

It should be noted that the conversion of acres to developed uses would occur with or without the Proposed Project (38,000 acres compared to 34,000 acres without the project). Development in the Eastside Valley would occur with or without the project (34,000 acres compared to 30,000 without the project). Therefore, the loss of wetland habitat would occur whether or not the project was adopted.

The exact acreage of wetlands that could be affected by land conversion in the San Joaquin Valley Floor region is not known at this time, because specific development proposals are not part of the Draft General Plan. The greatest amount of wetland fill would likely occur in the Eastside Valley due to the high acreage of projected growth along the SR 99 corridor. Wetlands associated with farmland, pastures, vernal pool, and stream or river channel could be affected by development in the Eastside Valley, while alkali sink could be affected in the Westside Valley, and meadows and streams could be affected in the Sierra Nevada Foothills and High Sierra Nevada. The development in the Central Coast Range, Sierra Nevada Foothills, and High Sierra Nevada could affect wetlands, but substantially fewer acres would be developed in comparison to the Eastside Valley area, so the effects on wetlands would not be as great.

The U.S. Army Corps of Engineers (Corps) regulates the fill of wetlands by the authority of Section 404 of the Clean Water Act. As development occurs in the County, a wetland delineation in accordance with Corps methodology would be required at each approved project location to determine the extent of wetlands. Acquisition of permits from the Corps for the fill of wetlands and Corps approval of a wetland mitigation plan would ensure no net loss of wetlands in Fresno County. The existing Corps regulations requires that a wetland delineation be conducted to determine the presence and extent of the potential wetlands on a site, and that the appropriate wetland mitigation/creation be implemented in a ratio according to the size of the filled wetlands.
Draft General Plan Policy OS-D.1 adopts the "no-net-loss" policies of the Corps, USFWS, and CDFG, and Policy OS-D.2 requires the full mitigation of wetland areas, to the extent possible. In addition, Policy OS-D.3 requires that development is designed such that pollutants and siltation do not significantly degrade the area, value, or function of wetlands. Policies OS-D.4 through OS-D.8 address the presentation of existing wetlands, as well as adjacent areas. Lands would be evaluated on a project-

by-project basis to assure that all wetland acreage is accounted for and mitigated in accordance with the most current regulations. Compliance with existing County, State and Federal laws and implementation of Draft General Plan policies would ensure that the loss of wetlands due to development is offset through avoidance, preservation and recreation.

While the loss of wetlands may be fully mitigated for individual projects, as more land is urbanized, there could be fewer opportunities to fully compensate for the area, value and function of lost wetlands. Consequently, there could be development over the next twenty years that will not be able to feasibly provide for "no net loss" of the wetland habitat to be filled by the development. Because no net loss of wetlands cannot be assured for every project in the county, this impact is considered ***significant***.

Mitigation Measures

4.9-1 *None available beyond Draft General Plan Policies OS-D.1 through OS-D.8 for Fresno County. No mitigation measures are available to the County to reduce impacts occurring within the cities' jurisdiction.*

Effective implementation of the policies cited above would substantially reduce this impact for development that occurs within the County's jurisdiction, although not to a less-than-significant level. Similar measures are available to, and required by, some of the cities in the county. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) that occurs within other jurisdictions. For these reasons, the impact would remain significant and unavoidable for development within both the County and cities.

**4.9-2 Development under the Draft General Plan could result in the loss of chaparral, oak woodland, alkali sink, vernal pools, coniferous forest, or other various habitats that support special-status animals.**

Development within Fresno County as anticipated by the Draft General Plan could result in the loss of specific habitat types that supports special-status animals. Habitat types within Fresno County such as chaparral, alkali sink, and vernal pools all contain micro-habitats that special-status animal species depend upon to complete their life cycles. The *Background Report* identified 107 wildlife species as present or potentially occurring in the county. The conversion of special-status species habitats due to increased urbanization could result in the decline of listed wildlife species.

Special-status species that could be affected by development in Fresno County would include, but would not be limited to the following:

- valley elderberry longhorn beetle;
- San Joaquin kit fox;
- kangaroo rat (various species);
- California tiger salamander;

- vernal pool fairy shrimp;
- vernal pool tadpole shrimp;
- western spadefoot;
- burrowing owl;
- prairie falcon; and,
- northern harrier.

Table 4.9-1 presents for a complete list of special-status wildlife species that are known to occur or that could occur in Fresno County.

The majority of lands that would be developed would be within incorporated areas and cities 'spheres of influence, which occur primarily within the San Joaquin valley floor. This area is composed primarily of farmland, which does not generally provide habitat for many of the special-status wildlife species identified in the Background Report. However, special-status species could be found on the valley floor where land has not been farmed. Unfarmable areas that contain habitat such as alkali sink or vernal pools have a high likelihood of supporting special-status wildlife. Also, special-status species are known to occur east and west of the valley floor in the coast ranges, foothills and Sierra Nevada. It should be noted that the conversion of acres to developed uses would occur with or without the project (38,000 acres compared to 34,000 acres without the project). Therefore, the loss of habitats supporting special-status animals would occur whether or not the project was adopted.

In general, unincorporated lands of Fresno County within the Eastside Valley Floor are similar in biological value to those within the incorporated regions. The Eastside Valley Floor is primarily farmed and little undisturbed wildlife habitat is present. However, the unincorporated lands within the central Coast Range, Westside Valley, Sierra Nevada foothills and Sierra Nevada contain habitats with greater potential for high biological values and contain a greater number of special-status species because these areas have not been farmed or otherwise significantly altered. Development of the unincorporated areas could result in greater losses of special-status wildlife habitat due to the higher quality of habitat in these regions. It is anticipated that approximately 600 acres of unincorporated Coast Range, Westside Valley, Sierra Nevada foothills, and Sierra Nevada would be developed.

The Draft General Plan provides policies to ensure that effects on special-status wildlife species would be avoided and/or minimized. The goal for the Draft General Plan Policy on Fish and Wildlife Habitat, OS-E, is to protect, restore, and enhance habitats in Fresno County that support fish and wildlife species so that populations are maintained at viable levels. The Draft General Plan policies call for the protection of special-status wildlife habitat where possible. Where habitat protection is infeasible, mitigation for losses are required. General Plan Policies OS-E.1 through OS-E.13 and OS-E.16 through OS-E.18 specify measures to avoid, minimize, or compensate for special-status wildlife species, including compliance with CDFG code and USFWS regulations. By compliance with laws already in effect, such as the Migratory Bird Treaty Act, which prohibits the "take" of migratory bird species, protection of such species should be achieved. General Plan Policy OS-E.9 calls for an evaluation by a qualified biologist prior to project approval.

Table 4.9-1 could be used to provide a baseline list of potentially occurring wildlife species for projects that occur in areas with habitat that could potentially support special-status wildlife. If a project occurs in a biotic region from which special-status species occurrences are uncommon, a less intensive review process may be acceptable, so long as no potential habitat occurs on the project site. This would apply to areas such as the Eastside Valley Floor, where land has been intensively farmed for successive years.

For areas that may support special-status wildlife, such as alkali sink, annual grassland, vernal pool, chenopod scrubland, or riverine habitat, a project specific review for potential special-status wildlife habitat should be conducted based on the refined list of species generated by the CNDDB from searching USGS 7.5 minute quadrangle maps representing the project area as well as immediately adjacent lands. By searching a larger area for potentially occurring special-status wildlife species, no animals would be overlooked during the biological review process and impacts to special status species would be reduced.

It is likely that on a project-by-project basis, site-specific wildlife issues would be identified and addressed prior to a project approval or development, as required by federal and State laws, the County General Plan policies, and similar policies within the Cities. Depending upon the size and location of a specific project, impacts on special-status wildlife could be reduced by avoiding or preserving habitat through compliance with existing Fresno County General Plan Policies, USFWS regulations, and CDFG code. However, in some cases, overall habitat could not be re-created to such an extent that it replaces the original natural habitat value required by a particular special-status animal. Therefore, impacts on special-status wildlife species are considered ***significant.***

Mitigation Measures

4.9-2 *No mitigation is available beyond Draft General Plan Policies OS-E.1 through OS-E.13, OS-E.16 and OS-E.18 for Fresno County. No mitigation measures are available to the County to reduce impacts occurring within the cities' jurisdiction.*

Effective implementation of the Draft General Plan policies cited above would reduce this impact for development that occurs within the County's jurisdiction, but not to a less-than-significant level. Similar measures are available to, and required by, some of the cities in the county. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) that occurs within other jurisdictions. For these reasons, the impact would remain significant and unavoidable for development in both the county and other jurisdictions.

**4.9-3 Development under the Draft General Plan could result in the loss of chaparral, oak woodland, alkali sink, vernal pools, coniferous forest, and other habitats that could support special-status plants.**

Special-status plants are known to occur in Fresno County on land that supports vernal pools, alkaline sink, coniferous forest and other sensitive habitat types identified in the *Fresno County General Plan Background Report*. The CNDDB and CNPS electronic inventories have identified 57 plant species within Fresno County that have been listed as threatened, endangered or otherwise rare by the USFWS, CDFG or CNPS. (Please refer to Table 4.9-1 for a list of the special-status plant species and their distribution by geographic region.) Most of the special-status plant species identified grow on a specific habitat that provides a micro-environment in which the plant is dependant for survival. The alteration or removal of such habitat type could result in the elimination of a particular species or a severe reduction in the plant's numbers within Fresno County. Some special-status plants identified only occur in Fresno County and the removal of their requisite habitat could result in their extinction.

Special-status plant species that could be affected by development in Fresno County could include but are not limited to the following:

- San Joaquin valley orcutt grass;
- hairy Orcutt grass;
- Hartweg's pseudobahia;
- Mariposa pussypaws;
- California jewel flower;
- San Joaquin wooly threads;
- tree anenome; and,
- San Benito evening primrose.

The majority of special-status plant species occur outside of the San Joaquin Valley floor with the exception of plants dependant on alkali sink, vernal pool or other wetland habitats. The central Coast Range and Sierra Nevada foothills have the highest potential to support special-status plants within the annual grassland, chapparal, serpentine, and cismontane habitats found there. Habitats in the Eastside Valley floor along the SR 99 corridor are not generally supportive to rare plant occurrence due to the extensive farming activities that preclude rare plant growth requirements. The majority of lands projected to be developed in Fresno County lie within farmed habitats and would not likely affect rare plants.

It should be noted that the conversion of acres to developed uses would occur with or without the project (38,000 acres compared to 34,000 acres without the project). Therefore, the loss of habitats supporting special-status plants would occur whether or not the project was adopted. Furthermore, more than 93 percent of project development (by acreage) would occur within incorporated areas and proximate areas within cities 'spheres of influence. Development in unincorporated Fresno County would be more likely to result in the development of undisturbed habitats especially in the central Coast Range, Westside Valley floor and Sierra Nevada foothills. It is possible that development of approximately 600 unincorporated acres of Fresno County could result in more significant impacts on special-status plants than the development of lands in the incorporated Eastern Valley Floor areas.

The policies that pertain to vegetation preservation are OS-F.1 through OS-F.10. Fresno County General Plan Policy OS-F.3 supports the preservation of significant areas of natural vegetation, including oak woodlands, riparian areas, and vernal pools. General Plan Policy OS-E.9 requires a biological resource evaluation prior to the approval of discretionary development permits, and General Plan Policy OS-F.5 calls for the establishment of procedures for identifying and preserving valuable vegetation resources of Fresno County. These policies require plant protection and preservation, and special-status plant surveys prior to development to ensure no loss of listed plant species. State and Federal laws also call for the protection of the special-status plants that could be found in the development areas. Project-by-project evaluation for rare-plants and the implementation of existing County, USFWS and CDFG regulations would allow for the protection of plant resources in Fresno County. Existing regulations require a survey, a determination of presence or absence, and salvage in consultation with the appropriate agencies to ensure no loss of rare plant species. While many plants can be successfully translocated to other preserved or recreated habitats, some plant species are not easily translocated. Furthermore, some plant habitat (e.g., alkali sink) is difficult to recreate with all of the characteristics necessary for the successful prorogation of the plant species using that habitat. Consequently, while the loss of certain plant habitats may be fully mitigated for individual projects, as more land is urbanized, there could be fewer opportunities to fully compensate for the loss of plant habitat. Therefore impacts on rare plants from development in Fresno County and the potential take of listed special-status plant species are considered ***significant***.

Mitigation Measures

4.9-3 *None available beyond Draft General Plan Policies OS-F.1 through OS-F.10 and OS-E.9 for Fresno County. No mitigation measures are available to the County to reduce impacts to the cities' jurisdiction.*

Draft General Plan policies would substantially reduce special-status plant impacts by ensuring that project applicants comply with DFG codes and Federal Endangered Species (FESA) as implemented by the USFWS. Similar measures are available to, and required by, some of the cities in the County. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) that occurs within other jurisdictions. Furthermore, if appropriate habitat cannot be preserved and/or re-created, or if certain plants cannot be successfully translocated, the habitat for some plant species could be reduced. Therefore, the impact would remain significant and unavoidable for development within the County and cities.

### 4.9-4 Development under the Draft General Plan could result in the loss of heritage or landmark oak trees.

Valley, live, blue, and black oak trees occur across Fresno County in all types of habitat. Oak trees have aesthetic, historic, and habitat values that make them a desirable feature of the landscape for both humans and wildlife. Through the course of development under the Draft General Plan heritage or landmark oak trees could be removed in the incorporated and unincorporated areas of Fresno County.

Specifically, blue oak woodland communities throughout the central valley have been subject to development that threatens the long term stability of this habitat type. Undisturbed blue oak woodlands are declining due to their attractiveness as housing sites. Also, valley oaks have been removed from the valley floor over the last 100 years to facilitate large-scale farming practices, making large oak tree specimens uncommon. Oak tree removals in any habitat type degrades the overall quality of such habitat. Wildlife uses are decreased and water quality is degraded by oak tree removal.

The eastern valley floor region does not support significant valley oak woodland due to the removal of such habitat over the past 100 years; any oak trees that remain in the region are significant tree resources due to their overall scarcity. In the central coast range and Sierra Nevada foothills regions large tracts of oak woodland are present that would not be affected dramatically by the development anticipated within incorporated Fresno County lands. Of the approximately 3,000 acres of unincorporated Fresno County that is anticipated for development approximately 300 acres of development is projected for the central Coast Range and Sierra Nevada foothills with or without the Proposed Project.

General Plan Policy OS-F.4 indicates the County's intent to preserve landmark trees, and policy OS-F.10 provides for the protection of oak woodlands. However, these General Plan policies would not fully offset the effect of oak tree removal because the definition of a landmark tree is not provided. The basis on which a heritage or landmark tree is defined would provide a qualitative guideline for oak tree evaluation. Additionally, oak trees are not protected by any other regulatory agency such as USFWS or CDFG. Therefore, oak tree removal is considered a ***significant*** impact.

Mitigation Measures

4.9-4 (a) *Fresno County shall define the specifications for landmark trees identification, based on size and health of the trees.*

(b) *Native oak and other landmark trees shall be replaced on an inch-for-inch basis when tree size exceeds 6 inches in diameter.*

(c) *A 5-year monitoring plan shall be prepared for all replacement trees, including provisions for maintenance and replacement of trees that do not survive.*

When size specification for landmark tree identification are defined, then mitigation requirements can be assessed on a project-by-project basis as they occur in Fresno County. Oak trees that are removed during project implementation would be replaced in accordance with the tree mitigation ratio and monitored until established so that trees may survive independently of irrigation or other human maintenance. This mitigation would provide a means to replace removed oak trees and ensure no net losses of oaks in the county.

Effective implementation of Draft General Plan policies and the above mitigation measures would reduce this impact to a less-than-significant level for development that occurs within the County's

jurisdiction. Similar measures are available to, and required by some of the cities in the County. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) that occurs within other jurisdictions. Therefore, the impact may be significant and unavoidable within those jurisdictions.

### 4.9-5 Development under the Draft General Plan could result in riparian and associated aquatic habitat degradation.

Aquatic resources associated with the San Joaquin River, Kings River, and their tributaries could be degraded by development under the Draft General Plan. For example, urban runoff, increased recreational uses, and additional municipal water withdrawal could decrease the habitat values of the San Joaquin River. Fisheries dependant on the San Joaquin River could be negatively affected by future development. Specifically, the development anticipated in east valley floor region could adversely affect the San Joaquin River and its associated riparian habitat if development occurs along the riverbank or requires removal of riparian vegetation. Development in the river bottom could substantially diminish habitat values as it would degrade water quality and aquatic habitat. Breeding, foraging and roosting sites for terrestrial and aquatic wildlife could be degraded or potentially eliminated by future development in the region. Overall development in the eastern valley area could increase non-point source pollution to the various creeks and tributaries to the San Joaquin River.

Draft General Plan Policy OS-D.3 specifies that development be conducted in such a manner as to not significantly degrade the area, value, or function of wetlands, and Policy OS-E.2 calls for the identification and protection of important spawning grounds, migratory routes, or wildlife movement corridors. Policies OS-3.10 through OS-E.13 and OS-E.17 call for the protection and/or preservation of important aquatic habitats. The Draft General Plan policies may not be enforceable to the extent necessary to maintain current habitat quality and sustain existing fisheries. Implementation of the General Plan policies and federal laws such as the Clean Water Act and the Migratory Bird Treaty Act would help reduce the impacts on aquatic and riparian habitats but would not fully protect the river and its aquatic resources from urban development and these impacts would be ***significant.***

It should be noted that the conversion of acres to developed uses would occur with or without the project (38,000 acres compared to 34,000 acres without the project). Similarly, development in the east valley would occur with or without the project (34,000 acres compared to 30,000 without the project). The City of Fresno is anticipated to grow north toward the San Joaquin River and further pressure the resources located along the riparian corridor. Therefore, the loss of riparian and associated habitat degradation would occur whether or not the Proposed Project was adopted. Furthermore, more than 93 percent of project development (by acreage) would occur within incorporated areas and proximate areas within cities' spheres of influence where the County cannot ensure implementation of similar measures to minimize identified significant impacts.

Mitigation Measures

4.9-5 *None available beyond Draft General Plan Policies OS-D.3, OS-E.1, OS-E.10 through OS-E.13, and OS-E.17 for Fresno County. No mitigation measures are available to the County to reduce impacts occurring within the cities jurisdiction.*

Effective implementation of the policies cited above would reduce this impact for development that occurs within the County's jurisdiction, but not to a less-than-significant level. Similar measures are available to, and required by, some of the cities in the county. However, the County cannot ensure that similar measures would be enforced for development (whether related to the Proposed Project or not) that occurs within other jurisdictions. Therefore, the impact may be significant and unavoidable within those jurisdictions as well.

### 4.9-6 Development under the Draft General Plan would result in the loss of grassland habitat.

The majority of habitat loss due to new development would occur as farmland is converted to urban uses. Farmland provides general habitat for resident and migratory species in Fresno County. A large reduction in farmland acreage would reduce habitat for these species. Many species use agricultural lands for food and cover during various times of the year, including species that are wide-ranging winter migrating bird species, such as the ferruginous hawk, prairie falcon, and golden eagle, which may occasionally forage in Fresno County. In addition, habitat would decrease for resident raptors such as red-tailed hawks, northern harriers, and the many small bird and mammal species known to forage in agricultural land in Fresno County.

Throughout the Central Valley urban development is consuming farmland and reducing the resources to resident and migratory bird species. The Central Valley has been the target for development from San Francisco Bay overflow and large tracts of commuter homes and support services have been built on farmland. As the Central Valley was converted from it's historic natural state to that of a rich farming region, it is now being converted from farmland to urban subdivision development. Resident and migratory wildlife have been able to adapt somewhat to the changes from original habitat to farmland habitat, but would not be able to make the transition from farmland habitat to urban development. Once lands are developed for housing, and other urban uses, wildlife would not find the appropriate food, cover or breeding areas for which they depend on for survival. Additionally, the introduction of pets and competition from non-native bird species would discourage or decrease native wildlife. Over time at the current rate of development many common native wildlife species would decrease in the path of development.

Development under the Draft General Plan would convert large acreage of agricultural lands in Fresno County. This development would contribute to the loss of general biological resources. Draft General Plan Policies OS-E.1 through OS-E.7, OS-E.9, OS-E.13, OS-E.18, and OS-E.19 specify measures to avoid, minimize, or compensate for impacts to wildlife, including resident and migratory bird species. The cumulative loss due to development under County jurisdiction would be partially offset through

implementation of Draft General Plan policies. However, a substantial portion of development would occur outside the County's jurisdiction, where similar policies are not in affect. It should be noted that a substantial portion of anticipated growth would occur with or without the Proposed Project. Nonetheless, the loss of general wildlife habitat values is considered a ***significant impact***.

Mitigation Measures

4.9-6 *None available beyond Draft General Plan Policies OS-E.1 through OS-E.7, OS-E.9, OS-E.13, OS-E.18, and OS-E.19 for development in Fresno County. No mitigation measures are available to the County to reduce impacts occurring within the cities' jurisdiction.*

Compliance with the Draft General Plan policies, and CDFG and USFWS regulations would reduce the effects on general wildlife habitat in areas under the County's jurisdiction. As development reaches anticipated levels, permanent habitat losses will cause an overall decrease in all wildlife numbers in the region. This can not be alleviated by mitigation because of the historic reduction in available wildlife habitat.

## Cumulative Impacts

The cumulative context for loss of biological resources is development through the year 2020 in the Central Valley, Coast Range and Sierra Nevada foothills, and Sierra Nevada, primarily on undeveloped or unaltered land.

**4.9-7 Development under the Draft General Plan, in combination with other cumulative development, could result in the loss of heritage or landmark oak trees, riparian, aquatic, or other wetland habitat, chaparral, oak woodland, alkali sink, vernal pools, coniferous forest, grasslands, or other various habitats that support special-status wildlife and plant species in Fresno and other areas within the Central Valley, Coast Range and Sierra Nevada mountains and foothills.**

The Proposed Project by itself (i.e., the growth attributable directly to the Economic Development Strategy and the Draft General Plan policies) represents a relatively small portion of the growth projected to occur in the county by 2020, because the population growth would be unchanged by the project. The difference between the project and not approving the project is the growth that would occur in the employment sector and the mix of employment and the patterns of development that would occur in the unincorporated area.

Impacts 4.9-1 through 4.9-6, above, consider the effects of growth related directly to the project along with the growth that is projected to occur throughout the County with or without project. Consequently, each impact addresses both cumulative (partially) and project-specific impacts. Where a significant and unavoidable impact has been identified for county-wide growth, the project contribution to that impact would be considered cumulatively considerable, even if on a project-specific level, it may be considered less than significant. Such impacts would also contribute to the loss of biological resources throughout the region. As regional growth continues, the opportunities to fully compensate for the area, value and function of the habitat lost would be reduced.

As discussed above, the project would contribute considerably to these impacts. Furthermore, the project and non-project development in Fresno County would contribute to the loss of biological resources elsewhere in the Central Valley, Coast Range and Sierra Nevada foothills, and the Sierra Nevada. Therefore, these cumulative impacts are considered ***significant***.

Mitigation Measures

4.9-7 *None available beyond Draft General Plan Policies OS-D.1 through OS-D.8, OS-E.1 through OS-E.13, OS-E.16 through OS-E.19, OS-B.2, and OS-F.1 through OS-F.10.*

Implementation of the Draft General Policies listed above would reduce the project's contribution to this significant cumulative impact, but not to less-than-significant levels, and such measures would not reduce the cumulative effect to less-than-significant levels. Therefore, the cumulative impact would remain significant and unavoidable.

## TABLE 4.9-1

## SPECIAL-STATUS SPECIES OF FRESNO COUNTY BY GEOGRAPHIC REGION

| Scientific Name[1] Common Name | Habitat Distribution in Fresno County | | | | | | |
|---|---|---|---|---|---|---|---|
| | Inner Coast Range Blue-Oak Woodland and Chaparral | Inner Coast Range Grassland Habitat | San Joaquin Valley Floor Alkali Sink Habitat | Agricultural and Urban Habitat Mosaic | San Joaquin Valley Floor and Annual Grassland Habitat | Central / Southern Sierra Nevada Foothill Biotic Region | Central / Southern High Sierra |
| **PLANTS** | | | | | | | |
| *Acanthomintha obovata* ssp. *obovata*<br>Obovate-leaved thornmint | | | | | X | X | |
| *Amsinckia vernicosa* var. *furcata*<br>Forked fiddleneck | | | | | X | X | |
| *Arabis bodiensis*<br>Bodie hills rock cress | | | | | | X | X |
| *Atriplex cordulata*<br>Heartscale | | | X | | | | |
| *Astragalus monoensis* var. *ravenii*<br>Ravin's milk vetch | | | | | | X | X |
| *Atriplex depressa*<br>Brittlescale | | | X | | | | |
| *Atriplex minuscula*<br>Lesser saltscale | | | X | | | | |
| *Atriplex vallicola*<br>Lost hills crownscale | | X | X | | | | |
| *Calyptridum pulchellum*<br>Mariposa pussypaws | | | | | | X | X |
| *Calystegia collina* ssp. *venusta*<br>South Inner Coast Range morning glory | X | X | | | | X | X |
| *Camissonia benitensis*<br>San Benito evening primrose | | | X | | Xknown only from the New Irdia area | X | |
| *Camissonia sierrae* ssp. *alticola*<br>Mono hot springs evening primrose | | | | | | X | X |
| *Carex tompkinsii*<br>Tompkin's sedge | | | | | | X | X |
| *Carpenteria californica*<br>Tree anemone | | | | | | X | X |
| *Castilleja campestris* ssp. *succulenta*<br>Succulent owl's clover | | | | | X | | |
| *Caulanthus californicus*<br>California jewelflower | | X | X | | X | X | |
| *Chorizanthe biloba* var. *immemora*<br>San Benito spineflower | | | | | | X | |
| *Cordylanthus palmatus*<br>Palmate-bracted bird's-beak | | | X | | | | |
| *Cordylanthus tenuis* ssp. *barbatus*<br>Fresno County bird's beak | | | | | | X | |
| *Delphinium inopinum*<br>Unexpected larkspur | | | | | | X | X |
| *Delphinium recurvatum*<br>Recurved larkspur | | X | | | X | X | |
| *Draba sharsmithii*<br>Mt. Whitney draba | | | | | | | X |
| *Epilobium howellii*<br>subalpine fireweed | | | | | | | X |
| *Eriastrum hooveri*<br>Hoover's eriastrum | | | X | | X | X | |
| *Erigeron aequilfolius*<br>Hall's daisy | | | | | | X | |
| Keil's daisy<br>*Erigeron inornatus* var. *keilii* | | | | | | X | |
| *Eriogonum nudum* var. *murinum*<br>Mouse buckwheat | | X | | | X | X | |
| *Eriogonum nudum* var. *regirivum*<br>Kings River buckwheat | | | | | | X Kings River Canyon | |

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|---|---|---|---|---|---|---|---|
| | **Inner Coast Range Blue-Oak Woodland and Chaparral** | **Inner Coast Range Grassland Habitat** | **San Joaquin Valley Floor Alkali Sink Habitat** | **Agricultural and Urban Habitat Mosaic** | **San Joaquin Valley Floor and Annual Grassland Habitat** | **Central / Southern Sierra Nevada Foothill Biotic Region** | **Central / Southern High Sierra** |
| *Eryngium spinosepalum*<br>Spiney-sepaled coyote-thistle | | | | | X | | |
| *Gratiola heterosepala*<br>Boggs Lake hedge hyssop | | | | | X | | |
| *Hemizonia halliana*<br>Hall's tarplant | | | | | X | X | |
| *Hollisteria lanata*<br>Hollisteria | | | X | | | | |
| *Ivesia unguiculata*<br>Yosemite ivesia | | | | | | X | X |
| *Lathyrus jepsonii* var. *jepsonii*<br>Delta tule-pea | | | | | X | | |
| *Layia discoidea*<br>Rayless layia | | | | | | X | |
| *Layia heterotricha*<br>Pale-yellow layia | | | | | X | X | |
| *Layia munzii*<br>Munz's tidy-tips | | | | | X | X | |
| *Lembertia congdonii*<br>San Joaquin wollythreads | | | | | X | X | |
| *Lepidium jaredii* ssp. *album*<br>Panoche peppergrass | | | X | | | | |
| *Lewisia congdonii*<br>Congdon's lewisia | | | | | | X | |
| *Lewisia longipetala*<br>Long-petaled lewisia | | | | | | X | X |
| *Linanthus serrulatus*<br>Madera linanthus | | | | | | X | |
| *Lupinus citrinus* var. *citrinus*<br>Orange lupine | | | | | | X | |
| *Lupinus lepidus* var. *culbertsonii*<br>Hockett meadows lupine | | | | | | X | X |
| *Madia radiata*<br>Showy madia | | | | | X | X | |
| *Malacothamnus aboriginum*<br>Indian valley bush mallow | | | | | | X | |
| *Mimulus norrisii*<br>Kaweah monkeyflower | | | | | | X | |
| *Navarretia nigelliformis* ssp. *radians*<br>Shining navarretia | | | | | X | X | |
| *Orcuttia inaequalis*<br>San Joaquin Valley orcutt grass | | | | | X | | |
| *Pseudobahia bahiifolia*<br>Hartwig's golden sunburst | | | | | X | X | |
| *Pseudobahia peirsonii*<br>San Joaquin adobe sunburst | | | | | X | X | |
| *Raillardiopsis muirii*<br>Muir's raillardella | | | | | | X | |
| *Sagittaria sanfordii*<br>Sanford's arrowhead | | | | | X | | |
| *Sidalcea keckii*<br>Kecks checkerbloom | | | | | X | X | |
| *Streptanthus fenestratus*<br>Tehipite Valley jewel-flower | | | | | | X | |
| *Trifolium bolanderi*<br>Parasol clover | | | | | X | X | |
| *Tuctoria greenei*<br>Green's tuctoria | | | | | X | | |
| **INVERTEBRATES** | | | | | | | |
| Bohart's blue butterfly<br>*Philotiella speciosa bohartorum* | | | | | X | X | |

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| | **Inner Coast Range Blue-Oak Woodland and Chaparral** | **Inner Coast Range Grassland Habitat** | **San Joaquin Valley Floor Alkali Sink Habitat** | **Agricultural and Urban Habitat Mosaic** | **San Joaquin Valley Floor and Annual Grassland Habitat** | **Central / Southern Sierra Nevada Foothill Biotic Region** | **Central / Southern High Sierra** |
| Ciervo aegilian scarab beetle *Aegilia concinna* | | | | | X | X | |
| Dry Creek cliff strider bug *Oravelia pege* | | | | | X | X | |
| Hoppings blister beetle *Lytta hoppingi* | | | | | X | | |
| Kings Canyon cryptochian caddisfly *Cryptochia excella* | | | | | | X | |
| Molestan blister beetle *Lytta molesta* | | | | | X | | |
| Morrison's blister beetle *Lytta morrisoni* | | | | | X | | |
| Redheaded sphecid wasp *Eucerceris ruficeps* | | | | | X | X | |
| San Joaquin tiger beetle *Cicindela tranquebarica* ssp. | | | | | X | X | |
| San Joaquin dune beetle *Coelus gracilis* | | | | | X | | |
| Sierra pygmy grasshopper *Tetrix sierrana* | | | | | X | X | |
| Tight coin (Yate's snail) *Ammonitella yatesi* | | | | | X | X | |
| Valley elderberry longhorn beetle *Desmocerus californicus dimorphus* | | | | X | X | | |
| Vernal pool fairy shrimp *Branchinecta lynchi* | | | | | X | X | |
| Vernal pool tadpole shrimp *Lepidurus packardi* | | | | | X | X | |
| Wolly hydroporus diving beetle *Hydroporus* sp. | | | | | X | X | |
| **FISH** | | | | | | | |
| Central Valley steelhead *Oncorhynchus mykiss* | | | | | X | | |
| Delta smelt *Hypomesus transpacificus* | | | | | X | | |
| Green sturgeon *Acipenser medirostris* | | | | | X | | |
| Kern Brook lamprey *Lampetra hubbsi* | | | | | X | | |
| Lahonton cutthroat trout *Oncorhynchus clarki henshawi* | | | | | X | | |
| Longfin smelt *Spirinchus thaleichthys* | | | | | X | | |
| Pacific lamprey *Lamptera tridentata* | | | | | X | | |
| Paiute cutthroat trout *Oncorhynchus (=salmo) clarki seleniris* | | | | | X | X | |
| River lamprey *Lampetra ayresi* | | | | | X | | |
| Sacramento splittail *Pogonichthys macrolepidotus* | | | | | X | | |
| **AMPHIBIANS** | | | | | | | |
| California red-legged frog *Rana aurora draytonii* | | X | | | | X | |
| California tiger salamander *Ambystoma californiense* | | | | | X | X | |
| Foothill yellow-legged frog *Rana boylii* | | | | | | X | |
| Mount Lyell salamander *Hydromantes platycephalus* | | | | | | | X |

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| | **Inner Coast Range Blue-Oak Woodland and Chaparral** | **Inner Coast Range Grassland Habitat** | **San Joaquin Valley Floor Alkali Sink Habitat** | **Agricultural and Urban Habitat Mosaic** | **San Joaquin Valley Floor and Annual Grassland Habitat** | **Central / Southern Sierra Nevada Foothill Biotic Region** | **Central / Southern High Sierra** |
| Mountain yellow-legged frog *Rana muscosa* | | | | | | X | |
| Western spadefoot toad *Scaphiopus hammondii* | | | | | X | X | |
| Yosemite toad *Bufo canorus* | | | | | | | X |
| **REPTILES** | | | | | | | |
| Blunt-nosed leopard lizard *Gambelia (=croataphytus) silus* | | | X | | X | | |
| California horned lizard *Pharynosoma coronatum frontale* | | | X | | X | X | |
| Giant garter snake *Thamnophis gigas* | | | | | X | | |
| Western pond turtle *Clemmys marmorata* | | | | | X | X | |
| San Joaquin coachwhip *Masticophis flagellum ruddocki* | | | | | X | X | |
| Silvery legless lizard *Anniella pulchra pulchra* | | | | | X | X | |
| **BIRDS** | | | | | | | |
| Common loon *Gavia immer* | | | | | X | X | |
| Double creasted cormorant *Phalacrocorax auritus* | | | X | X | X | X | |
| Aleution Canada goose *Branta canadensis leucopareia* | | | | | X | | |
| Fulvous whistling duck *Dendrocygna Bicolor* | | | | | X | X | |
| Harlequin duck *Histrionicus histrionicus* | | | | | X | X | |
| Barrow's goldeneye *Bucephela islandica* | | | | | X | X | |
| American white pelican *Pelecanus erythrorhynchos* | | | | | X | | |
| California gull *Larus californicus* | | | X | X | X | | |
| Lack tern *Chlidonias niger* | | | | | X | | |
| White faced ibis *Plegadis chihi* | | X | X | X | X | | |
| Greater sandhill crane *Grus canadensis tabida* | | X | X | X | X | | |
| Mountain plover *Charadrius montanus* | | | | | X | X | |
| Long-billed curlew *Numenius americanus* | | | X | X | X | X | |
| Northern harrier *Circus cyaneus* | X | X | X | X | X | X | |
| Cooper's hawk *Accipiter cooperi* | X | | | | | X | |
| Sharp-shinned hawk *Accipiter striatus* | X | | | | | X | |
| Northern goshawk *Accipiter gentilis* | | | | | | X | X |
| Swainson's hawk *Buteo swainsoni* | X | X | X | X | X | | |
| Ferruginous hawk *Buteo regalis* | X | X | | X | X | X | |
| Golden eagle *Aquila chrysaetos* | X | X | | X | X | X | |

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| Bald eagle *Haliaeetus leucocephalus* | X | X | | | X | X | |
| Osprey *Pandio haliaetus* | | | | | | X | X |
| American peregrine falcon *Falco peregrinus anatum* | X | X | | | X | X | |
| Prairie falcon *Falco mexicanus* | X | X | | | X | X | |
| Merlin *Falco columbarius* | | | | | X | X | |
| Great grey owl *Strix nebulosa* | | | | | | | X |
| Long-eared owl *Asio otus* | | | | | X | X | |
| Short-eared owl *Asio flammeus* | | | X | | X | | |
| Western burrowing owl *Athene cunicularia* | | X | X | X | X | X | |
| California spotted owl *Strix occidentalis occidentalis* | | | | | | X | X |
| Western yellow billed cuckoo *Coccyzus americanus occidentalis* | | | | | X | | |
| Little willow flycatcher *Empidonax trailli brewsteri* | | | X | | X | | |
| California horned lark *Eremophilia alpestris actia* | | | | | X | X | |
| Black swift *Cypseloides niger* | | | | | X | X | |
| Vaux's swift *Chaetura vauxi* | | | | | | X | |
| Bank swallow *Riparia riparia* | | | X | | X | | |
| Least Bell's vireo *Vireo bellii pusillus* | | | X | | X | | |
| Yellow warbler *Dendroica petechia* | | | | | X | X | |
| Tricolored blackbird *Agelaius tricolor* | | X | X | X | X | | |
| Yellow-breasted chat *Icteria virens* | | | | | X | | |
| **MAMMALS** | | | | | | | |
| California bighorn sheep *Ovis canadensis californica* | | | | | | | X |
| Ringtail *Bassariscus astutus* | | | | | X | X | |
| American badger *Taxidea taxus* | | X | | | X | X | |
| Sierra Nevada Mountain beaver *Aplodontia rufa californica* | | | | | X | X | |
| San Joaquin kit fox *Vulpes macrotis mutica* | | X | X | X | X | | |
| Pacific fisher *Martes pennanti pacifica* | | | | | | X | X |
| Sierra Nevada red fox *Vulpes vulpes necator* | | | | | | | X |
| Small-footed myotis bat *Myotis ciliolabrum* | | | | | X | X | |
| Long-eared myotis bat *Myotis evotis* | | | | | X | X | |
| Pallid bat | | | | | X | X | |

## TABLE 4.9-1

## SPECIAL-STATUS SPECIES OF FRESNO COUNTY BY GEOGRAPHIC REGION

| Scientific Name[1] Common Name | Habitat Distribution in Fresno County | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Inner Coast Range Blue-Oak Woodland and Chaparral** | **Inner Coast Range Grassland Habitat** | **San Joaquin Valley Floor Alkali Sink Habitat** | **Agricultural and Urban Habitat Mosaic** | **San Joaquin Valley Floor and Annual Grassland Habitat** | **Central / Southern Sierra Nevada Foothill Biotic Region** | **Central / Southern High Sierra** |
| *Antrozous pallidus* | | | | | | | |
| Western mastiff bat<br>*Eumops perotis californicus* | | | | | X | X | |
| Spotted bat<br>*Euderma maculatum* | | | | | X | X | |
| Fringed myotis bat<br>*Myotis thysanodes* | | | | | X | X | |
| Long-legged myotis bat<br>*Myotis volans* | | | | | X | X | |
| Yuma myotis bat<br>*Myotis yumanensis* | | | | | X | X | |
| Townsend's big-eared bat<br>*Plecotus townsendii pallescens* | | | | | X | X | |
| Pacific western big-eared bat<br>*Plecotus townsendii townsendii* | | | | | X | X | |
| Mt. Lyell Shrew<br>*Sorax lyelli* | | | | | | | X |
| San Joaquin Valley woodrat<br>*Neotoma fuscipes riparia* | | | | | X | | |
| Short-nosed kangaroo rat<br>*Dipodomys nitraoides brevinasus* | | X | X | | X | | |
| Fresno kangaroo rat<br>*Dipodomys nitraoides exilis* | | X | X | | X | | |
| Giant kangaroo rat<br>*Dipodomys nitraoides ingens* | | X | X | | X | | |
| Tipton kangaroo rat<br>*Dipodomys nitraoides nitraoides* | | X | X | | X | | |
| Nelson's antelope ground squirrel<br>*Ammospermophlis nelsoni* | | X | | | X | | |
| Southern grasshopper mouse<br>*Onychomys torridus ramona* | | X | X | | X | | |
| Heermannis Kangaroo rat<br>*Dipodomys heermanni* | | X | X | | X | | |
| San Joaquin pocket mouse<br>*Perognathus inornatus inornatus* | | | | | X | X | |
| Tulare grasshopper mouse<br>*Onychomys torridus tularensis* | | X | X | | X | | |

Sources: California Department of Fish and Game, *California Natural Diversity Database*, 1996; California Native Plant Society, *Electronic Inventory of Rare and Endangered Vascular Plants of California*, March 1994; Federal Register Vol 61, No. 40, February 28, 1996. Peterson Field Guides, *Freshwater Fishes*. 1991.

NOTES: [1]Scientific names are based on the following sources: ABA 1995, Jennings 1983, Hickman 1993, Zeiner *et al.* 1990.

[2]For status, season and habitat requirements, see Table 7-2 in the *Background Report.*