

This biological resources section summarizes the natural resources present within the City of Elk Grove Planning Area (Planning Area), and includes a discussion of the special-status species potentially occurring and sensitive habitats present in the area. This section also identifies impacts associated with the adoption of the proposed General Plan. Cumulative impact analysis is also provided in this section. The biological resources setting and impact analysis discussion was prepared by Foothill Associates.

4.10.1 SETTING

REGIONAL SETTING

Sacramento County lies in the middle of the Central Valley bordered by Contra Costa and San Joaquin counties on the south, Amador and El Dorado counties on the east, Placer and Sutter counties on the north, and Yolo and Solano counties on the west. The County extends from the low delta lands between the Sacramento and San Joaquin rivers north to the foothills of the Sierra Nevada Mountains. Plant communities predominant in this region include agricultural croplands, annual grassland, deltaic marsh (freshwater, brackish, and salt), horticultural/landscaped, fallow agricultural lands, oak woodland, open water (rivers, creeks, sloughs, etc.), riparian, and seasonal wetland.

LOCAL SETTING

The Planning Area, which encompasses approximately 93,560 acres including the City of Elk Grove, is located within the USGS 7.5 minute Bruceville, Buffalo Creek, Carmichael, Clarksburg, Courtland, Elk Grove, Florin, Galt, and Sloughhouse quadrangles. Elevations within the Planning Area range from sea level to approximately 150 feet above mean sea level (MSL). Plant communities within the Planning Area include agricultural cropland, annual grassland, fallow agricultural land, horticultural/landscape, irrigation ditches, irrigated pastures, open waters, perennial and seasonal marshes, riparian woodlands, seasonal wetlands, and vernal pools. Land uses throughout the Planning Area vary; the predominant land uses include agricultural, commercial, and residential. Natural undisturbed open space is present in the western portion of the Planning Area within the Stone Lakes National Wildlife Refuge and in the eastern portion of the Planning Area within the Cosumnes River Preserve.

BIOLOGICAL COMMUNITIES/VEGETATION TYPES

The biological communities that occur in the Planning Area are discussed below. Common plant and wildlife species occurring, or expected to occur within these habitats are also addressed in the following section. Biological communities found in the Planning Area include agricultural cropland, annual grassland, fallow agricultural land, horticultural/landscaped, irrigation ditches, open waters, perennial and seasonal marsh, seasonal wetlands, and vernal pools. In addition to the habitat types found in the City, irrigated pastures and riparian oak woodlands are found in the Planning Area (see **Figure 4.10-1**).

Agricultural Cropland

Vegetation

Agricultural cropland occurs interspersed throughout the rural residential areas in the City, and throughout the Planning Area, with the majority occurring within the western portion of the Planning Area. Because this habitat is intensively managed, vegetation is limited to cultivated crops, predominately grains, orchards, and vineyards, with ruderal (weedy) vegetation along

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the margins. Ruderal species observed include Italian ryegrass (*Lolium multiflorum*), ripgut brome (*Bromus diandrus*), and yellow star-thistle (*Centaurea solstitialis*).

Wildlife

Agricultural cropland generally provides low breeding habitat for wildlife species due to the high level and frequency of disturbance; however, it provides cover and foraging habitat for many species. Species expected to occur in this habitat include American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), western scrub jay (*Aphelocoma californica*), yellow-billed magpie (*Pica nuttalli*), black-tailed jackrabbit (*Lepus californicus*), and deer mouse (*Peromyscus maniculatus*).

Annual Grassland

Vegetation

Annual grassland habitat occurs along the margin of the City and is widespread throughout the Planning Area. Common grassland species expected to occur in this habitat include non-native grasses such as Italian ryegrass, ripgut brome, soft chess brome (*Bromus hordeaceus*), and wild oat (*Avena* sp.); weedy herbaceous species such as rose clover (*Trifolium hirtum*), smooth cat's ear (*Hypochaeris glabra*), spring vetch (*Vicia sativa*), and yellow star-thistle; and native herbaceous species such as brodiaea (*Brodiaea* sp.), and Fitch's tarweed (*Hemizonia fitchii*). Additionally, many bluegum eucalyptus (*Eucalyptus globulus*), California black walnut (*Juglans hindsii*), English walnut (*Juglans regia*), and valley oaks (*Quercus lobata*) were observed in this habitat within the Planning Area, with the majority of the tree species occurring adjacent to roadways.

Wildlife

Annual grassland habitat supports breeding, cover, and foraging habitat for a variety of wildlife species. Species expected to occur in this habitat include American crow, mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), black-tailed jackrabbit, California ground squirrel (*Spermophilus beecheyi*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus californicus*). Additionally, American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), turkey vulture (*Cathartes aura*), and white-tailed kite (*Elanus caeruleus*) were observed in this habitat during field reconnaissance.

Fallow Agricultural Land

Vegetation

Fallow agricultural land occurs throughout the Planning Area. In general, within the City the majority of this habitat occurs adjacent to parks and recreational areas, and within undeveloped areas. The majority of fallow agricultural land within the Planning Area occurs within the eastern and southern portion of the area and is primarily used for livestock grazing. Plant species expected to occur within this habitat include field mustard (*Brassica* sp.), filaree (*Erodium botrys*), Fitch's tarweed, Italian ryegrass, and wild oats.

Wildlife

Similar to annual grassland habitat, fallow agricultural land provides breeding, cover, and foraging habitat for a variety of wildlife species. Species expected to occur in this habitat are similar to those expected to occur in the annual grassland habitat discussed above.

Horticultural/Landscaped

Vegetation

Horticultural/landscaped vegetation is associated with residences within the Planning Area. This habitat is also associated with commercial lots within the City. Typically non-native plant species are incorporated into landscape design in residential and commercial areas. Species commonly associated with these areas include agapanthus (*Agapanthus africanus*), Italian cypress (*Cupressus sempervirens*), oleander (*Nerium oleander*), and sweet gum (*Liquidambar styraciflua*).

Wildlife

Horticultural/landscaped vegetation provides marginal habitat for wildlife species. Species expected to occur in these areas include Brewer's blackbird (*Euphagus cyanocephalus*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), rockdove (*Columba livia*), and white-crowned sparrow (*Zonotrichia leucophrys*).

Irrigation Ditches

Vegetation

Irrigation ditches flow through several portions of the Planning Area. These ditches are predominantly devoid of vegetation; however, the associated banks support hydrophytic vegetation. Predominant species associated with this habitat include bulrush (*Scirpus microcarpus*), curly dock (*Rumex crispus*), narrow-leaved cattail (*Typha angustifolia*), and smartweed (*Polygonum* sp.). Additionally, some riparian woodland vegetation is associated with the ditches. The riparian woodland species observed include arroyo willow (*Salix lasiolepis*), Fremont's cottonwood (*Populus fremontii*), and valley oak.

Wildlife

Irrigation ditches provide suitable breeding, cover, and foraging habitat for a variety of wildlife species. Belted kingfisher (*Ceryle alcyon*), and great egret (*Ardea alba*) were observed in this habitat. Marsh wren (*Cistothorus palustris*), red-wing blackbird (*Agelaius phoeniceus*), and other bird species could also use this habitat.

Irrigated Pasture

Vegetation

Irrigated pastures occur both within the City, particularly on rural residential parcels at the eastern end edge the area, as well as the southern portion of the Planning Area. These pastures are used for livestock grazing. Grass and herbaceous species tolerant of year-round wet conditions are associated with this habitat. The frequent irrigation of these areas has resulted in the establishment of areas of seasonal and perennial wetland conditions in some pastures. Common wetland vegetation observed in these areas includes species such as bulrush, narrow-leaved cattail, sedge (*Carex* sp.), and spike rush (*Eleocharis* sp.).

Wildlife

Irrigated pastures support foraging habitat for a variety of avian and small mammal species and the wetlands areas interspersed throughout this habitat likely support a variety of wildlife species. Species expected to occur within this habitat include great egret, great blue heron (*Ardea*

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herodias), red-winged blackbird, bullfrog (*Rana catesbeiana*), and Pacific chorus frog (*Pseudacris regilla*).

Open Water

Vegetation

Open water habitats in the Planning Area include lakes, ponds, intermittent and perennial creeks, and rivers. Portions of Deer Creek, Elk Grove Creek, Laguna Creek, Strawberry Creek, and White House Creek occur in the City, while portions of Beacon Creek, Cosumnes River, Deer Creek, Morrison Creek, and Stone Lakes occur in the Planning Area. The Sacramento River occurs along the western boundary of the Planning Area. Vegetation within and adjacent to these habitats consists of riparian vegetation. Riparian vegetation varies from thick, well-developed riparian zones (for example, along the Cosumnes River) to non-wooded areas where vegetation has been cleared, or naturally does not occur (for example, sections of Laguna Creek). Vegetation in riparian zones is further discussed under the sub-heading of Riparian Oak Woodland.

Wildlife

Several aquatic species use open water habitats including fish species, bullfrog and Pacific chorus frog, as well as avian and mammal species. Wildlife species expected to occur in this habitat include belted kingfisher, great blue heron, great egret, mallard (*Anas platyrhynchos*), mule deer, and raccoon (*Procyon lotor*).

Perennial and Seasonal Marsh

Vegetation

Perennial and seasonal marsh habitat occurs adjacent to several of the open water habitats within the Planning Area. Additionally, this habitat occurs within the Regional Wastewater Treatment Plant in the western portion of the Planning Area. Marshes support such species as baltic rush (*Juncus balticus*), broad-leaved cattail (*Typha latifolia*), narrow-leaved cattail, and spike rush.

Wildlife

Wildlife species use perennial and seasonal marsh habitat for temporary water sources and cover. Species expected to occur in this habitat include black phoebe (*Sayornis nigricans*), great blue heron, great egret, red-winged blackbird, bullfrog, and Pacific chorus frog.

Riparian Oak Woodland

Vegetation

Riparian oak woodland habitat supports a diversity of plant species that have adapted to the wet soil conditions found alongside waterways. This habitat occurs adjacent to irrigation ditches and on the margins of some of the open water and perennial and seasonal marsh habitats in the Planning Area. Dominant plant species in this habitat include arroyo willow, Fremont's cottonwood, red willow (*Salix laevigata*), and valley oak. Additional plant species expected to occur in this habitat include California buckeye (*Aesculus californica*) and coffeeberry (*Rhamnus* sp.).

Wildlife

The riparian oak woodland habitat in the Planning Area provides substantial breeding, cover, and foraging habitat for a variety of resident and migratory wildlife species. Additionally, this habitat provides a sheltered corridor for wildlife movement. Species expected to occur in this habitat include belted kingfisher, black phoebe, bushtit (*Psaltriparus minimus*), great blue heron, great egret, and mule deer.

Seasonal Wetlands

Vegetation

Seasonal wetland habitat is typically associated with shallow drainages, swales, or depressions, which inundate long enough to support hydric soils and hydrophytic vegetation. Seasonal wetland habitat occurs within the annual grassland and irrigated pasture habitats in the City and Planning Area. This habitat is expected to support grasses and other herbaceous species, such as fiddle dock (*Rumex pulcher*), Mediterranean barley (*Hordeum marinum*), mint (*Mentha spicata*), and perennial ryegrass (*Lolium perenne*).

Wildlife

Wildlife species use seasonal wetlands for temporary water sources and cover. Species expected to occur in this habitat are similar to those expected to occur in the annual grassland, irrigated pasture, and perennial and seasonal marsh habitats as discussed above.

Vernal Pools

Vegetation

Vernal pools are shallow depressions underlain by an impermeable layer causing them to inundate following winter rains. Similar to the seasonal wetland habitat in the Planning Area, this habitat occurs within the annual grassland and irrigated pasture habitats, primarily within the eastern portion of the City and within eastern portions of the Planning Area. Species expected to occur in this habitat include annual hairgrass (*Deschampsia danthonioides*), coyote thistle (*Eryngium vaseyi*), navarretia (*Navarretia* sp.), popcorn flower (*Plagiobothrys* sp.), rabbit's foot grass (*Polypogon monspeliensis*), and woolly marbles (*Psilocarphus brevissimus*).

Wildlife

Vernal pools support invertebrate communities that thrive in inundated conditions. Invertebrate species that potentially occur in vernal pools include common and special-status species such as clam shrimp (*Cyzicus californicus*), seed shrimp (*Cypria* sp.), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and several aquatic insects.

4.10.2. REGULATORY FRAMEWORK

The following describes federal, state, and local environmental laws and policies that are relevant to the CEQA review process.

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FEDERAL

Federal Endangered Species Act

The United States Congress passed the federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming (including significantly modifying or degrading habitat), pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (16 USC 1532, 50 CFR 17.3). Actions that result in take can result in civil or criminal penalties.

The FESA and EPA Section 404 guidelines prohibit the issuance of wetland permits for projects that would result in the take of a threatened or endangered wildlife or plant species. The U.S. Army Corps of Engineers must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) when threatened or endangered species may be affected by a proposed project to determine whether issuance of a Section 404 permit would result in the take of a listed species. In the context of the study site, the federal ESA would be triggered if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in the take a threatened or endangered species.

Migratory Bird Treaty Act

Raptors (birds of prey), migratory birds, and other avian species are protected by a number of state and federal laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of Interior. Section 3503.5 of the California Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes 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.”

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (Corps) regulates discharge of dredged or fill material into waters of the United States under Section 404 of the Clean Water Act (CWA). “Discharges of fill material” is defined as the addition of fill material into waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; fill for intake and outfall pipes and subaqueous utility lines [33 C.F.R. Section 328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a

frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. Section 328.3(b)].

Furthermore, Jurisdictional Waters of the U.S. can be defined by exhibiting a defined bed and bank and ordinary high water mark (OHWM). The OHWM is defined by the Corps as “that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. Section 328.3(e)].

STATE

California Endangered Species Act

The State of California enacted the California Endangered Species Act (CESA) in 1984. The CESA is similar to the FESA but pertains to state-listed endangered and threatened species. It requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing California Environmental Quality Act (CEQA) documents to ensure that the state lead agency actions do not jeopardize the existence of listed species. It directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur, and allows CDFG to identify “reasonable and prudent alternatives” to the project consistent with conserving the species.

The state ESA prohibits the taking of state-listed endangered or threatened plant and wildlife species. CDFG exercises authority over mitigation projects involving state-listed species, including those resulting from CEQA mitigation requirements. CDFG may authorize taking if an approved habitat management plan or management agreement that avoids or compensates for possible jeopardy is implemented. CDFG requires preparation of mitigation plans in accordance with published guidelines.

CDFG Species of Special Concern

In addition to formal listing under FESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of “Species of Special Concern,” developed by the CDFG. It tracks species in California whose numbers, reproductive success, or habitat may be threatened.

California Native Plant Society

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

- List 1A: Plants Believed 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.

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- List 3: Plants About Which We Need More Information - A Review List.
- List 4: Plants of Limited Distribution - A Watch List.

Sacramento County General Plan

The Sacramento County General Plan is used as the “blueprint” to guide future development in unincorporated portions of the County, including sections of the Planning Area that are outside the Elk Grove city limits. The following Sacramento County biological resource policies are applicable to the Planning Area outside the existing city limits of Elk Grove.

- CO-60 Marshland and riparian areas of special significance shall be designed as natural preserves on the General Plan.
- CO-61 Natural Preserves shall not include adjacent irrigated pasture or cropland. However, they may include up to 200 feet of adjoining grassland or grazing area, or up to one-fourth mile of grassland between parallel riparian or marsh areas.
- CO-62 Ensure no net loss of marsh and riparian woodland acreage, values or functions.
- CO-63 Community Plans and specific plans shall include a complete inventory of seasonal and permanent marshland, riparian habitat, and riparian woodland.
- CO-64 Seasonal and permanent marshland within designated natural preserves shall not be drained or filled for the purpose of converting the land to another use.
- CO-65 In any cases where complete or selective removal of riparian woodland or scrub habitat is necessary for channel maintenance, public safety, or installation of infrastructure, it will be planned and carried out, or mitigated, so as to minimize unavoidable impacts upon biological resources.
- CO-66 Encroachments within the designated floodway of Sacramento waterways shall be consistent with policies to protect marsh and riparian areas.
- CO-67 Parcels shall not be created wherein much of the parcel area would comprise marsh or riparian habitat rendering the parcel unbuildable except when within a floodplain corridor or to be dedicated to and maintained by the County for flood control, drainage, and wetland maintenance.
- CO-68 Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations. Such areas may, but need not necessarily, function as mitigation banks for other impacts upon biological resources due to development.
- CO-69 Review projects for potential to restore marsh/riparian woodlands, considering effects on vernal pools, ground water, flooding, and proposed fill or removal of marsh and riparian habitat.
- CO-70 Public or private projects involving filling or removal of marsh/riparian habitat shall be mitigated outside of natural preserves where on-site mitigation is not

desirable or appropriate shall be mitigated through the purchase of mitigation credits for restored wetlands/riparian areas at no net loss.

- CO-71 Community and Specific Plans shall identify potential areas, if any, where marsh or riparian habitat restoration/creation can be undertaken.
- CO-72 New or restored marsh/riparian woodlands shall be under ownership of a public agency or subject to a permanent conservation easement.
- CO-73 Specific restoration/creation areas identified in Community Plans in accordance with Policy CO-71 shall be adequate in characteristics and acreage to accommodate mitigation for likely wetland impacts resulting from development as designated in the respective Community Plans.
- CO-74 Reduce dependence on traditional levee protection methods where those methods conflict with habitat preservation efforts and where alternate methods exist which are compatible with preservation efforts and offer an acceptable level of bank stabilization.
- CO-75 Reduce bank and levee erosion by prohibiting erosive wake activity generated by recreational and commercial boating.
- CO-76 Encourage federal, state and local agencies overseeing levee stabilization to investigate and, whenever possible, utilize alternatives to riprapping and other conventional stabilization methods.
- CO-77 Encourage habitat restoration and increasing recreational opportunities as an integral part of stabilization efforts.
- CO-78 Focus vernal pool preservation in permanent open space areas beyond the Urban Area.
- CO-79 Strive to link preserves in the County system and create a network that encompasses all vernal pool types.
- CO-80 Select vernal pool preserves based on the following evaluation criteria: representativeness, habitat quality, watershed integrity, defensibility, buffer, preserve size, plant species variety, and presence of special status species.
- CO-81 Ensure that vernal pool preserves are large enough to protect vernal pool watersheds, provide an adequate buffer, have sufficient number and extent of pools to support adequate species populations and a range of vernal pool classes.
- CO-82 Establish criteria and guidelines addressing the need for siting and management of natural preserves. At a minimum, the following should be considered:
- resource(s) to be lost, restored and/or replaced, functional values,
 - mitigation alternatives, including mitigation banks.
- CO-83 Ensure no net loss of vernal pool acreage, and/or values and functions, and mitigate any loss in relation to the values of quality of habitat.

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- CO-84 Evaluate feasible on-site alternatives in the environmental review process that reduce impacts on vernal pools and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria identified in the report "Sacramento County Vernal Pools" (1990).
- CO-85 Require in-kind compensation for the type and functional values of vernal pools eliminated by development.
- CO-86 When on-site preservation or mitigation is infeasible or undesirable, require off-site mitigation at County-approved mitigation banks within Sacramento County.
- CO-87 Mitigation for vernal pool loss shall be considered in the environmental review process, and mitigation shall be required based on information contained within the environmental documents on the quality of those resources and their ability to be sustained within an urban setting.
- CO-88 Foster competitive pricing for mitigation bank credits by allowing government agencies, non-profit organizations, and private landowners to establish vernal pool preserves, designate mitigation areas, create and restore vernal pools, and sell credits to developers for off-site mitigation.
- CO-89 Proposed mitigation banks shall be consistent with evaluation and size criteria for vernal pool preserves identified in the report "Sacramento County Vernal Pools" (1990), unless compelling circumstances justify otherwise.
- CO-90 Prioritize creation of mitigation banks in areas where sites suitable for creating new vernal pools exist in close proximity to existing vernal pools.
- CO-91 The determination of mitigation bank credits shall be based on the ecological values of the area and distinguish between the type of vernal pool. Mitigation bank credits shall also distinguish between the type of mitigation: preservation, restoration, or creation.
- CO-92 Mitigation credits for vernal pool creation or restoration shall not be offered for sale by landowners until monitoring of new or restored areas determines that pre-established criteria in the management plan for species diversity, health and stability are met.
- CO-93 The landowner shall dedicate development rights to the County for the land area applicable to the sale of mitigation credits at the time of the credit sale.
- CO-94 Mitigation bank property owners shall be eligible for tax incentives and/or compensation for income reduction attributable to vernal pool preserve management provided that they:
- a) enter into a Williamson Act Contract
 - b) prepare and implement a County approved management plan, and
 - c) document income reduction attributable to vernal pool protection efforts
- Those portions of the mitigation bank for which mitigation credits have been sold shall not be eligible for tax incentives or operation loss compensation.

- CO-95 Until such time as mitigation credits consistent with the above policies are available, development entitlements involving filling or removal of vernal pools may be granted provided that the project applicant:
- a) purchase and dedicate the development rights for a vernal pool preserve within a General Plan designated Resource Conservation Area, the extent of which shall not be less than the acreage of vernal pool and upland watershed necessary to sustain the viability of the pools that are proposed to be developed, and, which, in conjunction with adjoining planned vernal pool preserves, will provide a long-term, ecologically viable preserve.
 - b) prepare a mitigation and management plan for the preserve area consistent with policies of this section.
 - c) Enter into a long-term agreement with an agency or organization qualified to create, manage and monitor vernal pools.
 - d) Post bond guaranteeing the management funding for a minimum of 50 years.
 - e) Obtains permission from the U.S. Army Corps of Engineers.
 - f) Demonstrate that no rare, threatened or endangered species occur on the site.
- CO-96 Prior to adoption of the mitigation banking ordinance, utilize on a county-wide basis, the adopted interim wetland mitigation/compensation policy: All wetland acreage proposed to be disturbed by any project over which the Board of Supervisors has discretionary approval shall be mitigated/compensated for by either one or a combination of the following methods:
- 1) Preserve or create wetlands sufficient to result in no net loss of wetland acreage, and protect their required watersheds as is necessary for the continued function of wetlands on the project site. The appropriate hearing body shall determine that project design, configuration, and wetland management plan, provide reasonable assurances that the wetlands will be protected and their long-term ecological health maintained.
 - 2) Where a Section 404 Permit has been issued by the Corps of Engineers, or an application has been made to obtain a Section 404 Permit, the Mitigation and Management Plan required by that permit or proposed to satisfy the requirements of the Corps for granting a permit may be submitted for purposes of satisfying paragraph 1, provided that a no net loss of wetlands is achieved and, provided, further, that such mitigation and management plan shall be subject to the independent, discretionary approval of the Board of Supervisors.
 - 3) Pay to the County of Sacramento an amount based on a rate of \$35,000 per acre for the unmitigated/uncompensated wetlands, which shall constitute mitigation for purposes of implementing adopted no net loss policies and CEQA required mitigation. The payment shall be collected by the Department of Planning and Community Development at the time

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of Improvement Plan or Building Permit approval, whichever occurs earlier, and deposited in the Wetlands Restoration Trust Fund.

- CO-97 Limit land uses within established preserves to activities deemed compatible with maintenance of the vernal pool resource, which may include ranching, grazing, passive recreation, scientific study and education.
- CO-98 Preserves shall be planned and managed so as to protect adjacent agricultural activities and avoid conflicts.
- CO-99 Ensure that minimum management requirements for vernal pool preserves and mitigation banks include protection in perpetuity through acquisition of fee title or a permanent conservation easement; a funding source for long-term operation, maintenance, and management; preparation and implementation of a management plan; and establishment of an interagency oversight committee.
- CO-100 The price of mitigation credits offered for sale to compensate for vernal pool losses shall incorporate estimated management costs for a minimum of 50 years.
- CO-101 The agency responsible for overseeing the mitigation bank program shall license private individuals or organizations prior to their assuming vernal pool creation and management responsibilities, and establish appropriate license fees to fund periodic monitoring of mitigation bank management.
- CO-102 The County will provide information to applicants with projects in potential wetland areas and provide coordination assistance with the Army Corps of Engineers in order to facilitate the development review and Section 404 permit review processes.
- CO-128 Allow firewood harvesting of oak woodlands only on a sustained yield basis.
- CO-129 Protect oak woodlands from adverse effects of grazing.
- CO-130 Make every effort to protect and preserve non-oak native, excluding cottonwoods, and landmark trees and protect and preserve native oak trees measuring 6 inches in diameter at 4.5 feet above ground in urban and rural areas, excluding parcels zoned exclusively for agriculture.
- CO-131 Native trees other than oaks, which cannot be protected shall be replaced with in-kind species in accordance with established tree planting specifications, the combined diameter of which shall equal the combined diameter of the trees removed. In addition, with respect to oaks, a provision for a comparable on-site area for the propagation of oak trees may substitute for replacement tree planting requirements at the discretion of the County Tree Coordinator when removal of a mature oak tree is necessary in accordance with consistent policy.
- CO-132 If the project site is not capable of supporting all the required replacement trees a sum equivalent to the replacement cost of the number of trees that cannot be accommodated shall be paid to the County's Tree Preservation Fund. The replacement cost of trees shall be established in accordance with the Council of Tree and Landscape Appraiser's standards for appraising trees.

- CO-133 For discretionary projects involving native oaks, ensure that no net loss of canopy area by (1) preserving the main, central portions of consolidated and isolated groves constituting the existing healthy and unhealthy native oak canopy and (2) provide an area on-site to mitigate any canopy lost. Native oak mitigation area must be a contiguous area on-site which is equal to the size of canopy area lost and shall be adjacent to existing oak canopy to ensure opportunities for regeneration. If on-site mitigation area is not available due to area limitations, developer shall provide off-site mitigation consistent with policy proposed in CO-136.
- CO-134 Mitigate for loss of trees for road expansion and development consistent with County Tree Ordinance and General Plan policies.
- CO-135 In 15 years the native oak canopy within on-site mitigation areas shall be 50 percent canopy coverage for valley oak and 30 percent canopy coverage for blue oak and other native oaks.
- CO-136 If on-site mitigation is not possible given site limitation, off-site mitigation may be considered. Such a mitigation area must meet all of the following criteria to preserve, enhance, and maintain a natural woodland habitat in perpetuity, preferably by transfer of title to an appropriate public entity. Protected woodland habitat could be used as a suitable site for replacement tree plantings required by ordinances or other mitigations.
- Equal or greater in area to the total area that is included within a radius of 30 feet of the dripline of all trees to be removed;
- a. Adjacent to protected stream corridor or other preserved natural areas;
 - b. Supports a significant number of native broadleaf trees; and
 - c. Offers good potential for continued regeneration of an integrated woodland community.
- CO-137 Increase the number of trees planted within residential lots and within new and existing parking lots.
- CO-138 Support private foundations with local funds for their tree planting efforts.
- CO-139 Provide funds for education, programs, and materials emphasizing the value and importance of trees.
- CO-140 Work cooperatively with local utilities to assure that new trees are planted in locations that will maximize energy conservation and air quality benefits.
- CO-141 Manage vegetation on public lands with special status species to encourage native species and discourage nonindigenous invasive species.
- CO-142 Public land shall be maintained to the extent feasible in a manner that avoids conflicts with privately owned lands and agricultural operations.
- CO-143 Control human access to critical habitat areas on public lands to minimize impact upon and disturbance of threatened and endangered species.

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- CO-144 Protect critical habitat areas on public lands from pesticide and other similar chemical residues.
- CO-145 The County shall work with the mosquito abatement district to ensure that mosquito control measures having the least effect on non-target species are implemented in preserved wetlands throughout the County.
- CO-146 The proximity of diverse habitat types shall be considered in identifying nondevelopment areas in Community Plans and in identifying potential or preferred natural preserves and mitigation banks.
- CO-147 Identify suitable habitat for threatened and endangered species through the Community and Specific Plan process.
- CO-148 Habitat conservation plans shall be adopted by the county for any listed species that are year-round inhabitants of the county, are subject to significant cumulative impacts from development, and are not otherwise adequately protected by designated systems of riparian corridors, vernal pool and wetland preserves and mitigation banks, or other nature preserves or wildlife refuges.
- CO-149 Acquisition programs for acquiring open space located within natural areas shall, wherever possible, review the significance of obtaining areas known to contain threatened, endangered, and special status species.
- CO-150 To the extent feasible, plans for urban development and flood control projects shall incorporate habitat corridors connecting on-site or adjoining areas (if any) not designated for alteration.
- CO-154 Voluntary cooperative agreements shall involve those lands within Resource Conservation Areas that contain moderate to high value habitat, exhibit likely habitat restoration potential, or provide foraging opportunities.

SPECIAL-STATUS SPECIES

Special-Status species are defined as plants and animals that are:

1. Legally protected under the California and Federal Endangered Species Acts or under other regulations;
2. Considered sufficiently rare by the scientific community to qualify for such listing; or
3. Considered sensitive because they are unique, declining regionally or locally.

Specifically, special-status plant species are:

- Plants listed or proposed for listing as threatened or endangered under the FESA (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species).
- Plants that are candidates for possible future listing as threatened or endangered under the FESA (64 FR 205, October 25, 1999; 57533-57547).
- Plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered" in California (Lists 1B and 2 in Skinner and Pavlik [1994]).

- Plants listed or proposed for listing by the State of California as threatened or endangered under the California ESA (14 CCR 670.5).
- Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.). Plants considered sensitive by other federal agencies (i.e., U.S. Forest Service, Bureau of Land Management) or state and local agencies or jurisdictions

Specifically, special-status animal species are:

- Animals listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Animals that are candidates for possible future listing as threatened or endangered under the Federal Endangered Species Act (54 CFR 554).
- Animals that meet the definitions of rare or endangered species under the CEQA (CEQA Guidelines, Section 15380).
- Animals listed or proposed for listing by the State of California as threatened and endangered under the California ESA (14 CCR 670.5).
- Animal species of special concern to the California Department of Fish and Game (Remsen [1978] for birds; Williams [1986] for mammals).
- Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Special-Status Species Presence in the Planning Area

Table 4.10-1 identifies the species listed in the USFWS species list for Sacramento County, all of which have once occurred in the vicinity of the City of Elk Grove or may be affected by projects within the vicinity of Elk Grove. The species listed as having no potential for occurrence are species either a) not expected to occur within the Planning Area based on the known range of the species or b) not expected to occur due to lack of suitable habitat within the Planning Area. Additionally, species listed in the CNDDDB as occurring within 5 miles of the Planning Area are included in **Table 4.10-2** as shown on **Figures 4.10-1** and **4.10-2**. Please note that the status designation of many bird species refers to only part of their habitat, for example wintering habitat, nesting colonies, etc. The “potential for occurrence” designation in the table below refers to the potential for the protected habitat to occur within the Planning Area.

4.10 BIOLOGICAL RESOURCES

**TABLE 4.10-1
LISTED AND SPECIAL STATUS SPECIES POTENTIALLY OCCURRING
WITHIN OR IN THE VICINITY OF THE CITY OR THE PLANNING AREA**

| Common Name | Scientific Name | Regulatory Status | Potential for Occurrence |
|--|--|-------------------|--------------------------|
| Plants | | | |
| Ahart's Dwarfrush | <i>Juncus leiospermus</i> var. <i>ahartii</i> | SC; --; 1B | Yes |
| Amador Rush-Rose | <i>Helianthemum suffrutescens</i> | SCL; --; 3 | No |
| Antioch Dunes Evening Primrose | <i>Oenothera deltoids</i> ssp. <i>Howellii</i> | FE; CE; 1B | No |
| Boggs Lake Hedge-hyssop | <i>Gratiola heterosepala</i> | --; CE; 1B | Yes |
| Delta Tule-pea | <i>Lathyrus jepsonii</i> var. <i>jepsonii</i> | SC; --; 1B | Yes |
| Dwarf Downingia | <i>Downingia pusilla</i> | --; --; 2 | Yes |
| Legenere | <i>Legenere limosa</i> | SC; --; 1B | Yes |
| Mason's Lilaeopsis | <i>Lilaeopsis masonii</i> | SC; CR; 1B | Yes |
| Northern California Black Walnut | <i>Juglans californica</i> var. <i>hindsii</i> | SC; --; 1B | Yes |
| Pincushion navaretia | <i>Naverretia myersii</i> spp. <i>Myersii</i> | SC; --; 1B | Yes |
| Rose Mallow | <i>Hibiscus lasiocarpus</i> | SC; --; 1B | Yes |
| Sacramento Orcutt Grass | <i>Orcuttia viscida</i> | FE; CE; 1B | Yes |
| Sacramento Orcutt Grass Critical Habitat | <i>Orcuttia viscida</i> Critical Habitat | -- | Yes |
| San Joaquin Saltbrush | <i>Atriplex joaquiniana</i> | SC; --; 1B | Yes |
| Sanford's Arrowhead | <i>Sagittaria sanfordii</i> | SC; --; 1B | Yes |
| Slender Orcutt Grass | <i>Orcuttia tenuis</i> | FT; CE; 1B | Yes |
| Slender Orcutt Grass Critical Habitat | <i>Orcuttia tenuis</i> Critical Habitat | -- | Yes |
| Soft Bird's-Beak | <i>Cordylanthus mollis</i> ssp. <i>mollis</i> | FE; CR; 1B | No |
| Stinkbells | <i>Fritillaria agrestis</i> | SCL; --; 4 | No |
| Suisun Marsh Aster | <i>Aster lentus</i> | SC; --; 1B | No |
| Tuolomne Coyote-thistle | <i>Eryngium pinnatisectum</i> | SC; --; 1B | No |
| Wildlife | | | |
| Invertebrates | | | |
| Antioch Dunes anthicid beetle | <i>Anthicus antiochensis</i> | SC; --; -- | No |
| California linderiella | <i>Linderiella occidentalis</i> | SC; --; -- | Yes |
| Conservancy fairy shrimp | <i>Brachinecta conservation</i> | FE; --; -- | Yes |
| Curved-foot hygrotus diving beetle | <i>Hygrotus curvipes</i> | SC; --; -- | No |

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| Common Name | Scientific Name | Regulatory Status | Potential for Occurrence |
|---|--|--------------------------------------|--------------------------|
| Delta Green ground beetle | <i>Elaphrus viridis</i> | FT; --; -- | No |
| Midvalley Fairy Shrimp | <i>Branchinecta mesovallensis</i> | SC; --; -- | Yes |
| Sacramento Anthicid beetle | <i>Anthicus sacramento</i> | SC; --; -- | No |
| San Joaquin Dune beetle | <i>Coelus gracilis</i> | SC; --; -- | No |
| Valley Elderberry Longhorn beetle | <i>Desmocerus californicus dimorphus</i> | FT (PX); --; -- | Yes |
| Vernal Pool Fairy Shrimp | <i>Branchinecta lynchi</i> | FT; --; -- | Yes |
| Vernal Pool Tadpole Shrimp | <i>Lepidurus packardii</i> | FE; --; -- | Yes |
| Amphibians/Reptiles | | | |
| California Horned Lizard | <i>Phrynosoma coronatum frontale</i> | SC; CSC (protected full species); -- | Yes |
| California Red-legged Frog | <i>Rana aurora draytonii</i> | FT; CSC (protected full species); -- | No |
| California Tiger Salamander | <i>Ambystoma californiense</i> | C; CSC (protected); -- | Yes |
| Giant Garter Snake | <i>Thamnophis gigas</i> | FT; CT (protected); -- | Yes |
| Foothill Yellow-legged Frog | <i>Rana boylei</i> | SC; CSC (protected); -- | No |
| Northwestern Pond Turtle | <i>Clemmys marmorata marmorata</i> | SC; CSC; -- | Yes |
| Silvery Legless Lizard | <i>Anniella pulchra pulchra</i> | SC; CSC; -- | Yes |
| Western Spadefoot Toad | <i>Scaphiopus hammondi</i> | SC; CSC (protected); -- | Yes |
| Fish | | | |
| Central Valley Fall/Late Fall-run Chinook Salmon and Critical Habitat | <i>Oncorhynchus tshawytscha</i> | C; CSC; -- | Yes |
| Central Valley Spring-run Chinook Salmon | <i>Oncorhynchus tshawytscha</i> | FT; CT; -- | Yes |
| Central Valley Winter – run Chinook Salmon and Critical Habitat | <i>Oncorhynchus tshawytscha</i> | FE; CE; -- | Yes |
| Central Valley Steelhead | <i>Oncorhynchus mykiss</i> | FT; --; -- | Yes |
| Delta Smelt | <i>Hypomesus transpacificus</i> | FT; CT; -- | Yes |
| Green Sturgeon | <i>Acipenser medirostris</i> | SC; CSC; -- | Yes |
| Kern Brook Lamprey | <i>Lampetra hubbsi</i> | SC; CSC; -- | No |
| Longfin Smelt | <i>Spirinchus thaleichthys</i> | SC; CSC; -- | No |
| Pacific Lamprey | <i>Lampetra tridentata</i> | SC; --; -- | Yes |

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| Common Name | Scientific Name | Regulatory Status | Potential for Occurrence |
|---------------------------|--|---|--------------------------|
| River Lamprey | <i>Lampetra ayresi</i> | SC; CSC; -- | Yes |
| Sacramento Perch | <i>Archoplites interruptus</i> | --; CSC; -- | No |
| Sacramento Splittail | <i>Pogonichthys macrolepidotus</i> | FT; CSC; -- | Yes |
| <i>Birds</i> | | | |
| Aleutian Canada Goose | <i>Branta Canadensis leucopareia</i> | FD; --; -- (Wintering) | Yes |
| American Bittern | <i>Botaurus lentiginosus</i> | SC; --; -- | Yes |
| American Peregrine Falcon | <i>Falco peregrinus anatum</i> | D; CE (fully protected); -- (nesting) | No |
| Bald Eagle | <i>Haliaeetus leucocephalus</i> | FT (PD); CE (fully protected); -- (nesting and wintering) | No |
| Bank Swallow | <i>Riparia riparia</i> | --; CT; -- (nesting) | Yes |
| Black Rail | <i>Laterallus jamaicensis coturniculus</i> | SC; CT (fully protected); -- | Yes |
| Black Tern | <i>Chlidonias niger</i> | SC; CSC; -- (nesting colony) | Yes |
| Brewer's Sparrow | <i>Spizella breweri</i> | SC; --; -- (nesting) | No |
| California Thrasher | <i>Toxostoma redivivum</i> | SC; --; -- | No |
| Common Loon | <i>Gavia immer</i> | SC; CSC; -- (nesting) | No |
| Cooper's Hawk | <i>Accipiter cooperi</i> | --; CSC; -- (nesting) | Yes |
| Double-crested cormorant | <i>Phalacrocorax auritus</i> | --; CSC; -- (rookery site) | No |
| Grasshopper Sparrow | <i>Ammodramus savannarum</i> | SC; --; -- (nesting) | Yes |
| Great Blue Heron | <i>Ardea herodias</i> | --; CDF (sensitive); -- (rookery) | Yes |
| Great Egret | <i>Ardea alba</i> | --; CDF (sensitive); -- (rookery) | Yes |
| Greater Sandhill Crane | <i>Grus Canadensis tabida</i> | --; CT (fully protected); -- | Yes |
| Lawrence's Goldfinch | <i>Carduelis lawrencei</i> | SC; --; -- (nesting) | No |
| Lewis' Woodpecker | <i>Melanerpes lewis</i> | SC; --; -- (nesting) | No |
| Little Willow Flycatcher | <i>Empidonax traillii brewsteri</i> | SC; --; -- (nesting) | No |
| Loggerhead Shrike | <i>Lanius ludovivianus</i> | SC; CSC; -- (nesting) | Yes |
| Long-billed Curlew | <i>Numenius americanus</i> | SC; CSC; -- (nesting) | No |
| Mountain Plover | <i>Charadrius montanus</i> | FPT; CSC; -- (wintering) | Yes |
| Nuttall's Woodpecker | <i>Picoides nuttallii</i> | SLC; --; -- | Yes |
| Oak Titmouse | <i>Baeolophus inornatus</i> | SLC; --; -- | Yes |
| Rufous hummingbird | <i>Selasphorus rufus</i> | SC (MNBMC); --; -- (nesting) | No |

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| Common Name | Scientific Name | Regulatory Status | Potential for Occurrence |
|------------------------------------|---|--|--------------------------|
| Short-eared Owl | <i>Asio flammeus</i> | SC; --; -- (nesting) | No |
| Snowy Egret | <i>Egretta thula</i> | SC; --; -- (rookery) | Yes |
| Swainson's Hawk | <i>Buteo swainsoni</i> | --; CT; -- | Yes |
| Tricolored Blackbird | <i>Agelaius tricolor</i> | SC; CSC; -- (nesting colony) | Yes |
| Western Burrowing Owl | <i>Athene cunicularia hypugea</i> | SC; CSC; -- (burrowing sites) | Yes |
| Western Yellow-billed Cuckoo | <i>Coccyzus americanus occidentalis</i> | SC; CE (fully protected); -- (nesting) | Yes |
| White-faced Ibis | <i>Plegadis chihi</i> | SC; CSC; -- (rookery site) | No |
| White-tailed Kite | <i>Elanus caeruleus</i> | SC; (fully protected); -- (nesting) | Yes |
| Mammals | | | |
| Fringed Myotis | <i>Myotis thysanodes</i> | SC; --; -- | Yes |
| Greater Western Mastiff bat | <i>Eumops perotis californicus</i> | SC; CSC; -- | Yes |
| Long-eared Myotis | <i>Myotis evotis</i> | SC; --; -- | Yes |
| Long-legged Myotis | <i>Myotis volans</i> | SC; --; -- | Yes |
| Pacific Western Big-eared bat | <i>Corynorhinus townsendii townsendii</i> | SC; CSC (full species); -- | Yes |
| Pale Townsend's Big-eared bat | <i>Corynorhinus townsendii pallescens</i> | SC; CSC (full species); -- | Yes |
| San Francisco Dusky-footed woodrat | <i>Neotoma fuscipes annectens</i> | SC; CSC; -- | No |
| San Joaquin Pocket Mouse | <i>Perognathus inornatus</i> | SC; --; -- | Yes |
| San Joaquin Woodrat | <i>Neotoma fuscipes riparia</i> | FE; CSC; -- | No |
| Small-footed Myotis | <i>Myotis ciliolabrum</i> | SC; --; -- | Yes |
| Yuma Myotis | <i>Myotis yumanensis</i> | SC; --; -- | Yes |

FE = federally endangered FT = federally threatened

SC = federal species of concern

C = candidate FPT = federal proposed threatened FPE = federal proposed endangered

SLC = Species of Local Concern

CE = state endangered

CT = state threatened CR = state rare

CSC = California species of special concern

C = candidate for listing

1B = CNPS list plants rare, threatened, or endangered in California or elsewhere

2 = CNPS list plants rare, threatened, or endangered in California, but more numerous elsewhere

* = not enough information available on this species

3 = CNPS list plants about which CNPS needs more information

4 = CNPS list plants of limited distribution – a watch list

Source: Foothill Associates, 2002

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**TABLE 4.10-2
LISTED AND SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING
WITHIN THE CITY, PLANNING AREA OR IN THE VICINITY**

| Common Name/ Scientific Name | Regulatory Status (Federal; State; CNPS) | Habitat | Potential for Occurrence |
|---|--|---|-----------------------------|
| Plants | | | |
| Ahart's Dwarf Rush <i>Juncus leiospermus var. ahartii</i> | SC; --; 1B | Along vernal pool margins within mesic valley and foothill grasslands. | Low/Medium/a/ |
| Boggs Lake Hedge-hyssop <i>Gratiola heterospala</i> | --; CE; 1B | Margins of marshes and swamps, and vernal pools with clay soils. | Medium |
| Delta Tule-Pea <i>Lathyrus jepsonii var. jepsonii</i> | SC; --; 1B | Freshwater and brackish marshes and swamps. | Low/Medium/a/ |
| Dwarf Downingia <i>Downingia pusilla</i> | --; --; 2 | Mesic valley and foothill grasslands and vernal pools. | High |
| Legenere <i>Legenere limosa</i> | SC; --; 1B | Vernal pools. | High |
| Mason's Lilaepsis <i>Lilaepsis masonii</i> | SC; CR; 1B | Freshwater and brackish marshes and swamps. | Low/Medium/a/ |
| Northern California Black Walnut <i>Juglans californica var. hindsii</i> | SC; --; 1B | Riparian scrub and riparian woodland. | High |
| Pincushion Navarretia <i>Navarettia myersii</i> spp. <i>Myersii</i> | SC; --; 1B | Vernal pools. | Low |
| Rose Mallow <i>Hibiscus lasiocarpus</i> | --; --; 2 | Vernal pools. | Low/High/a/ |
| Sacramento Orcutt Grass <i>Orcuttia viscida</i> | FE; CE; 1B | Vernal pools. | Medium/High/a/ |
| San Joaquin Saltbrush <i>Atriplex joaquiniana</i> | SC; --; 1B | Alkaline chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands. | Low |
| Sanford's Arrowhead <i>Sagittaria sanfordii</i> | SC; --; 1B | Assorted shallow freshwater marshes and swamps. | High |
| Slender Orcutt Grass <i>Orcuttia tenuis</i> | FT; CE; 1B | Vernal pools. | High |
| Wildlife | | | |
| Invertebrates | | | |
| California Lineriella <i>Linderiella occidentalis</i> | SC; --; -- | Vernal pools. | High |

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| Common Name/ Scientific Name | Regulatory Status (Federal; State; CNPS) | Habitat | Potential for Occurrence |
|---|--|---|-----------------------------|
| Conservancy Fairy Shrimp <i>Brachineta conservatio</i> | FE; --; -- | Vernal pools. | Medium |
| Midvalley Fairy Shrimp <i>Branchinecta mesovallensis</i> | SC; --; -- | Vernal pools. | High |
| Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> | FT; --; -- | Associated with its host plant, the elderberry (<i>Sambucus</i> spp.) | High |
| Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> | FT; --; -- | Vernal pools. | High |
| Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> | FE; --; -- | Vernal pools. | High |
| <i>Amphibians and Reptiles</i> | | | |
| California Horned Lizard <i>Phrynosoma coronatum frontale</i> | SC; CSC (protected full species); -- | Annual grassland, open riparian woodlands, chaparral, and scrub habitats supporting friable soil. | Medium |
| California Tiger Salamander <i>Ambystoma californiense</i> | C; CSC (protected); -- | Annual grasslands associated with seasonal wetlands/vernal pools. | Medium |
| Giant Garter Snake | FT; CT (protected); -- | Densely vegetated streams, rivers, and canals. | High |
| Northwestern Pond Turtle <i>Clemmys marmorata marmorata</i> | SC; CSC; -- | Permanent water source with basking sites. | High |
| Silvery Legless Lizard <i>Anniella pulchra pulchra</i> | SC; CSC; -- | Habitats supporting loose sandy soils and sparse vegetation. | Medium |
| Western Spadefoot Toad <i>Scaphiopus hammondi</i> | SC; CSC (protected); -- | Shallow temporary pools with adjacent grassland habitat. | Medium |
| <i>Fish</i> | | | |
| Central Valley Fall/Late Fall-run Chinook Salmon <i>Oncorhynchus tshawytscha</i> | C; CSC; -- | Sacramento River and its perennial tributaries. | Unlikely/Medium/a / |
| Central Valley Spring-run Chinook Salmon <i>Oncorhynchus tshawytscha</i> | FT; CT; -- | Sacramento River and its perennial tributaries. | Unlikely/Medium/a / |
| Central Valley Winter-run Chinook Salmon <i>Oncorhynchus tshawytscha</i> | FE; CE; -- | Sacramento River and its perennial tributaries. | Unlikely/Medium/a / |
| Central Valley Steelhead <i>Oncorhynchus mykiss</i> | FT; --; -- | Sacramento River and its perennial tributaries. | Unlikely/Medium/a / |

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| Common Name/ Scientific Name | Regulatory Status (Federal; State; CNPS) | Habitat | Potential for Occurrence |
|--|--|---|-----------------------------|
| Delta Smelt <i>Hypomesus transpacificus</i> | FT; CT; -- | Concentrated in Sacramento River between Colinsville and Rio Vista. | Unlikely/Medium/a/ / |
| Sacramento Spittail <i>Pogonichthys macrolepidotus</i> | FT; CT; -- | Concentrated in Sacramento River between Colinsville and Rio Vista. | Unlikely/Medium/a/ / |
| Sturgeon and Lamprey <i>Acipenser</i> sp. & <i>Lempetra</i> sp. | FT; CSC; -- | Sacramento River below Red Bluff. | Unlikely/Medium/a/ / |
| <i>Birds</i> | | | |
| Aleutian Canada Goose <i>Branta canadensis leucopareia</i> | FD (wintering); -- ; -- | A winter resident that occurs in agricultural cropland, marshes, and pastures. | Medium |
| American Bittern <i>Botaurus lentiginosus</i> | SC; --; -- | Freshwater and brackish wetlands with emergent vegetation. | Medium |
| Bank Swallow <i>Riparia riparia</i> | --; CT (nesting); -- | Restricted to riparian areas with vertical cliffs and banks with fine-textured or sandy soil, into which it digs nesting holes. | Medium |
| Black Rail <i>Laterallus jamaicensis coturniculus</i> | SC; CT (fully protected); -- | Saline, brackish, and fresh water emergent wetlands. | Medium |
| Black Tern <i>Chlidonias niger</i> | SC (nesting colony); CSC; -- | Restricted to freshwater habitats while breeding. Nests on plant matter on the water surface. | Medium |
| Grasshopper Sparrow <i>Ammodramus savannarum</i> | SC (nesting); --; -- | Nests in a variety of tall and mixed grass habitats including grassy fallow fields, hay fields, native prairies, and pastures. | Medium |
| Great Blue Heron <i>Ardea herodias</i> | --; CDF (sensitive) (ROOKERY); -- | Nests in rookeries in tops of secluded large snags or live trees, usually among the tallest available. | Unlikely/High/a/ / |
| Great Egret <i>Ardea alba</i> | --; CDF (sensitive) (ROOKERY); -- | Nests in rookeries in large trees, usually near water and sheltered from prevailing winds. | Unlikely/High/a/ / |
| Greater Sandhill Crane <i>Grus canadensis tabida</i> | --; CT (fully protected); -- | Wet meadows interspersed with agricultural croplands with cereal grain crops, irrigated pastures, and emergent marsh. | Low/Medium/a/ / |

4.10 BIOLOGICAL RESOURCES

| Common Name/ Scientific Name | Regulatory Status (Federal; State; CNPS) | Habitat | Potential for Occurrence |
|---|--|---|-----------------------------|
| Loggerhead Strike <i>Lanius ludovivianus</i> | SC (nesting); CSC; -- | Nests in desert, savanna, and open-canopied hardwood, hardwood-conifer, and riparian habitats. | Medium |
| Mountain Plover <i>Charadrius montanus</i> | FPT (wintering); CSC; -- | A winter resident that occurs on short grasslands and plowed meadows. | Low/Medium/a/ |
| Nuttall's Woodpecker <i>Picoides nuttallii</i> | SCL; --; -- | A permanent resident of low-elevation riparian deciduous and oak habitats. | Unlikely/Medium/a/ / |
| Oak Titmouse <i>Baeolophus inornatus</i> | SCL; --; -- | Occurs in oak woodlands, pine-oak woodland, chaparral, and oak riparian habitats. Nests are typically constructed in natural tree cavity. | Unlikely/Medium/a/ / |
| Snowy Egret <i>Egretta thula</i> | SC (ROOKERY); - -; -- | Nests in rookeries built in low growing emergent vegetation and low trees near water. | Unlikely/Medium/a/ / |
| Swainson's Hawk <i>Buteo swainsoni</i> | --; CT; -- | Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grassland, etc.). | High |
| Tricolored blackbird <i>Agelaius tricolor</i> | SC (Nesting colony); CSC; -- | Nests in emergent wetlands in dense cattails, blackberry, and willows throughout the Central Valley and coastal areas south of Sonoma County. | Medium |
| Western Burrowing Owl <i>Athene cunicularia hypugea</i> | SC (burrowing sites); CSC; -- | Open grassland habitat; often nests in abandoned ground squirrel burrows within grasslands. | High |
| Western Yellow-billed Cuckoo <i>Coccyzus americanus occidentalis</i> | SC (nesting); CE (fully protected); -- | Nests in cottonwood and willow (riparian) habitats near water. | Medium |
| <i>Birds cont.</i> | | | |
| Raptors (birds of prey: hawks, owls, etc. – including Cooper's Hawk, White-tailed Kite, and Short-eared Owl) and other migratory and resident birds | MBTA; ; -- | Raptors: Large trees and riparian woodlands for nesting Resident Migratory Birds: non-native grasslands, riparian and oak woodlands, landscaped trees. | High |

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| Common Name/ Scientific Name | Regulatory Status (Federal; State; CNPS) | Habitat | Potential for Occurrence |
|--|--|---|-----------------------------|
| <i>Mammals</i> | | | |
| Bats (including Fringed Myotis, Greater Western Mastiff, Long-eared Myotis, Long-legged Myotis, Pacific Western Big-eared bat, Small-footed myotis, and Yuma myotis) | See Table 4.10-1; See Table 4.10-1; -- | Forest and woodlands with sources of water for feeding; maternity roosts in a variety of protected areas (e.g. rock crevices, caves, buildings, mine shafts, etc.). | Medium |

FE = federal endangered

FT = federal threatened

SC = federal species of concern

C = candidate FPT = federal proposed threatened

FPE = federal proposed endangered

PX = proposed critical habitat

D = delisted – species will be monitored for 5 years

SLC = species of local concern

CE = state endangered

CT = state threatened

CR = state rare

CSC = California species of special concern

C = candidate for listing

1B = CNPS list plants rare, threatened, or endangered in California or elsewhere

2 = CNPS lists plants rare, threatened, or endangered in California, but more numerous elsewhere

** = not enough information available on this species*

3 = CNPS list plants about which CNPS needs more information

4 = CNPS list plants of limited distribution – a watch list

/a/: "occurrence in City/occurrence in Planning Area"

Source: Foothill Associates, 2002.

Listed and special-status species that are known to occur, or may potentially occur within the City and Planning Area are discussed below. These species were considered for this analysis based on field surveys and review of the CNDDDB database, consultations with City staff, USFWS species lists for Sacramento County, and CNPS literature.

Listed and Special-Status Plants

Based on a records search of the CNDDDB and the USFWS species list for Sacramento County suitable habitat for the following plant species occurs in the Planning Area: Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), dwarf downingia (*Downingia pusilla*), legenere (*Legenere limosa*), Mason's lilaeopsis (*Lilaeopsis masonii*), northern California black walnut (*Juglans californica* var. *hindsii*), pincushion navarretia (*Navarretia myersii* spp. *myersii*), Red Bluff rush (*Juncus leiospermus* var. *leiospermus*), rose mallow (*Hibiscus lasiocarpus*), Sacramento orcutt grass (*Orcuttia viscida*), San Joaquin saltbrush (*Atriplex joaquiniana*), Sanford's arrowhead (*Sagittaria sanfordii*), slender orcutt grass (*Orcuttia tenuis*), and soft bird's-beak (*Cordylanthus mollis* spp. *mollis*). Additionally, critical habitat for Sacramento orcutt grass and slender orcutt grass occurs in the Planning Area. These species are further discussed below.

Ahart's Dwarf Rush (*Juncus leiospermus* var. *ahartii*)

Ahart's Dwarf Rush (FSC, CNPS List 1B) occurs along vernal pool margins within mesic valley and foothill grasslands. This species is an annual herb that blooms from March through May and is known from fewer than six occurrences in Butte, Calaveras, Placer, Sacramento, and Yuba counties (CNPS, 2001). Ahart's Dwarf Rush is recorded in the CNDDDB within five miles of the

Planning Area (CNDDDB, 2002). The vernal pool habitat in the Planning Area is considered suitable habitat for this species. Therefore, this species could occur in the Planning Area.

Boggs Lake hedge-hyssop (*Gratiola heterosepala*)

Boggs Lake hedge-hyssop (CE, CNPS List 1B) occurs in the margins of marshes and swamps, and vernal pools with clay soil conditions. This species is an annual herb that blooms from April through August (CNPS, 2001). Boggs Lake hedge-hyssop is recorded in the CNDDDB within five miles of the Planning Area, including records within both the City and the Planning Area (CNDDDB, 2002). The perennial and seasonal marsh and vernal pool habitats in the City and Planning Area are considered suitable habitat for this species and, consequently, this species could occur within these habitats.

Delta Tule-Pea (*Lathyrus jepsonii* var. *jepsonii*)

Delta tulle pea (CE, CNPS List 1B) occurs in freshwater and brackish marshes and swamps. This species is a perennial herb that blooms from May through September (CNPS, 2001). Delta tulle pea is recorded in the CNDDDB within five miles of the Planning Area with records concentrated along Snodgrass Slough, immediately south of the Stone Lakes National Wildlife Refuge (CNDDDB, 2002). The perennial and seasonal marsh habitat in the Planning Area is considered suitable habitat for this species. Therefore, this species could occur in the Planning Area.

Dwarf Downingia (*Downingia pusilla*)

Dwarf downingia (CNPS List 2) is an annual herb that occurs in mesic valley and foothill grasslands within vernal pools. This species blooms from March through May (CNPS, 2001). This species is recorded in the CNDDDB within five miles of the Planning Area, including records within both the City and Planning Area (CNDDDB, 2002). Vernal pool habitat in the Planning Area is considered suitable habitat for this species. Therefore, this species could occur in the Planning Area.

Legenere (*Legenere limosa*)

Legenere (FSC, CNPS List 1B) is an annual herb that occurs in vernal pools in valley grasslands. This species blooms from April through June (CNPS, 2001). This species is recorded in the CNDDDB within five miles of the Planning Area, including records within both the City and Planning Area (CNDDDB, 2002). Vernal pool habitat in the Planning Area is considered suitable habitat for this species. Therefore, this species could occur in the City and the Planning Area.

Mason's Lillaeopsis (*Lillaeopsis masonii*)

Mason's lillaeopsis (FSC, CNPS List 1B) is a perennial herb that occurs in both brackish and freshwater marshes and swamps and riparian scrub habitats (CNPS, 2001). This species blooms from April through November. This species is recorded in the CNDDDB within five miles of the Planning Area along Snodgrass Slough, immediately south of the Stone Lakes National Wildlife Refuge. Riparian and marsh habitats within the Planning Area are considered suitable habitat for this species. Therefore, this species could occur in the Planning Area.

Northern California Black Walnut (*Juglans hindsii*)

Northern California black walnut (FSC, CNPS List 1B) is a native tree species. Only two of three native stands are still extant in Contra Costa and Napa counties. Natural populations of this species have been extirpated from Sacramento, Solano, and Yolo counties; however, this species has been widely naturalized in California (CNPS, 2001). Although large natural stands of

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this species are not present within the Planning Area, individual native trees may be protected under local tree ordinances. This species can be found in many areas of the Planning Area including riparian corridors, agricultural and residential parcels.

Pincushion Navarretia (*Naverretia myersii* spp. *myersii*)

Pincushion navarretia (FSC, CNPS List 1B) is an annual herb that occurs in vernal pools. This species generally blooms in May (CNPS, 2001). There are no CNDDDB records for this species within five miles of the Planning Area (CNDDDB, 2002). However, vernal pools within the Planning Area could provide potential habitat for this species.

Rose Mallow (*Hibiscus lasiocarpus*)

Rose Mallow (FSC, CNPS List 1B) is a perennial aquatic herb that occurs in freshwater marshes and swamps. This species blooms from June through September (CNPS, 2001). Rose Mallow is recorded in the CNDDDB within five miles of the Planning Area with records concentrated along Snodgrass Slough, immediately south of the Stone Lakes National Wildlife Refuge (CNDDDB, 2002). Freshwater marshes and swamps within the Planning Area are considered suitable habitat for this species. Therefore, this species could occur in the Planning Area.

Sacramento Orcutt Grass (*Orcuttia viscida*) and Critical Habitat

Sacramento orcutt grass (FE, CE, CNPS List 1B) is an annual herb that occurs within vernal pools. This species generally blooms from May through October (CNPS, 2001). Sacramento orcutt grass is recorded in the CNDDDB within five miles of the Planning Area with records concentrated north of that area (CNDDDB, 2002). Critical habitat for this species has been proposed within Sacramento County that includes portions of the Planning Area. Vernal pools within the Planning Area are considered suitable habitat for this species. Therefore, this species could occur in the Planning Area.

San Joaquin saltbrush (*Atriplex joaquiniana*)

San Joaquin saltbrush (FSC, CNPS List 1B) is an annual herb that occurs in alkaline chenopod scrub, meadows and seeps, playas, and valley and foothill grasslands. This species blooms from April through October (CNPS, 2001). There are no CNDDDB records for this species within five miles of the Planning Area (CNDDDB, 2002). However, alkaline meadows, seeps, and valley and foothill grasslands within the plan area could provide potential habitat for this species. Therefore, this species could occur in the Planning Area.

Sanford's Arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead (FSC, CNPS List 1B) is a perennial herb that occurs within freshwater marshes and swamps. This species blooms from May through October (CNPS, 2001). There are numerous CNDDDB records for this species within five miles of the Planning Area, including several records along creeks within the City (CNDDDB, 2002). Freshwater marshes and swamps, including marshy areas along creeks, within the Planning Area are considered suitable habitat for this species. Therefore, this species could occur in the City and in the Planning Area.

Slender Orcutt Grass (*Orcuttia tenuis*) and Critical Habitat

Slender orcutt grass (FT, CE, CNPS List 1B) is an annual herb that occurs within vernal pools. This species generally blooms from May through October (CNPS, 2001). Slender orcutt grass is recorded in the CNDDDB within five miles of the Planning Area with records concentrated north of that area (CNDDDB, 2002). Critical habitat for this species has been proposed within Sacramento

County that includes portions of the Planning Area. Vernal pools within the Planning Area are considered suitable habitat for this species. Therefore, this species could occur in the Planning Area.

Listed and Special-Status Animals

Based on a records search of the CNDDDB and the USFWS species list for Sacramento County suitable habitat for the following wildlife species occurs in the Planning Area: California linderiella (*Linderiella occidentalis*), conservancy fairy shrimp (*Brachinecta conservatio*), Midvalley fairy shrimp (*Branchinecta mesovallensis*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), California horned lizard (*Phrynosoma coronatum frontale*), California tiger salamander (*Ambystoma californiense*), giant garter snake (*Thamnophis gigas*), northwestern pond turtle (*Clemmys marmorata*), silvery legless lizard (*Anniella pulchra pulchra*), and western spadefoot toad (*Scaphiopus hammondi*). Additionally, fish species and several migratory birds, including raptors and swallows could potentially occur in the Planning Area.

Special-Status Invertebrates

California Linderiella, Conservancy Fairy Shrimp, Midvalley Fairy Shrimp, Vernal Pool Fairy Shrimp, and Vernal Pool Tadpole Shrimp

Five species of freshwater invertebrates, California linderiella (FSC), conservancy fairy shrimp (FE), Midvalley fairy shrimp (FSC), vernal pool fairy shrimp (FT), and vernal pool tadpole shrimp (FE), have the potential to occur within the City and in the Planning Area. These species occur in seasonally inundated depressions such as vernal pools. The CNDDDB lists several records of California linderiella, Midvalley fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp within the City and Planning Area vicinity; however, no records of conservancy fairy shrimp are recorded within five miles of the Planning Area. Proposed critical habitat for vernal pool fairy shrimp and vernal pool tadpole shrimp occurs within Sacramento County and includes a portion of the Planning Area. Seasonal wetland and vernal pool habitats in the Planning Area are considered suitable habitats for these species. Therefore, these species could occur in the City and in the Planning Area.

Valley Elderberry Longhorn Beetle

The federally listed valley elderberry longhorn beetle is known to occur in association with its host plant, the elderberry (*Sambucus* sp.), especially for the larval stages. Because of the valley elderberry longhorn beetle dependence on its host plant, the USFWS considers the elderberry, which is a common species of riparian and upland habitats in the Central Valley, habitat for the valley elderberry longhorn beetle. This species is recorded in the CNDDDB within five miles of the Planning Area. Additionally, elderberry shrubs have been identified in the City during field reconnaissance. Because suitable habitat for the valley elderberry longhorn beetle was observed in the City boundary, this species could occur in the Planning Area.

Special-Status Amphibians and Reptiles

California Horned Lizard and Silvery Legless Lizard

California horned lizard (*Phrynosoma coronatum frontale*) and silvery legless lizard (*Anniella pulchra pulchra*) are federal species of concern and are California Species of Special Concern. California horned lizard and silvery legless lizard occur in a wide range of habitats supporting friable soils and loose sandy soils, respectively. Although no records of these species are listed in

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the CNDDDB within five miles of the Planning Area, the California horned lizard and silvery legless lizard are listed with the USFWS as having once occurred within the Planning Area vicinity. Consequently, these species could occur in habitats in the Planning Area with the appropriate soil conditions.

California Tiger Salamander

California tiger salamander (*Ambystoma californiense*) is a federal candidate species and is a California Species of Special Concern. This species occupies annual grassland habitats associated with seasonal wetlands or vernal pools. Although no records of California tiger salamander are recorded in the CNDDDB within five miles of the Planning Area, the annual grasslands and irrigated pasture, supporting seasonal wetlands and vernal pools, provides suitable habitat for this species in the Planning Area.

Giant Garter Snake

The giant garter snake is federally listed as threatened and is listed in California as threatened. This species occurs in vegetated canals, streams, and rivers throughout the Central Valley. Grassy banks and emergent vegetation are used for basking and high ground with burrows or crevices, which are protected from winter flooding, is used for hibernacula (winter retreats). Twelve occurrences of giant garter snake are listed in the CNDDDB within five miles of the Planning Area. The Lent Ranch Marketplace Draft EIR noted an observation of a giant garter snake within the City (City of Elk Grove, 2000). The irrigation ditches and the open water habitats in the City and in the Planning Area support suitable habitat for this species and, consequently, this species could occur within these habitats.

Northwestern Pond Turtle

Northwestern pond turtles are a federal species of concern and are a California Species of Special Concern. This species requires permanent, still to slow moving water with basking sites such as submerged logs, rocks, mats of floating vegetation or mud banks. One occurrence of this species is listed in the CNDDDB within five miles of the Planning Area. The perennial marsh and open water habitats in the Planning Area support suitable habitat for this species and, consequently, this species could occur within these habitats in the City and Planning Area.

Western Spadefoot Toad

The western spadefoot toad is a federal species of concern and a California Species of Special Concern. This species occurs in shallow temporary pools adjacent to annual grassland habitat. Two occurrences of this species are listed in the CNDDDB within the Planning Area vicinity. Seasonally inundated wetland habitats within annual grassland and irrigated pasture habitats in the Planning Area support suitable habitat for this species and, consequently, this species could occur within these habitats in the Planning Area.

Special-Status Fish

Anadromous Fishes and Other Aquatic Species

Several special-status anadromous fish and other aquatic fish species are known to occur, or could occur in the Planning Area vicinity (Sacramento River and Cosumnes River) including Central Valley fall/late fall-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley winter-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley steelhead (*Oncorhynchus mykiss*), Delta smelt (*Hypomesus transpacificus*), green sturgeon (*Acipenser medirostris*), Pacific lamprey

(*Lampetra tridentata*), river lamprey (*Lampetra ayresii*), and Sacramento splittail (*Pogonichthys macrolepidotus*). Because open water habitats within the City are not tributaries to the Sacramento River, Central Valley winter-run Chinook salmon, Central Valley steelhead, Delta smelt, green sturgeon, Kern brook lamprey, Pacific lamprey, river lamprey, and Sacramento splittail are unlikely to occur within the City. However, suitable habitat for Sacramento perch occurs within the City. Suitable habitat for special-status fish species occurs within the open water habitat in the Planning Area. Consequently, these species could occur within the Planning Area.

Special-Status Birds

Aleutian Canada Goose

The Aleutian Canada Goose (*Branta canadensis leucopareia*) was recently removed from the federal endangered species list; however, this species will be monitored for five years. In the autumn the Aleutian Canada goose migrates from their breeding grounds in the Aleutian Islands to their wintering grounds in Oregon and California. Suitable wintering habitat for this species in California occurs in the Central Valley, which includes agricultural croplands, marshes, and pastures. No records of the Aleutian Canada goose are listed with the CNDDDB within five miles of the Planning Area. Although suitable wintering habitat for this species occurs within the agricultural cropland, fallow agricultural land, perennial and seasonal marsh, and irrigated pasture habitats, it is unlikely that this species regularly forages within habitats in the Planning Area. However, the Aleutian Canada Goose could occur in suitable habitats within the Planning Area.

American Bittern

The American bittern (*Botaurus lentiginosus*) is a federal species of concern. This species occurs in fresh or saline emergent wetlands throughout the Central Valley. American bittern nest on a platform of matted emergent vegetation usually in shallow water. Although no records of this species are listed in the CNDDDB, suitable habitat occurs adjacent to several of the open water features in the Planning Area. Consequently, American bittern could occur in the Planning Area.

Bank Swallow

Bank swallow (*Riparia riparia*) is listed in California as threatened. The majority of this species' breeding population occurs along banks of lakes, ponds, rivers, and streams in the Central Valley. This species is restricted to riparian habitats with vertical cliffs and banks with fine-textured or sandy soils, into which it digs nesting holes. One occurrence of bank swallow is recorded in the CNDDDB within five miles of the Planning Area. Suitable habitat for this species occurs adjacent to the open water habitat in the Planning Area. Therefore, bank swallows could occur in the Planning Area.

Black Rail

Black rail (*Laterallus jamaicensis coturniculus*) is a federal species of concern and are listed in California as threatened. This species occurs in saline, brackish, and fresh-water emergent wetlands. Although no records of this species are listed in the CNDDDB within five miles of the Planning Area, this species is listed with the USFWS as having once occurred within the Planning Area vicinity. Suitable habitat for this species occurs in the seasonal wetland habitat in the Planning Area and this species could occur in this habitat.

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Black Tern

Black terns (*Chlidonias niger*) are a federal species of concern and are a California Species of Special Concern. This species is restricted to freshwater habitats while breeding. Nests are typically located in shallow water, close to open water or opening in stands of emergent vegetation. The black tern is not recorded in the CNDDDB within five miles of the Planning Area; however, this species is listed with the USFWS as having once occurred in the Planning Area vicinity. Suitable habitat for this species occurs within the Planning Area and, consequently, this species could occur in the Planning Area.

Grasshopper Sparrow

Grasshopper sparrow (*Ammodramus savannarum*) is a federal species of concern. This species is a widespread occupant of grassland habitats across North America. Grasshopper sparrows nest in a variety of tall and mixed grass habitats including grassy fallow fields, hay fields, native prairies, and pastures. Although no record of this species occurs in the CNDDDB within the Planning Area vicinity, suitable nesting and foraging habitat occurs within the annual grassland and fallow agricultural land habitats. Therefore, this species could occur in the Planning Area.

Great Blue Heron and Great Egret

Great blue heron (*Ardea herodias*) and great egret (*Ardea alba*) are classified as Sensitive Species by the California Department of Forestry and Fire Protection. These species are warranted special protection during timber operations. Great blue heron and great egret are common throughout California in estuaries, fresh and saline emergent wetlands, slow moving streams and lakes, and irrigated croplands and pastures. These species nest in rookeries in large trees usually near water. One occurrence of great blue heron and several occurrences of great egret are recorded in the CNDDDB within the Planning Area vicinity. Suitable foraging habitat for these species occurs within the eastern portion along the Cosumnes River and Deer Creek and within the western portion with the Stone Lakes National Wildlife Refuge of the Planning Area. Consequently, great blue heron and great egret could nest within the Planning Area.

Greater Sandhill Crane

The greater sandhill crane (*Grus canadensis tabida*) is listed in California as threatened. This species is a winter migrant to the Central Valley where it occurs in wet meadows that are often interspersed with emergent marsh, agricultural croplands with cereal grain crops, and irrigated pastures. No records of this species are listed in the CNDDDB within five miles of the Planning Area. Although the agricultural cropland, irrigated pasture, and perennial and seasonal marsh habitats in the Planning Area provide suitable wintering habitat for this species, it is unlikely that this species regularly forages within these habitats in the City. However, the greater sandhill crane could occur on suitable habitats within the larger Planning Area.

Loggerhead Shrike

Loggerhead shrike (*Lanius ludovicianus*) is a federal species of concern and is a California Species of Special Concern. This species prefers open habitats with scattered shrubs, trees, posts, fences, or other perches. Loggerhead shrikes nest in desert, savanna, open-canopied hardwood, hardwood-conifer, and riparian habitats. Although no records of this species are listed in the CNDDDB within five miles of the Planning Area, suitable foraging and nesting habitat for this species occurs adjacent to irrigation ditches and open water habitat and within the riparian oak woodland habitat in the Planning Area. Consequently, this species could occur in the Planning Area.

Mountain Plover

The mountain plover (*Charadrius montanus*) is a federally proposed threatened species and is a California Species of Special Concern. This species is a Great Plains native that breeds on the arid short-grass prairie from northern Montana to southern New Mexico and winters in California with small numbers in Arizona and Texas. Wintering habitat for this species includes short grasslands and plowed fields. No records are listed in the CNDDDB within five miles of the Planning Area. Although, suitable wintering habitat for this species occurs within annual grassland, fallow agricultural land, and irrigated pasture habitats in the Planning Area, it is unlikely that this species regularly forages within habitats in the City. The high level of disturbance within the City likely precludes this species use of these habitats. However, the mountain plover could occur on suitable habitats within the larger Planning Area.

Nuttall's Woodpecker

Nuttall's woodpeckers (*Picoides nuttallii*) are a species of local concern. This species is a common resident of low-elevation riparian deciduous and oak habitats. Nests are typically constructed in snags and dead limbs. No records of this species are listed in the CNDDDB within the Planning Area vicinity. Because no suitable habitat occurs in the City it is unlikely that this species occurs here. However, suitable habitat for Nuttall's woodpecker occurs within the riparian oak woodland habitat adjacent to the Cosumnes River and Deer Creek in the eastern portion of the Planning Area and, consequently, this species could occur here.

Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) is a species of local concern. Suitable nesting habitat includes oak woodland, pine-oak woodland, chaparral, and oak-riparian habitats. Nests are typically constructed in natural tree cavities; however, this species will also use old woodpecker holes or bird boxes. No records of this species are listed in the CNDDDB within five miles of the Planning Area. Because no suitable habitat occurs in the City, it is unlikely that this species occurs here. However, suitable nesting habitat for oak titmouse occurs within the riparian oak woodland habitat in the eastern and western portions of the Planning Area and, consequently, this species could occur here.

Snowy Egret

The snowy egret (*Egretta thula*) is a federal species of concern. This species is widespread in California along shores of coastal estuaries, fresh and saline emergent wetlands, irrigation ditches, ponds, slow moving rivers, and wet fields. Snowy egrets nest in rookeries built in low growing marsh vegetation or trees near water. No records of this species are recorded in the CNDDDB within five miles of the Planning Area. Suitable foraging habitat for these species occurs within the eastern portion along the Cosumnes River and Deer Creek and within the western portion within the Stone Lakes National Wildlife Refuge of the Planning Area. Consequently, snowy egrets could nest within the City and Planning Area.

Swainson's Hawk

Swainson's hawks are state listed as threatened. This species migrates into California in the spring to establish breeding territories for the summer and typically migrates out of California by the end of September. Swainson's hawks require isolated trees or riparian woodlands for nesting and nests are typically built within close proximity to suitable foraging habitat (agricultural field, annual grasslands, etc.). The Central Valley provides optimal nesting habitat for this species due to the abundance of agricultural fields and riparian woodlands, which this species uses for

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foraging and nesting, respectively. Several occurrences of Swainson's hawks were recorded in the CNDDDB within five miles of the Planning Area. Additionally, three Swainson's hawks were recorded in the CNDDDB within five miles of the Planning Area. There are known nesting sites within the City, with recent nesting occurring in the East Franklin Specific Plan area and the Laguna Ridge Specific Plan area. Suitable foraging and nesting habitat occurs within the City and in the Planning Area and, consequently, this species could occur here.

In 1994, CDFG prepared a Staff Report describing mitigation of impacts to Swainson's hawks, which is a special-status bird species. Subsequent to preparation of this report, the County of Sacramento worked with staff of CDFG to develop an ordinance that provides a simplified means for individual development projects to mitigate impacts to Swainson's hawk foraging habitat on a region-wide basis. County Ordinance SCC No. 1093 requires payment of fees per acre of land developed within the County's Urban Services Boundary. Upon its incorporation, the City of Elk Grove adopted this ordinance for mitigation purposes as set forth in Chapter 16.130 of the City of Elk Grove Code. The fee is calculated at ratio dependent upon the proximity of the project area to known Swainson's hawk nests, up to a maximum of ten miles. The fees are used to purchase easements or fee title on property in the Consumnes River and/or Deer Creek corridors. Where a project is located within one mile of known hawk nest sites, the impacts are not considered adequately mitigated by the payment of fees, and additional mitigation measures are required. These measures typically consist of providing protected habitat management land elsewhere in the region at a ratio of 1 acre per acre developed, if a portion of the land would be managed for agriculture; one-half acre per acre developed if all the habitat management land would be managed specifically for hawk habitat; or alternative mitigation of equal or greater protection as approved by the Environmental Services Division of the CDFG. However, this ordinance may be revised.

Tricolored Blackbird

Tricolored blackbirds (*Agelaius tricolor*) are a federal species of concern and are a California Species of Special Concern. This species is a common resident throughout the Central Valley and coastal areas south of Sonoma County. Tricolored blackbirds nest in emergent wetlands with dense cattails or tules, and also in thickets of blackberry and willow. No records of this species are listed with the CNDDDB within the Planning Area vicinity; however, potential nesting habitat for this species occurs in the perennial and seasonal marsh habitat and adjacent to the irrigation ditches and open water habitats in the Planning Area.

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia hypugea*) is a federal species of concern and is a California Species of Special Concern. Burrowing owls inhabit open grasslands of the Central Valley. Typically, they nest in small colonies in abandoned ground squirrel burrows (CDFG, 1990). This species may also occur along canal banks. Several occurrences of burrowing owls are recorded in the CNDDDB within five miles of the Planning Area. Suitable habitat occurs within the annual grassland and fallow agricultural land habitat in the Planning Area and, consequently, this species could use this habitat in the Planning Area.

Western Yellow-Billed Cuckoo

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federal species of concern and is a state-listed endangered species. Typically, western yellow-billed cuckoos nest in cottonwood and willow (riparian) habitats near water. One occurrence of this species is recorded in the CNDDDB within five miles of the Planning Area. Suitable habitat for this species

occurs adjacent to open water habitat in the Planning Area and, consequently, this species could occur in the Planning Area.

Raptors and Other Migratory Birds

Raptor nests including Cooper's hawk (*Accipiter cooperi*), short-eared owl (*Asio flammeus*), and white-tailed kite (*Elanus caeruleus*) are protected under the MBTA and Section 3503.5 of the California Fish and Game Code. Suitable raptor nesting habitat occurs in the Planning Area. Additionally, the Planning Area supports suitable raptor foraging habitat. American kestrels, northern harriers, and white-tailed kites were observed during the field reconnaissance. Consequently, raptor species likely forage and nest in the Planning Area.

Migratory birds forage and nest in multiple habitats such as annual grasslands and riparian oak woodlands. The nests of all migratory birds are protected under the MBTA, which makes it illegal to destroy any active migratory bird nest. Numerous migratory bird species have the potential to nest in the City and in the Planning Area.

Special-Status Mammals

Bats

Bats including fringed myotis (*Myotis thysanodes*), greater western mastiff bat (*Eumops perotis californicus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), Pacific western big-eared bat (*Corynorhinus townsendii townsendii*), pale townsend's big-eared bat (*Corynorhinus townsendii pallascens*), small-footed myotis (*Myotis ciliolabrum*), and Yuma myotis (*Myotis yumanensis*) are known to occur in the vicinity of the Planning Area. These species are of concern to the CDFG due to recent population declines. Habitat for bat species consists of foraging habitat, maternity roost sites, night roosting cover, and winter hibernacula. In general, the CDFG is most concerned about the loss of maternity roosting sites. These species forage over open water or land and could use open water and riparian habitats in the Planning Area to forage. Potential maternity and night roosting sites occur in abandoned outbuilding throughout the Planning Area and within the riparian habitats in the Planning Area. Therefore, these bat species could occur in the Planning Area.

Sensitive Habitats

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, or Section 404 of the Clean Water Act. Additionally, sensitive habitats are protected under the City of Elk Grove General Plan. Sensitive habitats within the Planning Area include jurisdictional waters of the U.S., which include lakes, intermittent and perennial creeks, irrigation ditches, perennial, rivers, and seasonal marsh, seasonal wetlands, and vernal pools; native and some non-native trees, and riparian habitat.

Jurisdictional Waters of the U.S.

Jurisdictional waters of the U.S. include jurisdictional wetlands as well as other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

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The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as "that line on shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" [33 C.F.R. §328.3(e)].

Potential jurisdictional waters of the U.S. in the City and in the Planning Area includes lakes and ponds, intermittent and perennial creeks, irrigation ditches, perennial and seasonal marsh, river, seasonal wetland, and vernal pools.

Trees

Although native trees such as oaks (*Quercus* sp.) and California black walnuts (*Juglans californica* var. *jepsonii*) are not afforded special protection under state or federal law, loss of these species is a concern of the CDFG and CNPS because of their continued depletion throughout California. In addition, the City of Elk Grove regulates all projects with the potential to affect any protected trees. Protected trees are defined as all native oaks, California black walnuts, and California sycamores with a diameter breast height (DBH) of 4-inches and greater as well as all other trees with a 19-inch DBH and greater. There are no large oak woodland areas within the City.

4.10.3 PROJECT IMPACTS AND MITIGATION MEASURES

METHODOLOGY

Document Review

Available information pertaining to the natural resources of the City and the Planning Area was reviewed. These documents include, but were not limited to: the California Natural Diversity Data Base (CNDDDB: Bruceville, Buffalo Creek, Carbondale, Carmichael, Clarksburg, Clay, Courtland, Elk Grove, Florin, Folsom SE, Galt, Isleton, Lodi North, Sacramento East, Sacramento West, Sloughhouse, and Thornton quadrangles, August, 2002); the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 2001); a list of special-status plant and wildlife species from the U.S. Fish and Wildlife Service (USFWS) for Sacramento County; and the *Jepson Manual: Higher Plants of California* (Hickman, 1993). Aerial photography and recent biological resource assessments were also used in the evaluation.

Field Reconnaissance

Reconnaissance-level fieldwork was conducted on September 27, 2002. Field reconnaissance included general plant and wildlife surveys and general habitat assessments. The limited fieldwork allowed for the field-truthing of some of the vegetation communities and sensitive habitats. The results of the fieldwork and the reference materials formed the basis of the various maps that were prepared as part of this document.

STANDARDS OF SIGNIFICANCE

Section 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. A

biological resource impact is considered significant if implementation of the project would result in any of the following:

1. Result in the take of a federally or state listed threatened or endangered species.
2. Have an adverse impact on a substantial portion of a special status species population that is not listed as a federally or state listed threatened or endangered species.
3. Have a substantial adverse effect on any natural communities identified as sensitive in local or regional plans, policies or regulations or by the California Department of Fish and Game and the U.S. Fish and Wildlife Service.
4. Have a substantial adverse effect on significant ecological resources including:
 - a. Cause fish or wildlife populations to drop below self-sustaining levels;
 - b. Threaten to eliminate a plant or animal community;
 - c. Wetland areas including vernal pools;
 - d. Stream environment zones;
 - e. Obstruct wildlife movement zones;
5. Conflict with applicable local, state and/or federal policies and standards associated with biological resources that would result in a physical effect on the environment.
6. Substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of an endangered, rare or threatened species (CEQA Guidelines 15065(a)).

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important, but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of, an important resource on a population-wide or region-wide basis.

PROJECT IMPACTS AND MITIGATION MEASURES

Potential Disturbance to Special-Status Plant Species

Impact 4.10.1 Implementation of proposed General Plan could impact habitat for special-status plant species. This is considered a **potentially significant** impact.

Suitable habitat (e.g., wetlands, vernal pools and creek habitat conditions) for special-status plant species, including Ahart's dwarf rush, Boggs Lake hedge-hyssop, delta tule-pea, dwarf downingia, legenera, Mason's lilaeopsis, Pincushion navarretia, Rose mallow, Sacramento orcutt grass, San Joaquin saltbrush, Sanford's arrowhead, and slender orcutt grass, occurs within the City and Planning Area (see **Figure 4.10-2**). Subsequent development under the proposed General Plan could result in direct loss of habitat areas associated with these special-status plant species, since these habitat conditions do occur in areas planned for development. In addition

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to direct impacts associated with habitat loss, indirect effects of development under the proposed General Plan could impact these species including water quality impacts (see Section 4.8, Hydrology and Water Quality, regarding water quality impacts), introduction of non-native species, and increased human presence.

General Plan Policies and Action Items

- CAQ-7 *Consider development clustering where clustering would facilitate on-site protection of woodlands, grasslands, wetlands, stream corridors, scenic areas, or other appropriate natural features as open space, provided that:*
- 1. Urban infrastructure capacity is available for urban use.*
 - 2. On-site resource protection is appropriate and consistent with other General Plan Policies.*
 - 3. The architecture and scale of development is appropriate for the area.*
 - 4. Development rights for the open space area are permanently dedicated and appropriate long-term management is provided for by either a public agency, private homeowners association, or other appropriate entity.*

This policy shall not apply in the Rural Residential area east of State Route 99, where clustering of development is not permitted.

- CAQ-9 *Wetlands, vernal pools, marshland and riparian (streamside) areas are considered to be important resources. Impacts to these resources shall be avoided unless shown to be technically infeasible. The City shall seek to ensure that no net loss of wetland areas occurs.*

- CAQ-9-Action 1 *As part of the development review process, ensure that all potentially affected wetland areas are identified, and provide mitigation to ensure that no net loss occurs.*

- CAQ-9-Action 2 *Coordinate with the California Department of Fish and Game and the U.S. Fish and Wildlife Service in the review of development projects.*

- CAQ-10 *Consider the adoption of habitat conservation plans for rare, threatened, or endangered species.*

- CAQ-10-Action 1 *As appropriate, work with the County of Sacramento and other agencies on a Habitat Conservation Plan or other mechanism to implement this policy.*

- CAQ-11 *The City recognizes the value of streams to allow natural vegetation in and along streams, commensurate with flood control and public acceptance, to assist in removal of nutrients, pollutants, and silt.*

- CAQ-12 *Encourage the retention of natural stream corridors, and the creation of natural stream channels where improvements to drainage capacity are required.*

- CAQ-12-Action 1 *Re-vegetation using native plant species shall be encouraged; use of non-*

native species shall be discouraged. Use of invasive species shall be prohibited.

CAQ-12-Action 2 The City shall permit stream channel realignment only:

- When necessary to eliminate flood hazards; or*
- To protect and preserve natural features and vegetation which would otherwise be removed; or*
- If the existing channel has been significantly disrupted by agricultural improvements or other man-made changes.*

CAQ-12-Action 5 All storm drainage improvements on natural streams shall be designed where applicable to provide water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.

CAQ-12-Action 6 Improvements in watercourses shall be designed for low maintenance, and to accommodate peak flows with vegetation (including mitigation plantings) in the channel. Channel modifications shall retain marsh and riparian vegetation whenever possible.

CAQ-12-Action 7 Where existing streams support riparian vegetation, evaluate options for constructing secondary flood control channels for flood control and water quality purposes.

CAQ-12-Action 9 Trails along stream corridors shall be located to minimize wildlife impacts and shall be restricted to non-motorized traffic.

CAQ-12-Action 10 Except where approved by the City as part of the development of a public or private development project, no grading, clearing, tree cutting, debris disposal or any other similar action shall be allowed in stream corridors except for normal channel maintenance.

CAQ-13 Fill may not be placed in any 100-year floodplain as delineated by currently effective FEMA Flood Insurance Rate Maps or subsequent comprehensive drainage plans unless specifically approved by the City.

No fill shall be permitted in wetland areas unless approved by the City and appropriate state and federal agencies.

CAQ-14 Development adjacent to a natural stream(s) shall provide a "stream buffer zone" along the stream.

"Natural streams" shall be generally considered to consist of the following, subject to site-specific review by the City:

- Deer Creek*
- Elk Grove Creek*
- Laguna Creek and its tributaries*
- Morrison Creek*
- Strawberry Creek*
- White House Creek*

The following are examples of desired features for this transition zone; the specific design for each transition zone shall be approved on a case-by-case

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basis by the City.

Transition zones may include:

1. *A buffer zone of at least 50 (fifty) feet on each side of the stream, measured from the top of the stream bank.*
2. *Additional width to allow for a mowed fire break (where necessary), access for channel maintenance and flood control, and for planned passive recreation uses.*
3. *Sufficient width to provide for:*
 - a. *Quality and quantity of existing and created habitat,*
 - b. *Presence of species as well as species sensitivity to human disturbance,*
 - c. *Areas for regeneration of vegetation,*
 - d. *Vegetative filtration for water quality,*
 - e. *Corridor for wildlife habitat linkage,*
 - f. *Protection from runoff and other impacts of urban uses adjacent to the corridor*
 - g. *Trails and greenbelts.*
4. *The transition zone shall not include water quality treatment structures designed to meet pollutant discharge requirements.*

CAQ-15 *The use of bridges and other stream crossings with natural (unpaved) bottoms shall be encouraged to minimize impacts to natural habitat.*

CAQ-17 *Open space lands within a stream corridor shall be required to be retained as open space as a condition of development approval for projects that include a stream corridor. Unencumbered maintenance access to the stream shall be provided.*

Mitigation Measures

Given that individual projects may still affect these species, the following mitigation measures shall be incorporated into the City of Elk Grove General Plan under Goal 3 as policies in the Conservation and Air Quality Element.

MM 4.10.1a The City shall seek to preserve areas, where feasible, where special-status plant and animal species and critical habitat areas are known to be present or potentially occurring based on City biological resource mapping and data provided in the General Plan EIR or other technical material that may be adversely affected by public or private development projects. "Special-status" species are generally defined as species considered to be rare, threatened, endangered, or otherwise protected under local, state and/or federal policies, regulations or laws.

MM 4.10.1b The City shall require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain special-status plant and animal species based on City biological resource mapping and data provided in the General Plan EIR or other technical material. The biological resources evaluation shall determine the presence/absence of these special-status plant and animal species on the site. The surveys associated with the evaluation shall be conducted during the appropriate seasons for

proper identification of the species. Such evaluation will consider the potential for significant impact on special-status plant and animal species, and will identify feasible mitigation measures to mitigate such impacts to the satisfaction of the City and appropriate governmental agencies (e.g., U.S. Fish and Wildlife Service, California Department of Fish and Game and U.S. Army Corps of Engineers) where necessary (e.g., species listed under the State and/or Federal Endangered Species Act). Mitigation measures may include, but are not limited to, the following:

- For special-status plant species: On- or off-site preservation of existing populations from direct and indirect impacts, seed and soil collection or plant transplant that ensures that the plant population is maintained.
- For special-status animal species: avoidance of the species and its habitat as well as the potential provision of habitat buffers, avoidance of the species during nesting or breeding seasons, replacement or restoration of habitat on- or off-site, relocation of the species to another suitable habitat area, payment of mitigation credit fees.
- Participation in a habitat conservation plan.

Implementation of the above proposed General Plan policies and mitigation measures would reduce special-status plant impacts to **less than significant**.

Special-Status Wildlife Species and Associated Habitat Impacts

Impact 4.10.2 Implementation of the proposed General Plan could result in direct and indirect impacts on special-status wildlife species and their associated habitats. This is considered a **significant** impact.

As identified in **Table 4.10-2** and **Figures 4.10-1 and 4.10-2**, the City contains areas of suitable habitat conditions (e.g., vernal pool and wetland areas, waterways, grasslands, elderberry shrubs, agricultural lands and trees) for special-status wildlife species to occur. This is especially true for large undeveloped land areas in the eastern and southern portions of the City that are adjacent to undeveloped lands outside of the City. Known special-status species to occur within the City include the California linderiella, midvalley fair shrimp, vernal pool fairy shrimp, northwestern pond turtle, giant garter snake and Swainson's hawk. Subsequent development under the proposed General Plan would result in direct loss of habitat areas and obstruct movement associated with these special-status wildlife species, since these habitat conditions do occur in areas planned for development. Of special concern is the loss of Swainson's hawk foraging habitat. Large undeveloped land areas in the eastern and southern portions of the City are known to be utilized by Swainson's hawks for foraging and nesting. In addition to direct impacts associated with habitat loss, indirect effects of development under the proposed General Plan could impact these species, including water quality impacts, introduction of non-native species that disrupts habitat conditions, increased human presence effects associated from disturbance from domestic pets and humans, lighting and noise, kills from being struck by motor vehicles and other associated effects from human presence. These indirect effects would affect remaining habitat areas in the City as well as adjoining land areas outside the City

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including the Stone Lakes National Wildlife Refuge and habitat conditions along the Cosumnes River.

General Plan Policies and Action Items

CAQ-7 *Consider development clustering where clustering would facilitate on-site protection of woodlands, grasslands, wetlands, stream corridors, scenic areas, or other appropriate natural features as open space, provided that:*

1. *Urban infrastructure capacity is available for urban use.*
2. *On-site resource protection is appropriate and consistent with other General Plan Policies.*
3. *The architecture and scale of development is appropriate for the area.*
4. *Development rights for the open space area are permanently dedicated and appropriate long-term management is provided for by either a public agency, private homeowners association, or other appropriate entity.*

This policy shall not apply in the Rural Residential area east of State Route 99, where clustering of development is not permitted.

CAQ-8 *Large trees (both native and non-native) are an important aesthetic (and, in some cases, biological) resource. Trees which function as an important part of the City's or a neighborhood's aesthetic character or as natural habitat should be retained to the extent possible during the development of new structures, roadways (public and private, including roadway widening), parks, drainage channels, and other uses and structures.*

If trees cannot be preserved onsite, offsite mitigation or payment of an in-lieu fee may be required by the City. Where possible, trees planted for mitigation should be located in the same watershed as the trees which were removed.

Trees which cannot be protected shall be replaced either on-site or off-site as required by the City.

CAQ-8-Action 1 *When reviewing native or non-native trees for preservation, considering the following criteria:*

- *Aesthetic value*
- *Biological value*
- *Health of the tree(s)*
- *Suitability for preservation in place*
- *Safety hazards posed by the tree(s)*

CAQ-8-Action 2 *Develop a list of trees which shall be considered generally exempt from preservation. These may include trees which pose a threat to public safety, to native trees, or to natural habitat.*

CAQ-8-Action 3 *Develop a list of trees which may be used when providing replacement trees for the loss of native and non-native trees.*

- CAQ-8-Action 4 *Implement the City's Tree Preservation Ordinance.*
- CAQ-8-Action 5 *Amend the City's Tree Preservation Ordinance to conform with the policies of this General Plan and to expand protection to non-native trees.*
- CAQ-8-Action 6 *Develop a list of trees that should not be planted due to their invasive nature (that is, their ability to escape cultivation or to dominate natural areas) and provide this information to the public and the development community.*
- CAQ-8-Action 7 *Retain the services of a qualified arborist(s) under contract to the City to provide information to decision-makers and staff on the suitability of trees for preservation.*
- CAQ-8-Action 8 *Consider the use of revised standard roadway cross-sections which do not require the removal of trees in order to provide additional roadway capacity.*
- CAQ-8-Action 9 *Provide funds for education, programs, and materials emphasizing the value and importance of trees. Support private foundations with local funds for their tree planting efforts.*
- CAQ-9 *Wetlands, vernal pools, marshland and riparian (streamside) areas are considered to be important resources. Impacts to these resources shall be avoided unless shown to be technically infeasible. The City shall seek to ensure that no net loss of wetland areas occurs.*
- CAQ-9-Action 1 *As part of the development review process, ensure that all potentially affected wetland areas are identified, and provide mitigation to ensure that no net loss occurs.*
- CAQ-9-Action 2 *Coordinate with the California Department of Fish and Game and the U.S. Fish and Wildlife Service in the review of development projects.*
- CAQ-10 *Consider the adoption of habitat conservation plans for rare, threatened, or endangered species.*
- CAQ-10-Action 1 *As appropriate, work with the County of Sacramento and other agencies on a Habitat Conservation Plan or other mechanism to implement this policy.*
- CAQ-11 *The City recognizes the value of streams to allow natural vegetation in and along streams, commensurate with flood control and public acceptance, to assist in removal of nutrients, pollutants, and silt.*
- CAQ-12 *Encourage the retention of natural stream corridors, and the creation of natural stream channels where improvements to drainage capacity are required.*
- CAQ-12-Action 1 *Re-vegetation using native plant species shall be encouraged; use of non-native species shall be discouraged. Use of invasive species shall be prohibited.*
- CAQ-12-Action 2 *The City shall permit stream channel realignment only:*
- *When necessary to eliminate flood hazards; or*
 - *To protect and preserve natural features and vegetation which would*

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otherwise be removed; or

- *If the existing channel has been significantly disrupted by agricultural improvements or other man-made changes.*

CAQ-12-Action 5 All storm drainage improvements on natural streams shall be designed where applicable to provide water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.

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CAQ-12-Action 7 Where existing streams support riparian vegetation, evaluate options for constructing secondary flood control channels for flood control and water quality purposes.

CAQ-12-Action 9 Trails along stream corridors shall be located to minimize wildlife impacts and shall be restricted to non-motorized traffic.

CAQ-12-Action 10 Except where approved by the City as part of the development of a public or private development project, no grading, clearing, tree cutting, debris disposal or any other similar action shall be allowed in stream corridors except for normal channel maintenance.

CAQ-13 Fill may not be placed in any 100-year floodplain as delineated by currently effective FEMA Flood Insurance Rate Maps or subsequent comprehensive drainage plans unless specifically approved by the City.

No fill shall be permitted in wetland areas unless approved by the City and appropriate state and federal agencies.

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"Natural streams" shall be generally considered to consist of the following, subject to site-specific review by the City:

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- *Elk Grove Creek*
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- *Morrison Creek*
- *Strawberry Creek*
- *White House Creek*

The following are examples of desired features for this transition zone; the specific design for each transition zone shall be approved on a case-by-case basis by the City.

Transition zones may include:

- 1. A buffer zone of at least 50 (fifty) feet on each side of the stream, measured from the top of the stream bank.*
- 2. Additional width to allow for a mowed fire break (where necessary),*

access for channel maintenance and flood control, and for planned passive recreation uses.

3. *Sufficient width to provide for:*
 - a. *Quality and quantity of existing and created habitat,*
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 - c. *Areas for regeneration of vegetation,*
 - d. *Vegetative filtration for water quality,*
 - e. *Corridor for wildlife habitat linkage,*
 - f. *Protection from runoff and other impacts of urban uses adjacent to the corridor*
 - g. *Trails and greenbelts.*
4. *The transition zone shall not include water quality treatment structures designed to meet pollutant discharge requirements.*

CAQ-15 *The use of bridges and other stream crossings with natural (unpaved) bottoms shall be encouraged to minimize impacts to natural habitat.*

CAQ-17 *Open space lands within a stream corridor shall be required to be retained as open space as a condition of development approval for projects that include a stream corridor. Unencumbered maintenance access to the stream shall be provided.*

Mitigation Measures

Implement mitigation measures MM 4.10.1a and b. While implementation of these mitigation measures and the above policies and actions would reduce and potentially avoid direct loss of some special-status wildlife species, implementation of the proposed General Plan would still result in the loss of habitat associated with special-status species known to occur in the City (e.g., Swainson’s hawk) as well as result in indirect effects to special-status species and their habitat outside of the City. As a result, this impact is considered **significant and unavoidable**.

Sensitive Habitats and Locally Important Resources

Impact 4.10.3 Implementation of the proposed General Plan could result in the loss of sensitive habitat areas in the City. This is considered a **potentially significant** impact.

As previously described, sensitive habitats and locally important resources in the City consist of wetland areas (including jurisdictional waters of the U.S.), riparian habitat and native and some non-native trees. These resources are considered important and sensitive by the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Game and the City of Elk Grove. Subsequent development under the proposed General Plan could result in direct loss of these habitat types and resources, since these habitat conditions do occur in areas planned for development. In addition to direct impacts associated with habitat loss, indirect effects of development under the proposed General Plan could impact these species including water quality impacts, introduction of non-native species that disrupts habitat conditions, and increased human presence effects associated disturbance from domestic pets and humans.

General Plan Policies and Action Items

CAQ-7 *Consider development clustering where clustering would facilitate on-site protection of woodlands, grasslands, wetlands, stream corridors, scenic areas,*

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or other appropriate natural features as open space, provided that:

- 1. Urban infrastructure capacity is available for urban use.*
- 2. On-site resource protection is appropriate and consistent with other General Plan Policies.*
- 3. The architecture and scale of development is appropriate for the area.*
- 4. Development rights for the open space area are permanently dedicated and appropriate long-term management is provided for by either a public agency, private homeowners association, or other appropriate entity.*

This policy shall not apply in the Rural Residential area east of State Route 99, where clustering of development is not permitted.

CAQ-8

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If trees cannot be preserved onsite, offsite mitigation or payment of an in-lieu fee may be required by the City. Where possible, trees planted for mitigation should be located in the same watershed as the trees which were removed.

Trees which cannot be protected shall be replaced either on-site or off-site as required by the City.

CAQ-8-Action 1 When reviewing native or non-native trees for preservation, considering the following criteria:

- Aesthetic value*
- Biological value*
- Health of the tree(s)*
- Suitability for preservation in place*
- Safety hazards posed by the tree(s)*

CAQ-8-Action 2 Develop a list of trees which shall be considered generally exempt from preservation. These may include trees which pose a threat to public safety, to native trees, or to natural habitat.

CAQ-8-Action 3 Develop a list of trees which may be used when providing replacement trees for the loss of native and non-native trees.

CAQ-8-Action 4 Implement the City's Tree Preservation Ordinance.

CAQ-8-Action 5 Amend the City's Tree Preservation Ordinance to conform with the policies of this General Plan and to expand protection to non-native trees.

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provide this information to the public and the development community.

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- CAQ-9-Action 1 *As part of the development review process, ensure that all potentially affected wetland areas are identified, and provide mitigation to ensure that no net loss occurs.*
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- When necessary to eliminate flood hazards; or*
 - To protect and preserve natural features and vegetation which would otherwise be removed; or*
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habitats, native riparian vegetation, water quality, or ground water recharge.

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CAQ-13 Fill may not be placed in any 100-year floodplain as delineated by currently effective FEMA Flood Insurance Rate Maps or subsequent comprehensive drainage plans unless specifically approved by the City.

No fill shall be permitted in wetland areas unless approved by the City and appropriate state and federal agencies.

CAQ-14 Development adjacent to a natural stream(s) shall provide a "stream buffer zone" along the stream.

"Natural streams" shall be generally considered to consist of the following, subject to site-specific review by the City:

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- Morrison Creek*
- Strawberry Creek*
- White House Creek*

The following are examples of desired features for this transition zone; the specific design for each transition zone shall be approved on a case-by-case basis by the City.

Transition zones may include:

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- 2. Additional width to allow for a mowed fire break (where necessary), access for channel maintenance and flood control, and for planned passive recreation uses.*
- 3. Sufficient width to provide for:*
 - a. Quality and quantity of existing and created habitat,*
 - b. Presence of species as well as species sensitivity to human disturbance,*
 - c. Areas for regeneration of vegetation,*

- d. *Vegetative filtration for water quality,*
 - e. *Corridor for wildlife habitat linkage,*
 - f. *Protection from runoff and other impacts of urban uses adjacent to the corridor*
 - g. *Trails and greenbelts.*
4. *The transition zone shall not include water quality treatment structures designed to meet pollutant discharge requirements.*

CAQ-15 *The use of bridges and other stream crossings with natural (unpaved) bottoms shall be encouraged to minimize impacts to natural habitat.*

CAQ-17 *Open space lands within a stream corridor shall be required to be retained as open space as a condition of development approval for projects that include a stream corridor. Unencumbered maintenance access to the stream shall be provided.*

Mitigation Measures

The following mitigation measure shall be incorporated into the City of Elk Grove General Plan as an action item under Policy CAQ-9 in the Conservation and Air Quality element.

MM 4.10.3 The City shall require that impacts to riparian areas be mitigated to ensure that no net loss occurs, which may be accomplished by avoidance, revegetation and restoration onsite or creation of riparian habitat offsite.

Implementation of the above General Plan policies and action items as well as Mitigation Measure MM 4.10.3 would reduce this impact to **less than significant**.

4.10.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting includes the City of Elk Grove and its Planning Area as well as future development anticipated in the area surrounding the City and the Sacramento region. The reader is referred to Section 4.0 (Introduction to the Environmental Analysis and Assumptions Used) regarding the extent of the cumulative setting. In addition, consideration of the biological resource impacts associated with the potential development of the Urban Study Areas is evaluated in this analysis.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Biological Resource Impacts

Impact 4.10.4 Implementation of the proposed General Plan along with potential development of the Urban Study Areas would contribute to cumulative impacts associated with significant effects to special-status plant and wildlife species and habitat loss. This would be a **cumulative significant** impact.

As previously described under impacts 4.10.1 through 4.10.3, subsequent development under the proposed General Plan would result in direct and indirect impacts to special-status species and habitat conditions. Potential development of the Urban Study Areas would further increase City impacts on biological resources and would increase indirect impacts on adjoining land areas including the Stone Lakes National Wildlife Refuge and habitat conditions along the

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Cosumnes River. These impacts would contribute to cumulative impacts on biological resources in the region. This would include state and federally listed species such as Swainson’s hawk and Giant garter snake. Development of the Urban Study Areas could also potentially preclude land areas for preservation associated with the proposed South County Habitat Conservation Plan, Swainson’s hawk foraging habitat preservation, and other preservation activities in the area (e.g., Cosumnes River Preserve).

General Plan Policies and Action Items

CAQ-6 *Within the Primary Zone of the Legal Delta (as defined by the State of California in the State Water Code, Section 12220), the City’s land use and other policies shall conform with the “Land Use and Resource Management Plan for the Primary Zone of the Delta” developed by the Delta Protection Commission.*

CAQ-6-Action 1 *Coordinate with the Delta Protection Commission by providing updates on the status of any requests by the City to include any lands in the Primary Zone in the City’s sphere of influence or incorporated boundaries.*

CAQ-6-Action 2 *Prior to the annexation of any land in the Primary Zone of the Legal Delta, ensure that this General Plan is consistent with the Delta Protection Commission’s Act and Plan as it affects the area within the Primary Zone.*

CAQ-7 *Consider development clustering where clustering would facilitate on-site protection of woodlands, grasslands, wetlands, stream corridors, scenic areas, or other appropriate natural features as open space, provided that:*

- 1. Urban infrastructure capacity is available for urban use.*
- 2. On-site resource protection is appropriate and consistent with other General Plan Policies.*
- 3. The architecture and scale of development is appropriate for the area.*
- 4. Development rights for the open space area are permanently dedicated and appropriate long-term management is provided for by either a public agency, private homeowners association, or other appropriate entity.*

This policy shall not apply in the Rural Residential area east of State Route 99, where clustering of development is not permitted.

CAQ-8 *Large trees (both native and non-native) are an important aesthetic (and, in some cases, biological) resource. Trees which function as an important part of the City’s or a neighborhood’s aesthetic character or as natural habitat should be retained to the extent possible during the development of new structures, roadways (public and private, including roadway widening), parks, drainage channels, and other uses and structures.*

If trees cannot be preserved onsite, offsite mitigation or payment of an in-lieu fee may be required by the City. Where possible, trees planted for mitigation should be located in the same watershed as the trees which were removed.

Trees which cannot be protected shall be replaced either on-site or off-site as required by the City.

- CAQ-8-Action 1 *When reviewing native or non-native trees for preservation, considering the following criteria:*
- *Aesthetic value*
 - *Biological value*
 - *Health of the tree(s)*
 - *Suitability for preservation in place*
 - *Safety hazards posed by the tree(s)*
- CAQ-8-Action 2 *Develop a list of trees which shall be considered generally exempt from preservation. These may include trees which pose a threat to public safety, to native trees, or to natural habitat.*
- CAQ-8-Action 3 *Develop a list of trees which may be used when providing replacement trees for the loss of native and non-native trees.*
- CAQ-8-Action 4 *Implement the City's Tree Preservation Ordinance.*
- CAQ-8-Action 5 *Amend the City's Tree Preservation Ordinance to conform with the policies of this General Plan and to expand protection to non-native trees.*
- CAQ-8-Action 6 *Develop a list of trees that should not be planted due to their invasive nature (that is, their ability to escape cultivation or to dominate natural areas) and provide this information to the public and the development community.*
- CAQ-8-Action 7 *Retain the services of a qualified arborist(s) under contract to the City to provide information to decision-makers and staff on the suitability of trees for preservation.*
- CAQ-8-Action 8 *Consider the use of revised standard roadway cross-sections which do not require the removal of trees in order to provide additional roadway capacity.*
- CAQ-8-Action 9 *Provide funds for education, programs, and materials emphasizing the value and importance of trees. Support private foundations with local funds for their tree planting efforts.*
- CAQ-9 *Wetlands, vernal pools, marshland and riparian (streamside) areas are considered to be important resources. Impacts to these resources shall be avoided unless shown to be technically infeasible. The City shall seek to ensure that no net loss of wetland areas occurs.*
- CAQ-9-Action 1 *As part of the development review process, ensure that all potentially affected wetland areas are identified, and provide mitigation to ensure that no net loss occurs.*
- CAQ-9-Action 2 *Coordinate with the California Department of Fish and Game and the U.S. Fish and Wildlife Service in the review of development projects.*
- CAQ-10 *Consider the adoption of habitat conservation plans for rare, threatened, or endangered species.*

4.10 BIOLOGICAL RESOURCES

- CAQ-10-Action 1 *As appropriate, work with the County of Sacramento and other agencies on a Habitat Conservation Plan or other mechanism to implement this policy.*
- CAQ-11 *The City recognizes the value of streams to allow natural vegetation in and along streams, commensurate with flood control and public acceptance, to assist in removal of nutrients, pollutants, and silt.*
- CAQ-12 *Encourage the retention of natural stream corridors, and the creation of natural stream channels where improvements to drainage capacity are required.*
- CAQ-12-Action 1 *Re-vegetation using native plant species shall be encouraged; use of non-native species shall be discouraged. Use of invasive species shall be prohibited.*
- CAQ-12-Action 2 *The City shall permit stream channel realignment only:*
- *When necessary to eliminate flood hazards; or*
 - *To protect and preserve natural features and vegetation which would otherwise be removed; or*
 - *If the existing channel has been significantly disrupted by agricultural improvements or other man-made changes.*
- CAQ-12-Action 5 *All storm drainage improvements on natural streams shall be designed where applicable to provide water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.*
- CAQ-12-Action 6 *Improvements in watercourses shall be designed for low maintenance, and to accommodate peak flows with vegetation (including mitigation plantings) in the channel. Channel modifications shall retain marsh and riparian vegetation whenever possible.*
- CAQ-12-Action 7 *Where existing streams support riparian vegetation, evaluate options for constructing secondary flood control channels for flood control and water quality purposes.*
- CAQ-12-Action 9 *Trails along stream corridors shall be located to minimize wildlife impacts and shall be restricted to non-motorized traffic.*
- CAQ-12-Action 10 *Except where approved by the City as part of the development of a public or private development project, no grading, clearing, tree cutting, debris disposal or any other similar action shall be allowed in stream corridors except for normal channel maintenance.*
- CAQ-13 *Fill may not be placed in any 100-year floodplain as delineated by currently effective FEMA Flood Insurance Rate Maps or subsequent comprehensive drainage plans unless specifically approved by the City.*
- No fill shall be permitted in wetland areas unless approved by the City and appropriate state and federal agencies.*
- CAQ-14 *Development adjacent to a natural stream(s) shall provide a "stream buffer zone" along the stream.*

“Natural streams” shall be generally considered to consist of the following, subject to site-specific review by the City:

- Deer Creek
- Elk Grove Creek
- Laguna Creek and its tributaries
- Morrison Creek
- Strawberry Creek
- White House Creek

The following are examples of desired features for this transition zone; the specific design for each transition zone shall be approved on a case-by-case basis by the City.

Transition zones may include:

1. *A buffer zone of at least 50 (fifty) feet on each side of the stream, measured from the top of the stream bank.*
2. *Additional width to allow for a mowed fire break (where necessary), access for channel maintenance and flood control, and for planned passive recreation uses.*
3. *Sufficient width to provide for:*
 - a. *Quality and quantity of existing and created habitat,*
 - b. *Presence of species as well as species sensitivity to human disturbance,*
 - c. *Areas for regeneration of vegetation,*
 - d. *Vegetative filtration for water quality,*
 - e. *Corridor for wildlife habitat linkage,*
 - f. *Protection from runoff and other impacts of urban uses adjacent to the corridor*
 - g. *Trails and greenbelts.*
4. *The transition zone shall not include water quality treatment structures designed to meet pollutant discharge requirements.*

CAQ-15 *The use of bridges and other stream crossings with natural (unpaved) bottoms shall be encouraged to minimize impacts to natural habitat.*

CAQ-17 *Open space lands within a stream corridor shall be required to be retained as open space as a condition of development approval for projects that include a stream corridor. Unencumbered maintenance access to the stream shall be provided.*

LU-15 *The areas designated in the Planning Area as “Urban Study Areas” are envisioned as areas in which urbanization to some extent could occur, generally in compliance with the following criteria:*

- *Development should be limited to areas outside of the 100-year floodplain.*
- *Development should take place in compliance with the goals and policies of this General Plan.*
- *Any study of potential land uses in these areas should be accomplished in cooperation with the County of Sacramento.*

4.10 BIOLOGICAL RESOURCES

- *Any study of land uses in these areas should be accompanied by an environmental evaluation of the potential impacts of development.*
- *Prior to the completion of land use studies, the City's policy is that County of Sacramento land use designations in effect as of December 31, 2002, are retained.*

LU-38 *The City shall coordinate with regional planning agencies setting land use and environmental policies and programs and cooperate in the implementation of programs consistent with General Plan policy.*

Mitigation Measures

Implement mitigation measures MM 4.10.1a and b and MM 4.10.3. While implementation of these mitigation measures and the above policies and actions would reduce and potentially avoid direct loss of some special-status wildlife species and habitat, implementation of the proposed General Plan and potential development of the Urban Study Areas would still contribute to significant cumulative biological resource impacts. As a result, this impact is considered **significant and unavoidable**.

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