
6.5 BIOLOGICAL RESOURCES

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INTRODUCTION

This section identifies major plant and animal resources within the Draft Sutter County General Plan (proposed General Plan or proposed project) policy area. Significant biological resources in the policy area include species listed as or proposed for listing as threatened or endangered, or any species identified as a candidate, sensitive or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS). Additionally, sensitive habitats, and/or designated critical habitats for any of the species described above, and wetlands or other waters under the jurisdiction of the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act (CWA) are considered significant biological resources.

Comments received in response to the Notice of Preparation (NOP) for the project pertaining to biological resources were included in letters from the CDFG, and the California Emergency Management Agency (Cal EMA), see Appendix B. Comments from CDFG identified the need for the Draft EIR to discuss special-status plant and wildlife species and their habitats, sensitive vegetation communities such as riparian, oak woodlands, vernal pools and other wetlands, how to avoid or reduce impacts on all of the above resources, how to mitigate for what cannot be avoided, and compliance with section 1600-1616 of the Fish and Game Code. Comments from Cal EMA addressed the need to include open space plans that provide for preservation of natural resources in the General Plan. The comments raised are addressed in the section.

Information for this section is based on data provided in the 2008 *Sutter County General Plan Update Technical Background Report* (TBR), data obtained from the California Department of Fish and Game's Natural Diversity Database (CNDDDB), the California Native Plant Society's (CNPS) Online Inventory, the USFWS Threatened and Endangered Species Database website, USFWS and CDFG species information websites, and the Sutter Pointe Specific Plan Draft EIR. The TBR is available electronically on the County's website (<http://www.co.sutter.ca.us/pdf/cs/ps/gp/tbr/tbr.pdf>) and on CD at the back of this document.

ENVIRONMENTAL SETTING

The discussion of biological resources included below is presented on a countywide basis. There are no unique issues present in any of the five Growth Areas associated with

biological issues; therefore, these areas of the county are not specifically discussed in the environmental setting.

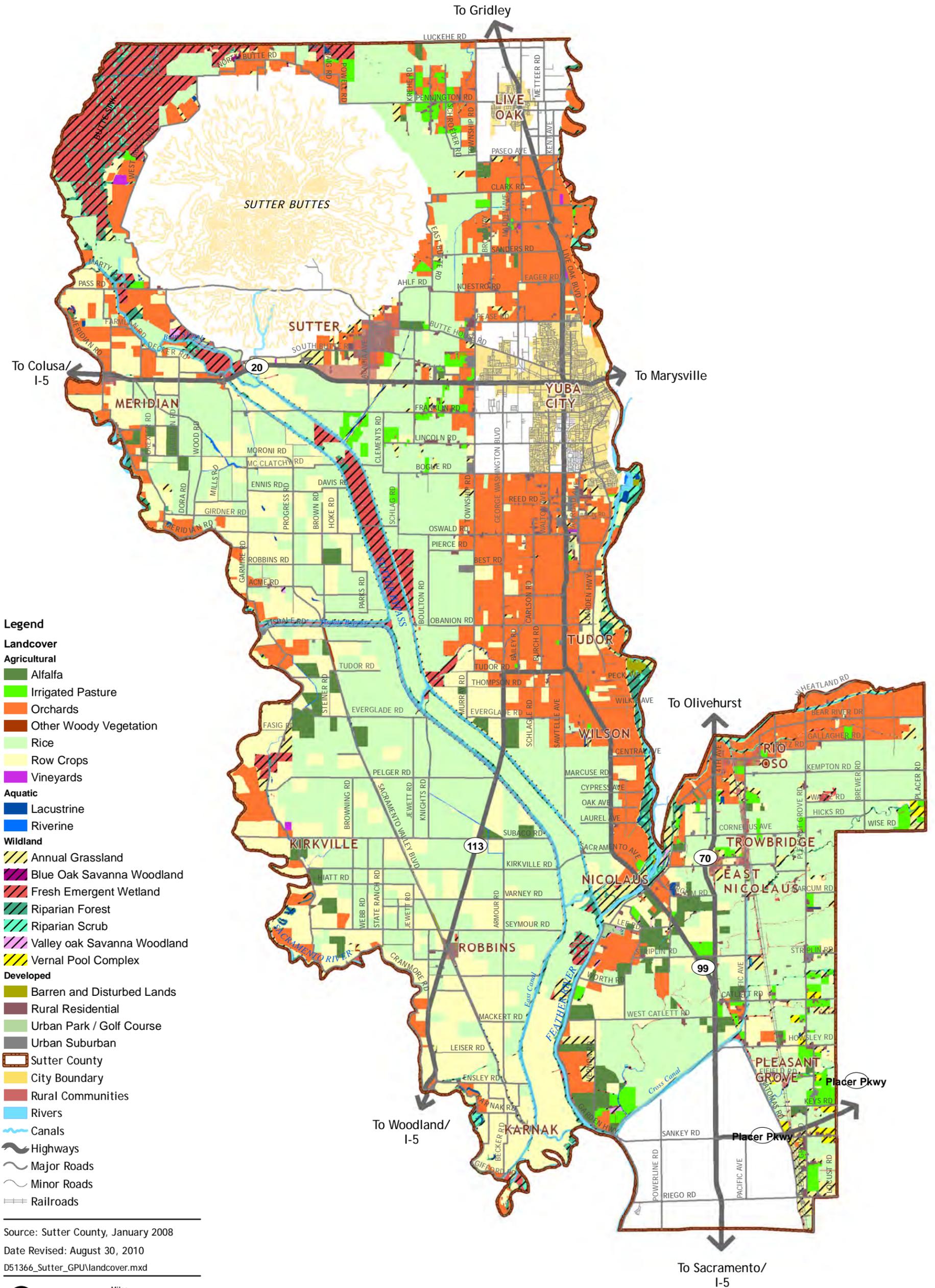
Habitats

The policy area encompasses approximately 379,000 acres within the Sacramento Valley. Historically, the natural habitats within the policy area included perennial grasslands, riparian woodlands, oak woodlands, and a variety of wetlands including vernal pools, seasonal wetlands, freshwater marshes, ponds, streams and rivers (Figure 6.5-1). Over the last 150 years, development for agriculture, irrigation, flood control and urbanization has resulted in the alteration or loss of much of the natural habitat within the policy area. One exception to this is the Sutter Buttes, which contain the largest expanses of relatively undisturbed habitat in the policy area. The Sutter Buttes is a volcanic formation in northern central Sutter County that is over 2,000 feet in elevation, and covers approximately 40,000 acres. Although almost entirely under private ownership and used for livestock grazing, the Sutter Buttes support a high diversity of vegetation communities including oak woodland, chaparral, non-native grassland, with vernal pools and other seasonal wetlands. Plant and wildlife species found here are also diverse, and include some endemic, and/or special-status species such as the Marysville kangaroo rat, the San Francisco campion, and rose mallow.

Within the policy area, as with most of the rest of the state, non-native annual grasses have replaced the native perennial grasslands. Many natural streams in the policy area have been channelized, much of the riparian and oak woodlands have been cleared, and most of the marshes have been drained and converted to agricultural or urban uses. However, due to the scarcity of urban development relative to many nearby counties, valuable plant and wildlife habitat such as riparian woodland, oak woodland, freshwater marsh and annual grassland still exists in Sutter County. These habitats are located primarily along the Sacramento River, Feather River, Bear River, and Sutter Bypass, but also in a number of undeveloped parcels distributed throughout the policy area. These habitats include annual grasslands, riparian woodlands, oak woodlands, oak savanna, riverine (rivers and streams), ponds, freshwater marshes, seasonal wetlands and vernal pools (Figure 6.5-1). Each habitat, their general location within the policy area, and special-status plant and wildlife species found within each habitat type are discussed below.

Agricultural Land

Agricultural land is the most abundant habitat type in the policy area (Figure 6.5-1). Several agricultural types are present, but rice fields are by far the single most common crop grown in the county, covering approximately 132,196 acres of the policy area. Row and field crops (approximately 103,364 acres), and orchards (approximately 36,364 acres consisting primarily of walnut and peach) are the next most common types, but alfalfa, vineyards and



irrigated pasture are also found in relatively small areas distributed throughout the policy area.¹ Due to the level of disturbance related to crop management, agricultural lands are of limited use to wildlife, and are typically devoid of native plant species. However, certain agricultural types do provide foraging habitat for native wildlife species, including some special-status species. Rice fields and their associated drainage canals are well known to support the federally listed as threatened giant garter snake (*Thamnophis gigas*), and provide foraging habitat for herons, egrets, cranes and other waterfowl. Alfalfa, low growing row crops, and irrigated pastures provide foraging habitat for the Swainson's hawk (*Buteo swainsoni*), State listed as threatened, white-tailed kite (*Elanus caeruleus*), northern harrier (*Circus cyaneus*), and other raptors, as well as the tricolored blackbird (*Agelaius tricolor*). Irrigated pastures and the edges of other low growing crop types may also provide nesting and foraging habitat for burrowing owl (*Athene cunicularia*).

Annual Grassland

Annual grassland habitat occurs in undeveloped portions of the policy area, primarily as a distinct vegetation community, but also as an understory to oak and riparian woodland habitats (Figure 6.5-1). Annual grassland in the policy area has largely been replaced by agriculture. Approximately 11,000 acres of non-native annual grassland remain in the policy area that occurs in small patches adjacent to water courses, and in the vicinity of the Sutter Buttes. Where it occurs, this habitat occupies (and has largely replaced through competition) what was once native perennial bunch grass habitat. Annual grassland species commonly observed in the policy area include ripgut brome (*Bromus diandrus*), soft chess (*Bromus mollis*), wild oat (*Avena fatua*), Italian rye (*Lolium multiflorum*), Mediterranean barley (*Hordeum marinum* spp. *gussoneanum*), foxtail barley (*Hordeum murinum* spp. *leporinum*), hairgrass (*Aira caryophylla*) and medusahead grass (*Taeniatherum caput-medusae*). Common forbs found in these annual grasslands include cranesbill (*Geranium dissectum*), red stem filaree (*Erodium botrys*), clover (*Trifolium* spp.), bur clover (*Medicago polymorpha*), fiddle-neck (*Amsinckia menziesii*), curly dock (*Rumex crispus*), wild radish (*Raphanus sativa*), wild mustard (*Brassica* spp.), star thistle (*Centaurea solstitialis*), milk thistle (*Silybum marianum*), bull thistle (*Cirsium vulgare*), blue dicks (*Dichelostemma capitatum*), spikeweed (*Hemizonia fitchii*), and vinegar weed (*Trichostema lanceolatum*).

Annual grasslands are important habitats to a variety of wildlife, including small rodents such as deer mice (*Peromyscus maniculatus*) and California voles (*Microtus californicus*) that feed on the abundance of grass seeds that this habitat provides. Other small mammals that use this habitat include species such as Botta's pocket gopher (*Thomomys bottae*), cottontail (*Sylvilagus audubonii*), black-tail hare (*Lepus californicus*) and California ground squirrel (*Spermophilus beecheyi*). These small mammals, in turn, provide food for a variety of predators including mammals such as the coyote (*Canis latrans*), gray fox (*Urocyon*

1 Sutter County, Draft 2030 Sutter County General Plan Update, Figure 6.3-1, March 2010.

cinereoargenteus), bobcat (*Lynx rufus*) and birds such as the red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), barn owl (*Tyto alba*), American crow (*Corvus brachyrhynchos*) and loggerhead shrike (*Lanius ludovicianus*). Other bird species that may occur in this habitat include the prairie falcon (*Falco mexicanus*), meadowlark (*Sturnella neglecta*), scrub jay (*Aphelocoma coerulescens*) and western bluebird (*Sialia mexicana*). Frequently encountered reptile species in annual grasslands include the western yellow-bellied racer (*Coluber constrictor mormon*), northern Pacific rattlesnake (*Crotalus oreganus oreganus*), Pacific gopher snake (*Pituophis catenifer catenifer*), California kingsnake (*Lampropeltis getulua californiae*), western terrestrial garter snake (*Thamnophis elegans*), western fence lizard (*Sceloporus occidentalis*), southern alligator lizard (*Elgaria multicarinatus*) and Gilbert's skink (*Eumeces gilberti*). Annual grasslands also frequently support seasonal wetlands and vernal pools that provide important breeding sites for the Sierran tree frog (*Pseudacris sierra*) and western toad (*Bufo boreas*).

Special-status species that use annual grasslands for foraging and/or nesting include the state listed as threatened, Swainson's hawk and state species of concern, burrowing owl and white-tailed kite. Where vernal pools or seasonal wetlands are a component, grasslands provide habitat for special-status species such as the federally listed as threatened vernal pool fairy shrimp (*Branchinecta lynchi*), the federally listed as endangered vernal pool tadpole shrimp (*Lepidurus packardii*) and a variety of special-status plants.

Riparian

Riparian woodland and scrub habitats are generally associated with rivers, low gradient streams, floodplains and occasionally ponds and canals (Figure 6.5-1). The composition of species in riparian woodland communities is highly variable and dependent on geographic location, elevation, substrate, and amount of flow in the watercourse. Approximately 9,500 acres of this habitat occurs in the policy area (consisting of riparian forest and riparian scrub), and can be found along many of the perennial and ephemeral drainages and other waterways. The largest expanses of riparian vegetation occur along the Sacramento, Feather and Bear rivers, the Sutter Bypass, with smaller patches along the numerous tributaries to these waters. The vegetation of the riparian woodland habitat is variable and often structurally diverse, and species characteristic of the policy area include valley oak (*Quercus lobata*), Fremont cottonwood (*Populus fremontii*), Northern California black walnut (*Juglans hindsii*), white alder (*Alnus rhombifolia*), willow (*Salix* spp.) and Oregon ash (*Fraxinus latifolia*). Typical understory includes box elder (*Acer negundo*), button willow (*Cephalanthus occidentalis*), California buckeye (*Aesculus californicus*), coyote brush (*Baccharis pilularis*), California grape (*Vitis californicus*), Himalayan blackberry (*Rubus discolor*), and poison oak (*Toxicodendron diversilobum*). The herbaceous species occurring in the understory includes seashore vervain (*Verbena littoralis*), bedstraw (*Galium* spp.),

sedges (*Carex* spp.), umbrella sedges (*Cyperus* spp.), rushes (*Juncus* spp.), spike rush (*Eleocharis macrostachya*), and a variety of non-native annual grasses.

Riparian habitats provide abundant food, cover, and breeding sites for wildlife in close proximity to water. These factors and the structural diversity of riparian woodland are largely responsible for the high productivity of this habitat type. Characteristic bird species in this habitat include the California quail (*Callipepla californica*), mourning dove (*Zenaida macroura*), Nuttall's woodpecker (*Picoides nuttalli*), black phoebe (*Sayornis nigricans*), western wood-pewee (*Contopus sordidulus*), California towhee (*Pipilo crissalis*), and song sparrow (*Melospiza melodia*). A number of these species nest or roost in riparian woodlands and feed in adjacent habitat areas, such as annual grassland and agricultural fields. Riparian woodlands also provide important feeding, resting, and nesting habitat for neotropical migrant songbirds such as warblers, vireos, grosbeaks, and flycatchers. Mammals found within riparian habitat may include the raccoon (*Procyon lotor*), deer mouse, broad-footed mole (*Scapanus latimanus*), striped skunk (*Mephitis mephitis*), opossum (*Didelphis virginianus*), and gray fox. Amphibians and reptiles likely to occur in this community include the western toad, Sierran tree frog, common king snake, valley garter snake (*Thamnophis sirtalis fitchii*), and Gilbert's skink. Special-status species that forage and/or nest in riparian habitats include the Swainson's hawk, Cooper's hawk (*Accipiter cooperii*), yellow warbler (*Dendroica petechia*), white-tailed kite, and yellow-breasted chat (*Icteria virens*).

Oak Woodlands

Oak woodlands, including Blue Oak Savanna Woodland and Valley Oak Savanna Woodland, are very limited in the policy area, covering only approximately 270 acres (Figure 6.5-1). The largest concentration of oak woodland occurs around the southwestern base of the Sutter Buttes, and along the Sacramento, Feather and Bear rivers, adjacent to riparian vegetation. Plant species composition in this habitat can be variable, but is typically dominated by an overstory of blue oaks (*Quercus douglasii*), valley oaks, and/or interior live oaks (*Quercus wislizenii*), with California buckeye, and California black walnut also commonly found. Understory plant species include poison oak, toyon (*Heteromeles arbutifolia*), coyote brush, Himalayan blackberries, and a variety of annual grasses such as wild oats, wild rye and foxtail barley.

Oak woodlands provide a diversity of wildlife habitat. Acorns are an essential food resource for many wildlife species including the western gray squirrel (*Sciurus griseus*), California ground squirrel, black-tailed deer (*Odocoileus hemionus*), deer mouse, dusky-footed woodrat (*Neotoma fuscipes*), acorn woodpecker (*Melanerpes formicivorus*), band-tailed pigeon (*Columba fasciata*), northern flicker (*Colaptes auratus*), and western scrub jay. The abundant insect life found in the bark and foliage of oaks provide food for bird species such as the white-breasted nuthatch (*Sitta carolinensis*), bushtit (*Psaltriparus minimus*), plain titmouse (*Parus inornatus*), and ash-throated flycatcher (*Myiarchus cinerascens*). Avian

predators that nest and forage in oak woodland habitat include the great horned owl (*Bubo virginianus*), western screech-owl (*Otus kennicotti*), red-tailed hawk, and red-shouldered hawk.

Common mammals in this habitat within the policy area include the raccoon, striped skunk, cottontail, and gray fox. A variety of woodpecker species nest in the cavities of oak trees, as well as house wrens (*Troglodytes aedon*), western bluebirds (*Sialia mexicana*), and American kestrels (*Falco sparverius*) that use abandoned woodpecker cavities. Typical amphibian and reptile species found in this habitat include the California newt (*Taricha torosa*), ensatina (*Ensatina eschscholtzi*), California slender salamander (*Batrachoceps attenuatus*), sharp-tailed snake (*Contia tenuis*), ringneck snake (*Diadophis punctatus*), Pacific tree frog, western terrestrial garter snake, Gilbert's skink, western fence lizard, and southern alligator lizard. Special-status species using oak woodlands for foraging and/or nesting include Cooper's hawk, white-tailed kite, and loggerhead shrike.

Wetlands

Rivers, Creeks, and Canals

The policy area is bounded on the west by the Sacramento River, by the Feather River on the east, and is bisected on its north/south axis by the Sutter Bypass (Figure 6.5-1). These rivers, their tributaries (such as the Bear River and Butte Slough) and other waterways cover approximately 5,000 acres in the policy area, and are important to local wildlife, not only for the habitat they provide, but for the connectivity they create between otherwise isolated areas of wildlife habitat, acting as corridors through which wildlife species can migrate. Other major waterways include the Butte Slough and the Cross Canal, but numerous tributaries and canals are present in the policy area as well. Special-status species that use rivers, creeks and canals in the policy area include Swainson's hawk, giant garter snake, herons and egrets, steelhead (*Oncorhynchus mykiss*), Chinook salmon (*Oncorhynchus tshawytscha*), Sacramento perch (*Archoplites interruptus*), and green sturgeon (*Acipenser medirostris*).

Freshwater Marsh

Freshwater marsh (or freshwater emergent wetland) habitat is typically associated with the margins of rivers, streams or ponds, but can form anywhere shallow, slow moving perennial water is present (Figure 6.5-1). Approximately 14,000 acres of this habitat occurs in the policy area, with the largest concentration occurring in the Butte Sink northwest of the Sutter Buttes. Additional extensive freshwater marsh areas occur along the Sutter Bypass, with many smaller areas along the Sacramento, Feather and Bear rivers, and along the many canals associated with rice farming. Plant species common to freshwater marsh habitats in the policy area include cattails (*Typha latifolia*), tule (*Scirpus californicus*), sedges and

umbrella sedges, rushes, water primrose (*Ludwigia peploides*), water smartweed (*Polygonum amphibium*), parrot feather (*Myriophyllum aquaticum*), pennyroyal (*Mentha pulegium*), verbena (*Verbena litoralis*), common yellow monkey flower (*Mimulus guttatus*) and smooth cocklebur (*Xanthium strumarium*). Freshwater marshes provide important breeding and foraging habitat for a wide variety of local wildlife such as herons and egrets, muskrats (*Ondatra zibethicus*), raccoon, red-winged blackbirds (*Agelaius phoeniceus*) and a wide variety of waterfowl. Special-status species that use freshwater marsh habitats in the policy area include giant garter snake, northern harrier (*Circus cyaneus*), tricolor blackbird (*Agelaius tricolor*), Sanford's arrowhead (*Sagittaria sanfordii*) and rose mallow (*Hibiscus lasiocarpus*).

Vernal Pools and Seasonal Wetlands

Grasslands throughout much of the policy area had historically supported vernal pools and seasonal wetlands (Figure 6.5-1). However, much of this habitat has been lost with the conversion of grasslands to agriculture and urban development. Approximately 680 acres of this habitat remain in the policy area. The greatest remaining concentration of vernal pool and seasonal wetland habitat is in the vicinity of the Sutter Buttes, and in upland areas near the Sacramento and Feather rivers.

Vernal pools are ephemeral wetlands that form in shallow depressions underlain by a substrate near the surface that restricts the percolation of water. These depressions fill with rainwater during the fall and winter and can remain inundated until spring or early summer, sometimes filling and emptying numerous times during the rainy season. A flowering community, dominated by characteristic wetland plants, differentiates vernal pools from other seasonal wetlands. Vernal pool plant species likely to occur within the policy area include the winged water-starwort (*Callitriche marginata*), annual hairgrass (*Deschampsia danthonioides*), horned downingia (*Downingia ornatissima*), coyote thistle (*Eryngium vasey*), bractless hedge-hyssop (*Gratiola ebracteata*), slender popcorn flower (*Plagiobothrys stipitatus*), spine-fruit butter-cup (*Ranunculus bonariensis*), and purslane speedwell (*Veronica peregrina*).

Seasonal wetlands are distinguished from vernal pools by the length of time water is retained. Seasonal wetlands may not be inundated for as long as vernal pools and generally contain a greater abundance of facultative plant species (plant species that usually occur in wetlands, but are occasionally found in non-wetlands), and grassy species, and few, if any vernal pool endemic species (i.e., species found only in vernal pools). The distinction between the two types is often unclear; the final determination of the type of wetland can often be dependent upon the verification of the Corps. The extent to which special-status plant and animal species can use these habitats also varies, but, conservatively, any species present in vernal pools could also be present in seasonal wetlands. Both vernal pools and seasonal wetlands provide habitat for a number of plant and animal species listed as threatened or endangered, or that have other special status

recognition that requires their protection. The most well known are the vernal pool crustaceans, such as vernal pool fairy shrimp and vernal pool tadpole shrimp, along with a variety of plant species characteristically occurring in vernal pools.

Sutter Bypass

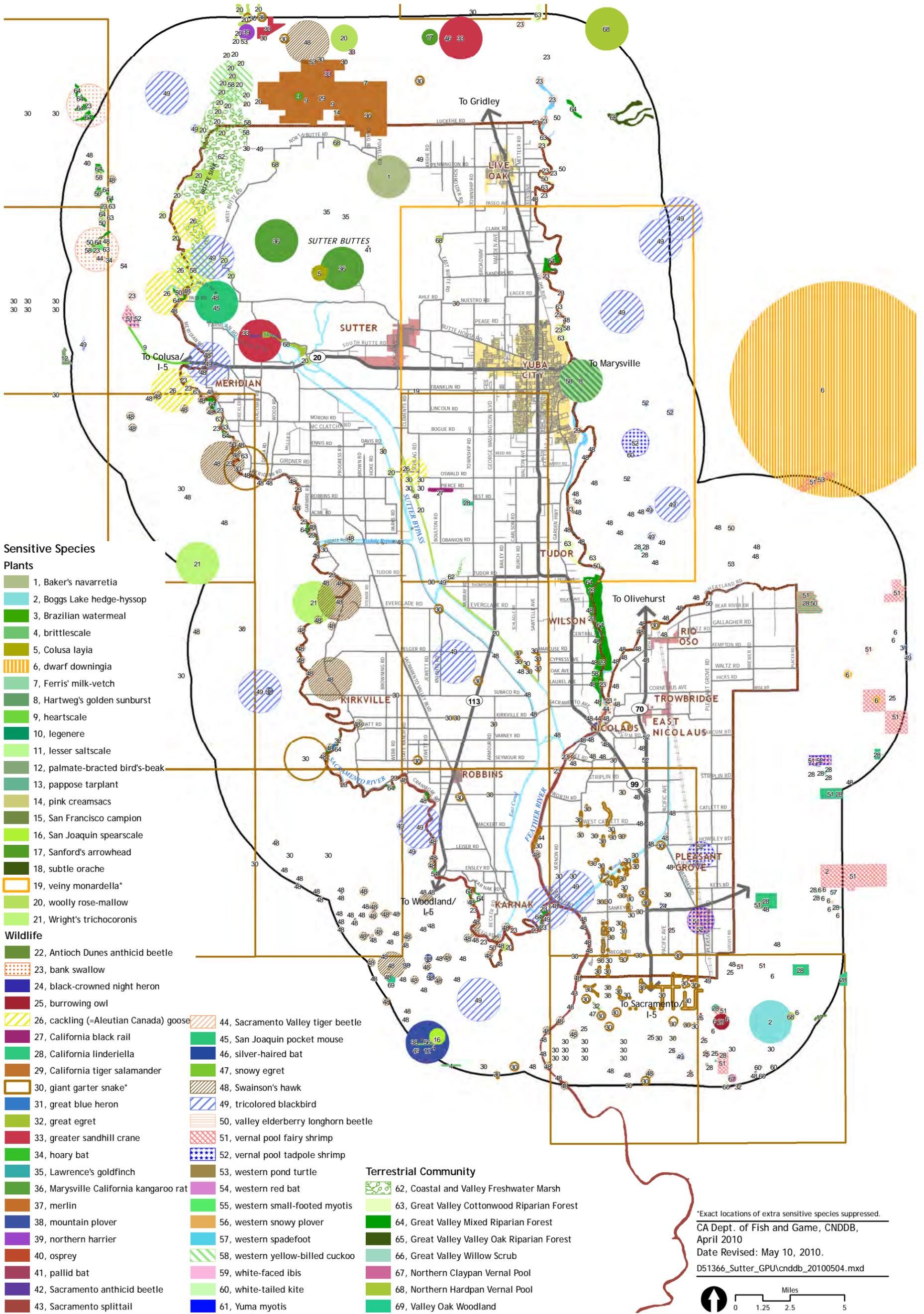
The Sutter Bypass is a floodwater bypass from the Sacramento River that passes through the policy area from the vicinity of the Sutter Buttes back to the Sacramento River near its confluence with the Feather River at the southern end of the policy area. Some lands within the Sutter Bypass are managed as a wildlife refuge by the CDFG. The Sutter Bypass supports wintering populations of more than 175,000 ducks and 50,000 geese. It also supports habitat for several threatened or endangered species such as giant garter snake, winter run Chinook salmon and Swainson's hawk. Vegetation in the Sutter Bypass consists primarily of a mixed riparian forest with some areas planted in agricultural uses, and is surrounded by undeveloped and agricultural land.

Butte Sink

The Butte Sink is an 18,000-acre wildlife conservation area located to the northwest of the Sutter Buttes. A majority of the land is held in conservation easements to preserve wetlands, with a core refuge of 733 acres owned by the USFWS. This refuge was established in 1980 to protect wetlands for wintering waterfowl and other migratory birds. The Butte Sink has a flat landscape and is bordered by the Sierra Nevada and coast ranges. The Butte Sink provides habitat for many threatened, endangered, and sensitive species of plants and wildlife. The Butte Sink wildlife conservation area has no public access, and is surrounded by agricultural land.

SPECIAL-STATUS SPECIES

The following special-status species are known to occur within the natural habitats most likely to be present within the policy area boundaries, based upon queries of the CNDDDB, CNPS, and the USFWS special-status species database (Figure 6.5-2). The results of these full queries are included in Appendix D. These queries identified 48 special-status species and vegetation communities potentially occurring in the policy area including 13 plants, eight invertebrates, four fish, two amphibians, two reptiles, 10 birds, five mammals, and four sensitive vegetation communities. Of these species, 34 are either known to occur, or have a high probability of occurring in the policy area. The following special-status species have a high potential to occur in the policy area. These and other species potentially occurring in the policy area can be found in Table 6.5-1. Species listed in Appendix D that are not addressed in either the following text, or in Table 6.5-1 either do not have known ranges that overlap with the policy area, or do not have habitat within the policy area.



Sensitive Species

Plants

- 1, Baker's navarretia
- 2, Boggs Lake hedge-hyssop
- 3, Brazilian watermeal
- 4, brittlescale
- 5, Colusa layia
- 6, dwarf downingia
- 7, Ferris' milk-vetch
- 8, Hartweg's golden sunburst
- 9, heartscale
- 10, legenere
- 11, lesser saltscale
- 12, palmate-bracted bird's-beak
- 13, pappose tarplant
- 14, pink creamsacs
- 15, San Francisco campion
- 16, San Joaquin spearscale
- 17, Sanford's arrowhead
- 18, subtle orache
- 19, veiny monardella*
- 20, woolly rose-mallow
- 21, Wright's trichocoronis

Wildlife

- 22, Antioch Dunes anthicid beetle
- 23, bank swallow
- 24, black-crowned night heron
- 25, burrowing owl
- 26, cackling (=Aleutian Canada) goose
- 27, California black rail
- 28, California linderiella
- 29, California tiger salamander
- 30, giant garter snake*
- 31, great blue heron
- 32, great egret
- 33, greater sandhill crane
- 34, hoary bat
- 35, Lawrence's goldfinch
- 36, Marysville California kangaroo rat
- 37, merlin
- 38, mountain plover
- 39, northern harrier
- 40, osprey
- 41, pallid bat
- 42, Sacramento anthicid beetle
- 43, Sacramento splittail
- 44, Sacramento Valley tiger beetle
- 45, San Joaquin pocket mouse
- 46, silver-haired bat
- 47, snowy egret
- 48, Swainson's hawk
- 49, tricolored blackbird
- 50, valley elderberry longhorn beetle
- 51, vernal pool fairy shrimp
- 52, vernal pool tadpole shrimp
- 53, western pond turtle
- 54, western red bat
- 55, western small-footed myotis
- 56, western snowy plover
- 57, western spadefoot
- 58, western yellow-billed cuckoo
- 59, white-faced ibis
- 60, white-tailed kite
- 61, Yuma myotis

Terrestrial Community

- 62, Coastal and Valley Freshwater Marsh
- 63, Great Valley Cottonwood Riparian Forest
- 64, Great Valley Mixed Riparian Forest
- 65, Great Valley Valley Oak Riparian Forest
- 66, Great Valley Willow Scrub
- 67, Northern Claypan Vernal Pool
- 68, Northern Hardpan Vernal Pool
- 69, Valley Oak Woodland

*Exact locations of extra sensitive species suppressed.
CA Dept. of Fish and Game, CNDDb,
April 2010
Date Revised: May 10, 2010.
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TABLE 6.5-1				
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN SUTTER COUNTY				
Scientific Name	Common Name	Status Fed/State/Other	Habitats	Likelihood of Occurrence
Plants				
<i>Astragalus tener</i> var. <i>ferrisiae</i>	Ferris' milk-vetch	--/--/1B	Found on subalkaline flats in vernal mesic meadows and seeps, and Valley and foothill grasslands.	Low to Moderate
<i>Centromadia parryi</i> ssp. <i>rudis</i>	Parry's red tarplant	--/--/4	Occurs in alkaline, vernal mesic, seeps and vernal pools in valley and foothill grassland Occasionally found along roadsides.	Moderate to High
<i>Hesperervax caulescens</i>	Hogwallow starfish	--/--/4	Shallow vernal pools in valley and foothill grassland, usually on mesic, clay soils.	Moderate to High
<i>Hibiscus lasiocarpus</i>	Rose mallow	--/--/2	Freshwater marshes and swamps in the Central Valley.	High
<i>Layia septentrionalis</i>	Colusa layia	--/--/1B	Chaparral, Cismontane woodland, valley and foothill grassland, usually on sandy, serpentinite soils.	Moderate to High
<i>Microseris sylvatica</i>	Sylvan microseris	--/--/4	Occurs in chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, and valley and foothill grassland. Usually on serpentinite soils.	Low
<i>Navarretia cotulifolia</i>	Cotula navarretia	--/--/4	Occurs in chaparral, cismontane woodland, valley and foothill grassland, frequently on adobe soils.	Moderate to High
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	Baker's navarretia	--/--/4	Occurs in vernal pools in cismontane woodland, lower montane coniferous forest, meadows and seeps, and mesic valley and foothill grassland.	Moderate to High
<i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i>	Adobe navarretia	--/--/1B	Occurs in vernal pools in vernal mesic valley and foothill grasslands. Occasionally associated with either clay or serpentinite soils.	Moderate to High
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	--/--/1B	Marshes and swamps (assorted shallow fresh water)	Moderate
<i>Silene verecunda</i> ssp. <i>verecunda</i>	San Francisco campion	--/--/1B	On sandy soils in coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands.	Moderate to High
Invertebrates				
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	E/--	Large vernal pools and playa pools in grassland habitats.	Low to Moderate
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	T/--	Vernal pools and seasonal wetlands in grassland habitats.	High
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	T/--	Elderberry shrubs, typically in or near riparian areas.	High
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	E/--	Vernal pools and seasonal wetlands in grassland habitats.	High
<i>Linderiella occidentalis</i>	California linderiella	--/CSC	Vernal pools and seasonal wetlands in grassland habitats.	High

TABLE 6.5-1				
SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN SUTTER COUNTY				
Scientific Name	Common Name	Status Fed/State/Other	Habitats	Likelihood of Occurrence
Fish				
<i>Acipenser medirostris</i>	Green sturgeon	(T) (NMFS)	Pacific Ocean, and large rivers from San Francisco Bay north.	Moderate to High
<i>Archoplites interruptus</i>	Sacramento Perch	--/CSC	Remnant native populations may occur in the Sacramento, Feather and Bear Rivers. More abundant in areas where the species has been stocked in farm ponds and other water bodies free of introduced fishes.	Moderate to High
<i>Oncorhynchus mykiss</i>	Central Valley steelhead Critical habitat, Central Valley steelhead	(T) (NMFS) (NMFS)	Includes all naturally spawning populations of steelhead in the Sacramento and San Joaquin Rivers and their tributaries. Spawns in relatively silt free gravel beds in upstream portions of rivers.	Moderate to High
<i>Oncorhynchus tshawytscha</i>	Central Valley spring-run Chinook salmon Critical Habitat, Central Valley spring-run Chinook Winter-run Chinook salmon, Sacramento River Critical habitat, winter-run Chinook salmon	(T) (NMFS) (NMFS) (NMFS) (E) (NMFS)	Migrate to spawning habitats (relatively silt free gravel beds) in upstream portions of the Sacramento and San Joaquin rivers from October through April, with peak migration occurring in December.	Moderate to High
Amphibians				
<i>Ambystoma californiense</i>	California tiger salamander, central population (T)	FT/SE/--	Valley and foothill grasslands and adjacent oak woodlands; shelters in rodent burrows and breeds in seasonal wetlands such as vernal pools. Not known to occur in Sutter County	Low
<i>Rana draytonii</i>	California red-legged frog (T)	FT/CSC/--	Creeks and streams with deep pools and dense bank vegetation; presence of adjacent woodlands and grasslands important.	Low
Reptiles				
<i>Actinemys marmorata</i>	Western pond turtle	--/CSC	Ponds, streams, rivers, marshes and canals with suitable basking sites and vegetative cover. Nests and aestivates (i.e., hibernate) in adjacent uplands.	High
<i>Phrynosoma blainvillii</i>	Coast horned lizard	--/CSC/--	Annual grassland, chaparral, saltbush scrub, alkali flats, oak woodland, riparian woodland, and coniferous forest; open habitats with loose fine (often sandy) soils	Low

TABLE 6.5-1

SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN SUTTER COUNTY

Scientific Name	Common Name	Status Fed/State/Other	Habitats	Likelihood of Occurrence
<i>Thamnophis gigas</i>	Giant garter snake	T/T/--	Historically occurred in cattail and tule marshes on the Central Valley floor. Has since adapted to a variety of artificial drainages, particularly those associated with rice farming. Requires open water supporting fish and/or amphibian prey, with vegetative cover in the water and on the banks. Also requires adjacent uplands for aestivation (i.e., hibernate). Does not occur in major rivers.	High
Birds				
<i>Accipiter cooperii</i>	Cooper's hawk	--/CSC (Nesting)	Nests and forages in woodland habitats.	High
<i>Accipiter striatus</i>	Sharp-shinned hawk	--/CSC (Nesting)	Nests in forests; forages in wooded habitats.	High
<i>Agelaius tricolor</i>	Tricolor blackbird	--/CSC	Nests in dense stands of cattails, thickets of willows, blackberries, or tall herbs adjacent to open grasslands.	High
<i>Aquila chrysaetos</i>	Golden eagle	FP/CSC	Nests on cliffs and very large trees. Forages primarily in grasslands and chaparral, but also woodlands and other relatively open habitats.	Moderate
<i>Asio otus</i>	Long-eared owl	--/CSC (Nesting)	Nests and forages in oak and riparian woodlands	High
<i>Athene cunicularia</i>	Burrowing owl	--/CSC (Nesting)	Grassland, deserts and other open habitats. Requires ground squirrel or other small mammal burrows for nesting.	High
<i>Buteo regalis</i>	Ferruginous hawk	--/CSC	Forages in open grasslands and chaparral. Not known to nest in California	Moderate
<i>Buteo swainsoni</i>	Swainson's hawk	--/T	Nests in riparian trees; forages in open grasslands and agricultural fields	High
<i>Circus cyaneus</i>	Northern harrier	--/CSC	Nests in freshwater marsh and agricultural fields; forages in marshes, grasslands and agricultural fields	High
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FC/CSC/none	Occurs in extensive riparian woodlands with clearings and a dense shrub layer. Often found in woodlands near streams, rivers or lakes.	High
<i>Elanus leucurus</i>	White-tailed kite	CSC (Nesting)	Nests colonially in large trees adjacent to open grasslands for foraging.	High
<i>Eremophila alpestris</i>	Horned lark	--/CSC	Forages and nests in open grasslands	Moderate
<i>Lanius ludovicianus</i>	Loggerhead shrike	--/CSC	Nests in woodlands adjacent to grassland foraging habitat	High

TABLE 6.5-1

SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN SUTTER COUNTY

Scientific Name	Common Name	Status Fed/State/Other	Habitats	Likelihood of Occurrence
Mammals				
<i>Antrozous pallida</i>	Pallid bat	--/CSC/ --	Roosts in crevices in caves, mines, large rock outcrops, under bridges and in abandoned buildings. Forages on or near the ground in a wide variety of open habitats.	High
<i>Corynorhinus townsendii</i>	Townsend's big eared bat	--/CSC/--	Roosts in the open in large caves, abandoned mines and buildings. Very sensitive to roost disturbance	Moderate
<i>Lasionycteris noctivagans</i>	Silver-haired bat	--/CSC/--	Closely associated with coniferous or mixed coniferous and deciduous forest types, especially in areas of Old Growth. Forages over streams, ponds and open brushy areas.	Low
<i>Lasiurus blossevillii</i>	Western red bat	--/CSC/--	Typically occurs in association with riparian woodlands. Roosts in the foliage of riparian trees such as cottonwoods and sycamores.	High
<i>Lasiurus cinereus</i>	Hoary bat	--/CSC/--	Solitary, foliage roosting species that is infrequently observed. Roosts are typically outside of urban areas in riparian habitat. Forages in open areas or along habitat edges.	High
<i>Myotis ciliolabrum</i>	Small-footed myotis bat	--/CSC/--	Occurs in most of California except the coastal redwood region; roosts in buildings, trees, and crevices in cliffs	High
<i>Myotis volans</i>	Long-legged myotis bat	--/CSC/ --	Roosts in crevices in caves, mines, large rock outcrops, under bridges and in abandoned buildings. Forages in a wide variety of open habitats, frequently over water.	High
<i>Myotis yumanensis</i>	Yuma myotis bat	--/CSC/--	Common along wooded canyon bottoms throughout California; roosts in buildings, large trees with hollows, and crevices in cliffs	High
<i>Perognathus inornatus</i>	San Joaquin pocket mouse	--/CSC/--	Open grasslands, preferably (but not restricted to) areas with friable soils.	Low
Notes:				
1 Status of species relative to the Federal and California State Endangered Species Acts and Fish and Game Code of California.				
California Native Plant Society (CNPS).				
1B = Defined as plants that are rare, threatened or endangered in California and elsewhere.				
2 = Defined as plants that are rare, threatened or endangered in California, but are more common elsewhere.				
4 = Plants of Limited Distribution - A Watch List.				
Fed = Federal status.				
E = Federally listed as endangered.				
T = Federally listed as threatened.				
PE = Proposed endangered.				
PT = Proposed threatened.				
FC = Federal candidate for listing as threatened or endangered.				
CA = California status.				
E = Endangered; Species whose continued existence in California is jeopardized.				
T = Threatened; Species that although not presently threatened in California with extinction, is likely to become endangered in the foreseeable future.				

TABLE 6.5-1

SPECIAL-STATUS SPECIES POTENTIALLY OCCURRING IN SUTTER COUNTY

Scientific Name	Common Name	Status Fed/State/Other	Habitats	Likelihood of Occurrence
CSC	=	California Department of Fish and Game "Species of Special Concern".	Species with declining populations in California.	
FP	=	Fully protected against take pursuant to the Fish and Game Code Section 3503.5.		
--	=	No California or federal status.		

Sources: California Department of Fish and Game, California Natural Diversity Database, 2010 and U.S. Fish and Wildlife Service Online Threatened and Endangered Species Database <http://sacramento.fws.gov/es/spp_lists/auto_list_form.cfm>, 2010.

Plants

Sanford's arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is a tuberous rooted, perennial herb that occurs in marshes, swamps and shallow margins of other waters throughout the Central Valley and North Coast Range. Sanford's arrowhead is a CNPS List 1B species, but has no state or federal status. This species is known to occur in the policy area north of the Sutter Buttes, but could also occur elsewhere in areas of suitable habitat.

Rose Mallow

The rose mallow (*Hibiscus lasiocarpus*) is a perennial herb that grows from three to six feet in height (sometimes prostrate forms can be found) and has white or rose-colored flowers. This CNPS List 2 species has no federal or state protected status. The rose-mallow is associated with wet banks and marshes at elevations less than 40 meters (130 feet) above mean sea level throughout the central and southern portions of the Central Valley and Delta regions. This species is known to occur in the Sutter Bypass, and Butte Sink, but could also occur elsewhere in the policy area in areas of suitable habitat.

Vernal Pool Plants

Vernal pool plant species present in the policy area include legenere (*Legenere limosa*) a CNPS List 1B.1 species, but has no state or federal status; dwarf downingia (*Downingia pusilla*) a CNPS List 2.2 species, but has no state or federal status; and Boggs Lake hedge hyssop (*Gratiola heterosepala*) a CNPS List 1B.2 species, state listed as endangered, but has no federal status among others (Table 6.5-1). These plants typically occur in vernal pools, vernal swales, and occasionally other seasonal wetlands and have become restricted in their distribution as a result of habitat conversion and associated disturbance (e.g. degradation of wetland hydrology through plowing, grading, or grazing). Habitat for vernal pool plant species occurs primarily in the southeast portion of the policy area.

Northern California Black Walnut

Extensive stands of northern California black walnut trees (*Juglans hindsii*), a CNPS List 1B.1 species, but has no state or federal status, once occurred in riparian woodlands and forests through much of the lower-elevation portions of the state, but have since been cleared for agriculture and development. Native stands are now only known to occur in Napa and Contra Costa counties. However, because the species was widely used as rootstock for the English walnut (with which it readily hybridizes), the northern California black walnut has become widely re-established throughout riparian zones in the policy area.

Wildlife

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) is federally listed as threatened, but has no state status. This species occurs throughout the year in riparian woodlands and other Central Valley habitats containing elderberry shrubs (*Sambucus* spp.), upon which the VELB are completely dependent for all stages of their life cycle. The females lay their eggs in crevices in the bark. After hatching, the larvae burrow into the stems of the tree where they feed on the interior wood for the next one to two years until they form pupae, from which the adults emerge. The adults bore their way out of the stems, leaving a distinctive oval-shaped hole. As the larvae and adults are rarely seen, these borer holes are often the only evidence of this species' presence. After emergence from the stems, the adults remain in association with the elderberries, where they will feed on the elderberry foliage and eventually reproduce. All elderberry shrubs within the known range of the VELB that have one or more stems with diameters of one inch or greater at ground level, are considered potential habitat for this species. This potential habitat (i.e., elderberry shrubs) occurs primarily along the Sacramento and Feather Rivers, though elderberry shrubs bearing VELB exit holes can be found in other undeveloped portions of the policy area.

Vernal Pool Crustaceans

Vernal pool crustaceans occurring within the policy area include federally listed as threatened vernal pool fairy shrimp (*Branchinecta lynchi*), federally listed as endangered vernal pool tadpole shrimp (*Lepidurus packardii*) and California linderiella (*Linderiella occidentalis*) which is a state species of special concern. These small crustaceans are adapted to survive the annual flooding and drying of vernal pools and other seasonal wetlands in valley or foothill grasslands by hatching from encysted eggs embedded in the soil in the bottom of the pools when the pools fill with rainwater. After reaching maturity, they breed, lay their eggs on the silty bottom of the pool, and die as the vernal pool dries up. The dormant eggs are protected by thick outer coverings that resist cold, heat, and desiccation. Vernal pool crustaceans are known to occur in the eastern and southeastern

portions of the policy area, but these species have been observed in a number of places within urban areas as well, such as along railroad right-of-ways.

Sacramento Perch

The Sacramento perch (*Archoplites interruptus*), a state species of special concern, is the only freshwater perch native to California. It once occurred throughout the Central Valley and other lower elevation portions of the state, but due to severe alterations to the state's waterways for flood control and agriculture and the introduction of non-native perch (e.g., bluegill [*Lepomis macrochirus*] and other sunfish), crappie (*Pomoxis* spp.) and bass (*Micropterus* spp.), the species has been eliminated from the majority of its former range. True native populations (as opposed to re-introduced populations) now only exist at Clear Lake in Lake County and portions of Alameda Creek in Alameda County. Despite the serious decline in native Sacramento Perch populations, it is not endangered, as the species is doing quite well in several locations outside its natural range. Due to its ability to withstand high alkalinity, it has been introduced into several alkaline lakes in Nevada, Colorado, Nebraska, and North and South Dakota, and is flourishing where most other centrarchid species cannot survive and reproduce. It has also become established in several California reservoirs where it has been introduced, or where young fish were transported through the California aqueduct system into holding reservoirs, such as San Luis Reservoir and O'Neill Forebay. The California Department of Fish and Game has also promoted the Sacramento Perch for introduction into Central Valley farm ponds. This species is present in the Sacramento and Feather rivers and their tributaries.

Western Pond Turtle

The western pond turtle (*Actinemys marmorata*), is a state species of special concern, is an aquatic turtle that ranges throughout much of the state - from the Sierra Nevada foothills to the coast - and in coastal drainages from the Oregon border to Baja California. It occurs in suitable habitat throughout the policy area in ponds, slow moving streams and rivers, irrigation ditches, and reservoirs that have abundant emergent and/or riparian vegetation. The turtle requires adjacent (i.e. within 200-400 meters [656-1,312 feet] of aquatic habitat) uplands for nesting and egg-laying - typically in soils with high clay or silt component on unshaded, south-facing slopes. The western pond turtle is a federal and California Species of Concern and is fairly common along the Sacramento and Feather rivers, the Sutter Bypass, and in many tributaries and canals, and could occur in any of the creeks, streams or ponds in the policy area.

Giant Garter Snake

The giant garter snake (*Thamnophis gigas*) is both state and federally listed as threatened. It is a highly aquatic snake that historically ranged from Butte County, south through the

Central Valley to Buena Vista and Tulare Lakes in Tulare and Kern counties. Having disappeared from much of its former range due to habitat loss (particularly in the southern part of its range), the current stronghold for this species is in the Sacramento-American River Basin of Sutter and Sacramento counties, which provides some of the species' most important remaining habitat. Numerous occurrence records for giant garter snake occur within the policy area, with most records in the Butte Sink, and south of the Bear River and east of the Feather River, though they may be present in suitable habitat throughout the policy area. Giant garter snakes historically occurred in cattail and tule marshes, and in sparse, open riparian woodlands on the valley floor. Although much of their historic habitat has been lost due to channelization of waterways, flood control, and the conversion of marshlands to agriculture, this species has adapted to occupy certain man-made waterways. The irrigation systems associated with rice farming in Sutter, Sacramento, Yolo, and Colusa counties, when managed properly, are of particular value. Potential habitat for giant garter snakes typically includes all, or at least most, of the following features: relatively deep, perennial water (or at least adequate water during the snake's active season [early-spring through mid-fall]); presence of abundant emergent vegetation such as cattails and bulrushes for escape cover and foraging habitat during the active season; grassy banks and openings in waterside vegetation for basking; and higher elevation uplands adjacent to aquatic habitat for cover and refuge from flood waters during the snake's dormant season in the winter. Aquatic habitat must also support prey species such as fish and amphibians.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*), a state listed as threatened species, occurs in open country, foraging in grasslands and agricultural fields, especially after disking or harvest. They use tall riparian trees (typically oaks or cottonwoods) for nesting, but will occasionally nest in large eucalyptus or other large ornamental trees if there is suitable foraging habitat nearby. The species has lost much of its former nesting habitat as a result of the significant reduction in riparian woodland and forest habitat throughout the policy area and state over the last 100 years, and is increasingly losing foraging habitat to urban development. Swainson's hawks can forage as far as 20 miles from the nest, but nests are generally more successful if sufficient foraging habitat is present within an approximate 10-mile radius. When forced to travel greater distances from the nest, the adults must expend much more time and energy gathering food, leaving the eggs and young in the nests much more vulnerable to predation and the elements. Numerous nesting records for Swainson's hawks within the policy area occur along the Sacramento, Feather and Bear rivers, and along the Sutter Bypass.

Burrowing Owl

Burrowing owls (*Athene cunicularia*), a state species of special concern, are yearlong residents in generally flat, open, dry grasslands, pastures, deserts, and shrub lands, and in grass, forbs and open-shrub stages of pinyon-juniper and ponderosa pine habitats. They use communal ground squirrel and other small mammal burrows for nesting and cover, as well as artificial structures such as roadside embankments, levees, and berms. They prefer open, dry, nearly level grassland or prairie habitat and can exhibit high site fidelity, often reusing burrows year after year. Occupancy of suitable burrowing owl habitat can be verified at a site by observation of a pair of burrowing owls during their breeding season (March to August) or, alternatively, by the presence of molted feathers, cast pellets, prey remains (rodents, small reptiles, and large insects), eggshell fragments, or whitewash (guano), at or near a burrow. Burrowing owls are fairly tolerant of human activity near their nest burrows as long as suitable foraging habitat exists nearby. Known burrowing owl colonies are present in the southeast portion of the policy area, but could occur in suitable habitat throughout the policy area.

White-tailed Kite

The white-tailed Kite (*Elanus leucurus*) is a “fully protected” raptor under the California Fish and Game code. White-tailed kites feed on rodents, small reptiles, and large insects in fresh emergent wetlands, annual grasslands, pastures, and ruderal vegetation. They breed between February and October. Although, like other raptors, kites typically build solitary nests, yet they often roost and occasionally nest communally. Therefore, disturbance of a relatively small roost or nesting area could affect a large number of birds. The white-tailed kite can commonly be observed foraging in open grasslands throughout the policy area, but breeding sites are primarily located near riparian corridors along the Sacramento, Feather and Bear rivers.

Hérons and Egrets

The great blue heron (*Ardea herodias*), great egret (*Ardea alba*), snowy egret (*Egretta thula*) and black-crowned night heron (*Nycticorax nycticorax*) have similar life histories, and are all fairly common in the policy area. These species are typically associated with waterways, marshes, ponds and other wetlands where they forage for prey, but also use grasslands and agricultural fields for this purpose. Although not considered a special-status species, these species are all colonial nesters in rookeries they create in the tops of groves of large trees in riparian areas or other woodlands adjacent to suitable foraging habitat. Due to this strategy, nesting sites for these species are vulnerable, as the loss of even one rookery can affect a large number of birds. Heron and egret rookeries are rare in the policy area, but do occur within extensive riparian areas along the Sacramento, Feather and Bear rivers.

Bank Swallow

The bank swallow (*Riparia riparia*), a state listed as threatened species with no federal status, is the smallest North American swallow, with a body length of about 4.75 inches. It nests in colonies and creates nests by burrowing into vertical bluffs and riverbanks with fine-textured soils. Bank swallows breed in California from April to August and spend the winter months in South America. Most of California's remaining populations nest along the upper Sacramento River, where it still meanders in a somewhat natural manner. In this alluvial plain, the river system provides suitable soil types and erosion needed for prime nesting habitat. It is estimated that the range of bank swallows in California has been reduced by 50 percent since 1900. Seventy-five percent of the state's population is concentrated on the banks of Central Valley streams, including several colonies on the Sacramento River.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) a state watch list species with no federal status, is a breeding resident throughout most of the wooded portion of the state. This species ranges from sea level to above 2700 meters (0-9,000 feet) and nests in dense stands of live oak, riparian deciduous, or other forest habitats, typically near water. Seldom found in areas without dense tree stands, or patchy woodland habitat, this species is known to occur in the more extensive riparian forests along the Sacramento, Feather and Bear rivers.

Purple Martin

The purple martin (*Progne subis*) is a California Species of Special Concern, but has no federal status. This species can be found throughout nearly the entire United States east of the Rocky Mountains. Although declining in many western states, it is also found in isolated areas of Canada, Oregon, Washington, California, Utah, Colorado, Arizona, New Mexico and Mexico. It is an early spring migrant from its wintering grounds in South America. Generally, purple martins inhabit open areas with an open water source nearby. Martins adapt well in and around people, but are out-competed by starlings and sparrows in urban areas. Purple martins are colonial cavity nesters in abandoned woodpecker holes, human-made nest boxes, or cavities in other structures such as bridges and overpasses. Once established at a nest location, martins usually come back to the same site every year. Within the policy area, the purple martin can be expected to occur in riparian areas along the Sacramento, Feather and Bear rivers.

Tricolored Blackbird

The tricolor blackbird (*Agelaius tricolor*) is a California Species of Special Concern with no federal status that occurs in suitable habitat throughout much of the Central Valley of California and along the Coast - from approximately Mendocino County to northern Baja California, Mexico. This colonial species is a year-round resident in marshes, wet meadows,

rice fields, and rangelands. Tricolor blackbirds require large tracts of tules, cattails, or blackberries for their nesting colonies. Much of the historic habitat for this species has been eliminated due to conversion of marshes to agriculture and urban development. This species is known from a few occurrences along the Sacramento River and in agricultural fields, but could occur in suitable habitat throughout the policy area

Special-status Bats

Special-status bat species (California Species of Special Concern) with the potential to occur within the policy area include: the pallid bat (*Antrozous pallida*), Townsend's big eared bat (*Corynorhinus townsendii*), silver-haired bat (*Lasionycteris noctivagans*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), small-footed myotis (*Myotis ciliolabrum*), long-legged myotis (*Myotis volans*) and Yuma myotis (*Myotis yumanensis*). With the exception of the hoary bat and western red bat (which are foliage roosters, typically in or near riparian areas), these species use hollow trees, caves, and rock crevices for roosting, but also use man-made structures such as mines, old buildings, and bridges if suitable structure and seclusion are available. Several of these species are known to occur at various locations in the policy area, but all have potential to occur there in areas of suitable habitat.

REGULATORY CONTEXT

Federal

Endangered Species Act (FESA)

The Federal Endangered Species Act (FESA) of 1973 provides legal protection for threatened and endangered plant and animal species and requires definitions of critical habitat and development of recovery plans for specific species. Section 7 of the FESA requires federal agencies to make a finding on the potential to jeopardize the continued existence of any listed species potentially impacted by all federal actions, including the approval of a public or private action, such as the issuance of a permit pursuant to Sections 10 and 404 of the CWA. Section 9 of the FESA prohibits the take of any member of an endangered species. Take is defined by the FESA as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Section 10(a) of the FESA permits the incidental take of listed species if the take is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.

Projects adversely affecting federally-listed threatened or endangered species are required to obtain take permission from the USFWS prior to project implementation. If a federal agency is involved (i.e., if a wetlands permit is required, project has federal funding, etc.), take permission can be obtained through FESA Section 7 consultation with the USFWS.

Consultation will determine whether the project would adversely impact a protected species or designated critical habitat and identify mitigation measures that would be required to avoid or reduce impacts on the species or its habitat. Following this consultation, the USFWS issues a Biological Opinion (BO), which dictates the conditions of take that are allowed for the project. If no federal agency is involved, project applicants are required to obtain an Incidental Take Permit through Section 10 of the FESA, which requires preparation of a Habitat Conservation Plan (HCP) and results in the issuance of an Incidental Take Permit.

Federal Clean Water Act (CWA)

Section 404

The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Section 401 prohibits the discharge of any pollutant into the Nation's waters without a permit, and Section 402 establishes the permit program. Section 404 of the CWA regulates activities that result in discharge of dredged or fill material into waters of the United States. The Corps is responsible for permitting certain types of activities affecting wetlands and "other waters of the United States. Under Section 404 of the CWA, the Corps has the authority to regulate activity that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the U.S. The Corps implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or acres.

Section 401

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain a certificate from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to the nine regional boards. A request for certification is submitted to the regional board at the same time that an application is filed with the Corps. The regional board has 60 days to review the application and act on it. Because no Corps permit is valid under the CWA unless "certified" by the state, these boards may effectively veto or add conditions to any Corps permit.

Migratory Bird Treaty Act (MBTA) of 1918

The MBTA regulates or prohibits the taking, killing, possession of, or harm of migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. It is an international

treaty for the conservation and management of bird species that migrate through more than one country, and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20.

The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors). Six families of raptors occurring in North America were included in the amendment:

- Accipitridae (kites, hawks, and eagles);
- Cathartidae (New World vultures);
- Falconidae (falcons and caracaras);
- Pandionidae (ospreys);
- Strigidae (typical owls); and
- Tytonidae (barn owls)

All species and subspecies of the families listed above are protected under the amendment.

State

California Endangered Species Act (CESA)

The CDFG administers a number of laws and programs designed to protect fish and wildlife resources. Principal among these is the California Endangered Species Act of 1984 (CESA - Fish and Game Code, Section 2050), which regulates the listing and take of state-endangered and state-threatened species. The CESA declares that deserving species will be given protection by the state because they are of ecological, educational, historical, recreational, aesthetic, economic, and scientific value to the people of the state. The CESA established that it is state policy to conserve, protect, restore, and enhance endangered species and their habitats.

Species listed under the CESA cannot be “taken” without adequate mitigation and compensation. The definition of take under CESA is the same as described above for the FESA. However, based on findings of the California Attorney General’s Office, take under CESA does not prohibit indirect harm by way of habitat modification. Typically, the CDFG implements endangered species protection and take determinations by entering into management agreements (California Fish and Game Code, Section 2081 Management Agreements) with project applicants.

Fish and Game Code - Sections 3503, 3503.5, 3513

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any

regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA. These regulations could require that elements of the proposed project (particularly vegetation removal or construction near nest trees) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFG and/or USFWS.

Fish and Game Code B Sections 3511, 4700, 5050, and 5515

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as “fully protected.” Fully protected species, or parts thereof, may not be taken or possessed at any time, and no provision of the California Fish and Game Code or any other law may be construed to authorize the issuance of permits or licenses to take any fully protected species. No such permits or licenses heretofore issued may have any force or effect for any such purpose, except that the California Fish and Game Commission may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFG.

California Native Plant Protection Act

The California Native Plant Protection Act (California Fish and Game Code Section 1900-1913) prohibits the taking, possession, or sale within the State of any rare, threatened or endangered plants as defined by CDFG. This protection would apply to any plants with a State designation of rare, threatened, or endangered. Project impacts to these species would be considered “significant” if the species are known to occur within the area of disturbance associated with construction of the project, or “potentially significant” if the species has a high potential to occur within the area of disturbance.

Lake and Streambed Alteration Agreements

Under Sections 1600-1616 of the California Fish and Game Code, the CDFG regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFG’s jurisdiction are defined in the code as the “... bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit ...” (Section 1601). In practice, the CDFG usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

California Environmental Quality Act (CEQA)

Although threatened and endangered species are protected by specific Federal and State statutes, Section 15380(b) of the CEQA Guidelines provides that a species not listed on the Federal or State list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after definitions in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. Section 15380(b) requires public agencies to undertake reviews to determine if projects would result in significant effects on species that are not listed by either the USFWS or CDFG (i.e., candidate species). Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

California Native Plant Society (CNPS)

CNPS maintains an inventory of special-status plant species. CNPS maintains four species lists of varying rarity. Vascular plants listed as rare or endangered by the CNPS, but which have no designated status or protection under federal or state-endangered species legislation, are defined as follows:

- 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,
- List 3 Plants About Which More Information is Needed - A Review List, and
- List 4 Plants of Limited Distribution - A Watch List.

Threat Code Extension—CNPS has modified their ranking system to describe how endangered plants are in California. The extension code descriptions are as follows:

- 1) Species seriously endangered in California,
- 2) Species fairly endangered in California, and
- 3) Species not very endangered in California.

In general, plants appearing on CNPS List 1 or 2 are considered to meet CEQA Guidelines section 15380 criteria.

Oak Woodlands Conservation Act

The Oak Woodlands Conservation Act was added to the State of California Public Resources Code (Section 21083.4) on February 18, 2004 requires that a County determine

whether a project in its jurisdiction may result in a conversion of oak woodlands that will have a significant effect on the environment. A County must then require one or more alternatives to mitigate the significant effect of the conversion of oak woodlands. This Act exempts specified activities from its requirements, including:

1. Projects undertaken pursuant to an approved Natural Community Conservation Plan (NCCP) or approved sub-area plan within an approved Natural Community Conservation Plan that includes oaks as a covered species or that conserves oak habitat through natural community conservation preserve designation and implementation and mitigation measures that are consistent with this section.
2. Affordable housing projects for lower income households, as defined pursuant to Section 50079.5 of the Health and Safety Code, that are located within an urbanized area, or within a sphere of influence as defined pursuant to Section 56076 of the Government Code.
3. Conversion of oak woodlands on agricultural land that includes land that is used to produce or process plant and animal products for commercial purposes.
4. Projects undertaken pursuant to Section 21080.5 of the Public Resources Code.

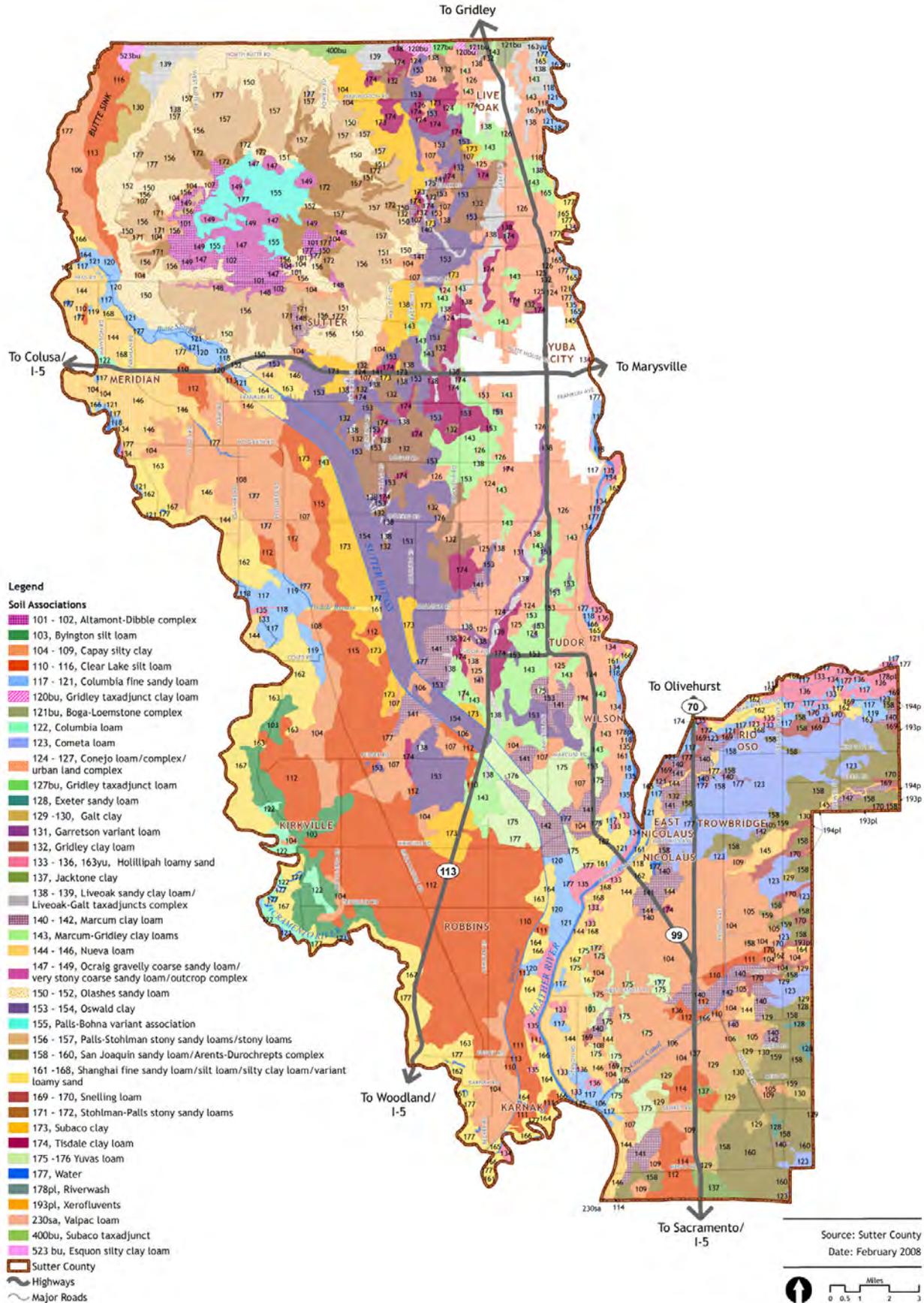
Local

Sutter County 2015 General Plan

The County's 2015 General Plan contains policies and implementation measures relevant to the preservation and protection of biological resources. The 2015 General Plan included policies focusing on fish and wildlife habitat, wetlands, riparian and other vegetation communities, open space preservation, and the Sutter Buttes. Upon approval of the proposed General Plan, all policies and implementation measures in the 2015 General Plan would be superseded. Therefore, they are not included in this analysis.

Natomas Basin Habitat Conservation Plan (NBHCP)

Portions of the policy area are within the Natomas Basin - a low-lying portion of the policy area east of the Sacramento River and north of the American River (Figure 6.5-3). The Natomas Basin contains incorporated and unincorporated areas within the jurisdictions of Sutter County and Sacramento County. Historically the basin was primarily in agricultural production. The existing water conveyance systems within the Natomas Basin were created for water conveyance and drainage. They provide nesting, feeding, and migration corridor habitat for a variety of species in the basin.



The Natomas Basin contains a variety of habitat types, open water aquatic habitat (including ditches and drains), emergent marsh, riparian forest, riparian scrub-shrub, grassland, vernal pools, and agriculture. A number of special-status species (wildlife and plant), as determined by the CDFG or the USFWS, inhabit or forage within the Natomas Basin.

The 1994 North Natomas Community Plan required the development and implementation of a Habitat Conservation Plan as mitigation for development in North Natomas. The NBHCP is a conservation plan supporting application for incidental take permits (ITPs) under Section 10(a)(1)(B) of the Endangered Species Act and under Section 2081 of the California Fish and Game Code. The purpose of the NBHCP is to promote biological conservation in conjunction with economic and urban development within the Permit Areas of the Natomas Basin. The NBHCP establishes a multi-species conservation program to minimize and mitigate the expected loss of habitat values and incidental take of Covered Species that would result from urban development, operation of irrigation and drainage systems, and certain activities associated with The Natomas Basin Conservancy's management of its system of reserves established under the NBHCP. The goal of the NBHCP is to minimize incidental take of the Covered Species in the Permit Areas and to provide mitigation for the impacts of Covered Activities on the Covered Species and their habitat. The NBHCP applies to the 53,537-acre area interior to the toe of the levees surrounding the Natomas Basin.

In 1997, the NBHCP was approved by Sutter County and ITPs were issued to the City of Sacramento, by USFWS and CDFG. Subsequently, the 1997 NBHCP was challenged and on August 15, 2000, the U.S. District Court, Eastern District, ruled that the USFWS ITP was invalid and an EIS was required. On May 15, 2001, in a federal court ruling, a Settlement Agreement was attained which granted a motion modifying the Order to allow incidental take protection for limited development within Sutter County with the provision of mitigation land in specific areas of the Natomas Basin. Development of 1,068 acres of land in both North and South Natomas would be allowed to proceed if it is in compliance with mitigation requirements of the Settlement Agreement.

Sutter County, Sacramento County, and the USFWS prepared a revised NBHCP and an EIR/EIS that were approved on May 13, 2003 by the Sacramento County Board of Supervisors. On June 27, 2003, the USFWS issued ITPs to Sutter County, Sacramento County and The Natomas Basin Conservancy. CDFG issued an amended ITP on July 10, 2003.

The NBHCP mitigation requirements include:

- Payment of HCP fees or dedication of land at a ratio of 0.5 to 1.

- Reconnaissance-level surveys to determine what habitats are present on a proposed development site. (Reconnaissance surveys are submitted with the developer's application.)
- Pre-construction surveys for potential special status species not less than 30 days or more than 6 months prior to construction activities.
- Species-specific mitigation, as required, per USFWS and CDFG protocol.
- Grading permit issued and habitat removed.

Yuba-Sutter NCCP/HCP

Portions of the policy area are within the boundaries of the proposed Yuba-Sutter NCCP/HCP (Natural Community Conservation Plan/Habitat Conservation Plan) (Figure 6.5-3). The Yuba-Sutter NCCP/HCP is a cooperative planning effort initiated by Yuba and Sutter counties in connection with improvements to Highways 99 and 70 and future development in the area surrounding those highways. The NCCP/HCP is being developed to facilitate ways to:

- continue economic growth and community development;
- retain the economic vitality of the agricultural community;
- maintain recreation, hunting, fishing, and other public uses of open space in the NCCP/HCP area;
- simplify and expedite land use and conservation planning in the NCCP/HCP area; and
- protect threatened and endangered species; and preserve plant and wildlife communities.

Preparation and approval of the NCCP/HCP is expected to take between 3 and 5 years, depending on the complexity of the planning process. Until the NCCP/HCP is approved, there is no requirement for compliance. However, it is prudent for longer term projects, or recently initiated smaller projects within the NCCP/HCP boundaries to give consideration to this planning document.

IMPACTS AND MITIGATION MEASURES

Methods of Analysis

The potential effects related to growth occurring as part of the proposed General Plan were compared to the environmental baseline conditions (i.e., existing conditions) to determine impacts to any special-status species. These baseline conditions were determined using the countywide GIS vegetation data overlain on vacant lands designated for new growth.

As stated in the setting section, full results of the CNDDDB and USFWS queries are provided in Appendix D. A list of species likely to occur in and/or be affected by development proposed under the General Plan was derived from the CNDDDB, CNPS, and USFWS database queries, and is provided in Table 6.5-1.

The impact analysis analyzes buildout of the proposed General Plan under both the adjusted buildout scenario as well as full buildout.

Proposed Sutter County General Plan Goals and Policies

The following goals and policies from the proposed General Plan area relevant to biological resources within the policy area are listed below.

ENVIRONMENTAL RESOURCES ELEMENT (ER)

Biological Resources and Open Space

Goal ER 1 Support a comprehensive approach for the conservation, enhancement, and regulation of Sutter County's significant habitat and natural open space resources.

Policies

- ER 1.1 **Natomas Basin HCP.** Ensure compliance with the adopted Natomas Basin Habitat Conservation Plan to promote biological conservation within the Natomas Basin portion of Sutter County.
- ER 1.2 **Yuba-Sutter NCCP/HCP.** Participate in the preparation and implementation of the Yuba-Sutter Natural Community Conservation Plan/Habitat Conservation Plan to promote biological conservation within the Plan boundary area in Sutter County.
- ER 1.3 **Conservation Efforts.** Focus conservation efforts on areas identified as having very high and high habitat value as well as Sutter County's unique natural open space resources, including the Sutter Buttes, Sutter Bypass, Butte Sink, and the Sacramento, Feather, and Bear River corridors.
- ER 1.4 **Interconnected Habitat.** Emphasize the preservation, enhancement, and creation of sustainable, interconnected habitat and open space areas that highlight unique resources and integrate educational and recreational opportunities as appropriate.
- ER 1.5 **Resources Assessment.** Require discretionary development proposals that could potentially impact biological resources to conduct a biological resources assessment to determine if any resources will be adversely affected by the proposal and, if so, to identify appropriate measures to avoid or mitigate such impacts.
- ER 1.6 **Avoidance.** Ensure that new development projects avoid, to the extent feasible, significant biological resources (e.g. areas of rare, threatened or endangered species of plants, riparian areas, vernal pools), except where such projects are

identified as “Authorized Development” within an adopted Habitat Conservation Plan.

- ER 1.7 **Mitigation.** Mitigate biological and open space effects that cannot be avoided in accordance with an applicable Habitat Conservation Plan and federal, State, and local regulations.
- ER 1.8 **Permits.** Require that new development secure all necessary state and federal resource permits/approvals prior to any development activity.
- ER 1.9 **Buffers.** Ensure that new development incorporates buffers and other measures adequate to protect biological habitats that have been preserved, enhanced, and created.
- ER 1.10 **Funding.** Identify and pursue economically viable methods and funding sources for the long-term maintenance and management of significant biological and open space resource areas, including State and federal programs.

Goal ER 2 Conserve, protect, and enhance Sutter County’s significant natural wetland and riparian habitats.

Policies

- ER 2.1 **No Net Loss.** Require new development to ensure no net loss of state and federally regulated wetlands, other waters of the United States (including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands), and associated functions and values through a combination of avoidance, restoration, and compensation.
- ER 2.2 **Resource Conservation District.** Encourage and support the Sutter County Resource Conservation District’s programs that facilitate preservation and restoration of natural wetland environments as long as these programs do not significantly affect Sutter County agricultural lands and flood control operations.
- ER 2.3 **Minimize Surface Runoff.** Minimize direct discharge of surface runoff into wetland areas and design new development in such a manner that pollutants and siltation will not significantly affect jurisdictional wetlands.
- ER 2.4 **Wetland Mitigation Banks.** Encourage the creation and use of regional wetland mitigation banks to the extent that they do not conflict with Sutter County agricultural lands and flood control operations.

Goal ER 3 Conserve, protect, and enhance Sutter County’s varied wildlife and vegetation resources.

Policies

- ER 3.1 **Special-Status Species.** Preserve special-status fish, wildlife, and plant species (e.g., rare, threatened or endangered species) and habitats consistent with an applicable Habitat Conservation Plan and federal, State, and local regulations.

- ER 3.2 **Agency Coordination.** Coordinate with federal, State, and local resource agencies (e.g., California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers) to protect special-status species.
- ER 3.3 **Fisheries.** Support the preservation and re-establishment of fisheries in the rivers and streams within Sutter County.
- ER 3.4 **Waterfowl Resources.** Preserve and protect waterfowl resources along the Pacific Flyway Migration Corridor.
- ER 3.5 **Wildlife Corridors.** Preserve and enhance wildlife movement corridors between natural habitat areas to maintain biodiversity and prevent the creation of biological islands. Preserve contiguous habitat areas when possible.
- ER 3.6 **Natural Vegetation.** Preserve important areas of natural vegetation and the ecological integrity of these habitats, where feasible, including but not limited to riparian, vernal pool, marshes, oak woodlands and annual grasslands.
- ER 3.7 **Oak Trees.** Preserve native oak trees when possible through the review of discretionary development projects and activities. Reduce the loss of oak trees through consideration of tree mitigation/replanting programs.
- ER 3.8 **Native Plant Use.** Encourage the use of native and drought tolerant plant materials, including native tree species, in all public and private landscaping and revegetation projects.

Goal ER 4 Conserve, protect, and enhance Sutter County's unique natural open space lands and resources.

Policies

- ER 4.1 **Preserve Natural Resources.** Preserve natural land forms, natural vegetation, and natural resources as open space to the extent feasible.
- ER 4.2 **Sutter Buttes.** Preserve the Sutter Buttes as an important agricultural, cultural, historic, habitat, and open space resource. Promote and support efforts by willing landowners to increase opportunities for public access to the Sutter Buttes and other open space areas.
- ER 4.3 **River Corridors.** Preserve the Sacramento, Feather, and Bear River corridors as important habitat, recreation and open space resources. Support efforts to increase public access and recreational uses along the County's river corridors.
- ER 4.4 **Acquisition of Additional Open Space Areas.** Support efforts to acquire additional open space adjoining protected natural resource areas to increase the size, connectivity, and buffering of existing habitat.
- ER 4.5 **Minimize New Development Impacts.** Require new development to minimize its impacts to open space areas.)

ER 4.6 **Mitigation for Other Jurisdictions.** Prohibit land mitigation within Sutter County for projects within other jurisdictions unless there is a benefit to Sutter County. Benefits can include, but are not limited to, providing flood protection for Sutter County, providing opportunities for Sutter County projects' use of the area for mitigation, or making the natural resources available for the enjoyment of Sutter County residents.

Implementation Programs

ER 2-A Work with federal, State, and local agencies/entities to establish a mitigation banking program.

ER 3-A Preserve native plants to the extent feasible by removing invasive, non-native plants.

ER 3-B Require an arborist report when a project requiring discretionary approval has the potential to affect native oak trees.

ER 3-C Develop a tree preservation ordinance that adequately protects, preserves, and mitigates any adverse effects to oak trees and any other trees determined by the County to be of significant value.

ER 3-D Incorporate the use of native and non-invasive drought tolerant plant materials at County buildings, facilities, and parks in the future.

ER 4-A Study the feasibility of developing conservation and preservation programs for the Sutter Buttes that will provide for long term protection of the resources and the basic property rights of the landowners. Continue to implement the existing requirements of the Sutter Buttes Overlay Zone.

ER 4-B: Explore the feasibility of establishing a funding mechanism to impose mitigation fees for conversion of agricultural and open space lands.

Standards of Significance

For the purposes of this EIR, impacts to biological resources are considered significant if the proposed General Plan would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS;
- have a substantial adverse effect on any riparian habitat, wetlands, or other sensitive natural community identified in local or regional plans, policies, or regulations or by DFG or USFWS;
- conflict with any local policies or ordinances protecting biological resources;

- interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- have a substantial adverse effect on federally-protected wetlands as defined by section 404 of the Clean water Act (including, but not limited to marsh, vernal pool, rivers, etc.) through direct removal, filling, hydrological interruption, or other means;
- conflict with the provisions of an adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservation plan; or
- create a potential health hazard, or involve the use, production, or disposal of materials that could pose a hazard to plant or animals within the policy area.

Impacts and Mitigation Measures

6.5-1 Implementation of the proposed General Plan could adversely affect protected species.

A wide variety of special-status plant and wildlife species have the potential to occur in the policy area. Examples of special-status plant species known to be present within the policy area include Ferris' milk-vetch, Colusa layia, rose-mallow, adobe navarretia, and Sanford's arrowhead. Examples of wildlife species known to be present within the policy area include vernal pool fairy shrimp, vernal pool tadpole shrimp, VELB, central valley steelhead, central valley Chinook salmon, western pond turtle, giant garter snake, tricolor blackbird, burrowing owl, Swainson's hawk, western yellow-billed cuckoo, and a variety of special-status bats. These species are found in undisturbed grasslands, seasonal wetlands, rivers, streams, marshes, riparian habitats, and vernal pools, the highest concentration of which occurs in relatively undisturbed portions of the policy area including the Sutter Buttes, the Butte Sink, the Sutter Bypass, and the Sacramento, Feather, and Bear River corridors and their tributaries. However, because much of the remaining policy area is still rural, the presence of special-status species outside these regions is still possible.

The majority of development within the policy area under the proposed General Plan is expected to occur adjacent to, or in close proximity to the existing communities of Sutter, Yuba City, and Live Oak. Additional smaller areas of development are designated in the vicinity of Tudor and the East Nicolaus/Trowbridge area. This includes approximately 25,000² acres out of a total of approximately 379,000 acres (6.5 percent) in the policy area. Potential impacts to special-status species assumed full buildout conditions. These areas have typically been subject to historic disturbance related to agriculture and other human activities, and usually do not support a wide diversity of biological resources.

2 This does not include the 7,528-acre Sutter Pointe Specific Plan area that was previously analyzed in a separate environmental document.

General Plan policies intended to encourage avoidance of impacts on special-status plants and wildlife, or to reduce impacts to those species are included in this general plan. These policies include the following. Policy ER 1.5 requires resource assessments be conducted on discretionary projects to determine if any special-status species, or their habitat occur within a specific project area, which would ensure that new development address the potential for special-status plants or wildlife to occur on a particular property. Policy ER 1.6 encourages avoidance of habitat for special-status species or other biological resources where feasible. Policy ER 1.7 requires that mitigation be provided to address impacts resulting from future development projects that cannot avoid biological resources, which supports compliance with state and federal regulations protecting special-status species. Policy ER 1.8 requires that all necessary permits for impacts to biological resources be obtained prior to ground breaking, which would help ensure that projects do not commence construction activities prior to obtaining all required permits. Policy ER 1.9 encourages the creation of buffers between developed areas and biological resources to protect them from indirect effects both pre and post construction. Policy ER 1.10 requires that funding sources be identified that allow for the in-perpetuity preservation and management of preserved and/or avoided biological resources which helps to ensure that mitigation and preservation are accomplished by identifying sufficient funding prior to approval. Policy ER 3.1 requires the preservation of special-status species consistent with local applicable HCPs and state and federal regulations, which encourage the participation with regional conservation efforts. Policy ER 3.2 requires coordination with applicable resource agencies to ensure that biological resources, including special-status species are protected.

The special-status species identified above and in Table 6.5-1 are either threatened, endangered, or species of special concern. Compliance with CESA, CEQA, and the NBHCP or Yuba-Sutter NCCP/HCP (as applicable), as well as implementation of the proposed General Plan goals and policies discussed above would mitigate for potential direct and indirect impacts on special-status plant and wildlife species within the policy area. Therefore, implementation of the General Plan would result in a *less-than-significant impact* to special-status species.

Full Buildout Analysis

Potential impacts to special-status species discussed above assumed full buildout conditions. However, the additional growth that could occur under full buildout would go beyond 2030 and future planning efforts and environmental analysis would address this additional growth and the potential implications of this growth.

Mitigation Measure

None required.

6.5-2 Implementation of the proposed General Plan could impact riparian habitat or other sensitive natural communities.

Riparian habitats are known to exist throughout the policy area, especially along the Sacramento, Feather and Bear rivers and their tributaries as well as the Sutter Bypass. Indirect impacts to riparian habitat located along these and other locations in the policy area could result from future development of vacant lands in these areas. Areas where future development is most likely to affect riparian habitat include Live Oak and Yuba City, though there could be other areas as well. These areas, along with Sutter, Tudor, East Nicolaus/Trowbridge and Sutter Pointe are also likely to have impacts to seasonal wetlands, vernal pools marshes, and oak woodlands. The placement of developed areas adjacent to riparian or other sensitive habitat such as vernal pools, marshes and oak woodlands could disturb wildlife that rely on these areas for shelter and food and could also result in the degradation of these areas through the introduction of feral animals and contaminants that are typical of urban uses.

As discussed in the Regulatory Setting, the CDFG regulates potential impacts to lakes, streams, and associated riparian (streamside or lakeside) vegetation through the issuance of Lake or Streambed Alteration Agreements (SAA - per CDFG Code section 1600). While there are no federal regulations that specifically mandate the protection of riparian vegetation, federal regulations set forth in Section 404 of the CWA address areas that potentially contain riparian-type vegetation, such as wetlands. However, the jurisdiction of Section 404 is generally less than that of the Section 1600 SAA, covering only riparian vegetation that is within wetland habitats.

General Plan policies intended to encourage the protection of sensitive vegetation communities are included in this proposed General Plan. These policies include the following. Policy ER 1.3 encourages focusing conservation efforts in areas with high and very high habitat values such as the Sutter Buttes, the Butte Sink and Sutter Bypass which would help ensure that habitat is preserved in large contiguous blocks rather than small isolated patches. Policy ER 3.6 encourages the preservation of areas with natural vegetation including but not limited to oak woodlands and annual grasslands which would help ensure that these habitats are preserved. Policy ER 3.6 also requires that the ecological integrity of these habitats are preserved.

Policy ER 3.7 encourages the protection of oak trees, which are a valuable natural resource in the policy area. Policy ER 4.1 encourages the preservation of natural resources (i.e., natural land forms, natural vegetation, and natural resources) as open space to the extent feasible. Policy ER 4.2 encourages the preservation of the Sutter Buttes as an important agricultural, cultural, historic, habitat, and open space resource. Policy ER 4.3 encourages the preservation of river corridors as important habitat, recreation and open space resources, further supporting their protection.

Development within the policy area would occur and it is feasible that development adjacent to or within sensitive natural communities could have adverse effects. As discussed above, the General Plan includes goals and policies designed to protect biological resources and natural habitats (i.e., sensitive natural communities). Policies contained within the General Plan would help reduce impacts to sensitive natural habitats by providing habitat preservation and/or restoration that would help to reduce impacts to riparian resources, and other sensitive communities which would reduce this impact to a *less-than-significant level*.

Full Buildout Analysis

Potential impacts to riparian and other sensitive habitat discussed above assumed full buildout conditions. However, the additional growth that could occur under full buildout would go beyond 2030 and future planning efforts and environmental analysis would address this additional growth and the potential implications of this growth.

Mitigation Measure

None required.

6.5-3 Implementation of the proposed General Plan could conflict with local policies or ordinances protecting biological resources.

Currently, Sutter County does not provide any specific ordinances that protect biological resources, such as a tree protection ordinance. The current 2015 General Plan includes policies that address biological resources, but those policies are superceded with the proposed General Plan policies; therefore, they are not addressed in this analysis. Impact 6.5-6, below, addresses any potential conflicts with the NBHCP and the Yuba-Sutter HCP/NCCP.

The removal of oak trees or other native tree species, and any particularly large or otherwise significant trees (either native or ornamental) is currently unregulated in the policy area. The proposed General Plan includes policies designed to address this issue. Specifically, policy ER 3.6 which encourages the preservation of significant areas of natural vegetation, that may include particularly prominent trees or tree groves. In addition, policy ER 3.7 requires the protection of oak trees through the requirement of an arborist report when a project requiring discretionary approval has the potential to affect native oak trees. Additionally, this policy requires the County to develop a tree preservation ordinance that adequately protects, preserves, and mitigates any adverse effects to oak trees and any other trees determined by the County to be of significant value. The proposed General Plan policies would create a mechanism to protect oak trees and other native trees or particularly large or unique trees considered to be of significant value where no such

protection currently exists, therefore, the proposed General Plan does not conflict with any local policies or ordinances that protect biological resources resulting in a *less-than-significant impact*.

Full Buildout Analysis

Potential impacts to biological resource ordinances discussed above assumed full buildout conditions. However, the additional growth that could occur under full buildout would go beyond 2030 and future planning efforts and environmental analysis would address this additional growth and the potential implications of this growth.

Mitigation Measure

None required.

6.5-4 Implementation of the proposed General Plan could interfere with migratory fish or wildlife species, established migratory wildlife corridors, or impede the use of wildlife nursery sites.

The policy area currently consists primarily of agriculture (rice, orchards and row crops) that do not represent significant wildlife corridors or nursery sites. However, there are significant wildlife movement and migration corridors and potential native wildlife nursery sites present in the policy area. Major wildlife movement and migration corridors include the Sutter Bypass, and the Sacramento, Feather and Bear rivers as well as the Tisdale Bypass, Cross Canal and the extensive network of irrigation canals representing smaller, but still important corridors between the larger corridors and other areas of natural habitat. The majority of development within the policy area under the General Plan is expected to occur adjacent to, or in close proximity to the existing communities of Sutter, Yuba City, and Live Oak. Additional smaller areas of development are proposed in the vicinity of the unincorporated areas of Tudor and the East Nicolaus/Trowbridge area. These areas have typically been subject to historic disturbance related to agriculture and other human activities, and usually do not support a wide diversity of biological resources, including migratory fish and wildlife species, wildlife corridors, or native nursery sites.

A number of General Plan policies are proposed that support a comprehensive approach to the conservation, enhancement, and regulation of the county's significant habitat and natural open space resources. Those that specifically address wildlife migration, and/or movement corridors and nursery sites include the following. Policy ER 1.4 emphasizes the preservation, enhancement, and creation of sustainable, interconnected habitat and open space areas to allow wildlife the ability to move freely between larger areas of suitable habitat while integrating educational and recreational opportunities. Policy ER 1.9 ensures that new development incorporates buffers and other measures to protect biological

habitats that have been preserved, enhanced, and created to help protect those preserved areas from indirect effects of adjacent development. Policy ER 3.5 further encourages the preservation and enhancement of wildlife movement corridors between natural habitat areas to maintain biodiversity and prevent the creation of biological islands with a focus on biological resources. The following policies provide secondary support for the preservation of wildlife movement corridors and nursery sites. These policies include Policy ER 4.1 that encourages the preservation of natural landforms, natural vegetation, and natural resources as open space to the extent feasible, which helps preserve habitat where migration and movement corridors, and nursery sites exist. Policy ER 4.3 that encourages the preservation of river corridors as important habitat, recreation and open space resources and also helps in the preservation of migration and movement corridors. Policy ER 4.4 supports efforts to acquire additional open space adjoining protected natural resource areas to increase the size, connectivity, and buffering of existing habitat.

As stated above, a majority of development under the proposed General Plan is generally expected to occur adjacent to existing developed areas (i.e., within the cities of Yuba City and Live Oak spheres of influence), in areas approved for development (Sutter Pointe Specific Plan), or along major roadway corridors (Highway 99). The General Plan contains goals and policies intended to ensure that development does not interfere with the preservation of wildlife movement corridors and nursery sites or migratory paths for fish and wildlife; therefore, this impact is considered *less than significant*.

Full Buildout Analysis

Potential impacts to migratory fish or wildlife species, or established migratory wildlife corridors discussed above assumed full buildout conditions. However, the additional growth that could occur under full buildout would go beyond 2030 and future planning efforts and environmental analysis would address this additional growth and the potential implications of this growth.

Mitigation Measure

None required.

6.5-5 Implementation of the proposed General Plan could result in adverse impacts to wetlands.

Existing federal and state laws and regulations, including the Corps Section 404 permitting process or the Report of Waste Discharge, required under the Porter-Cologne Act would mitigate impacts to wetland areas associated with development under the proposed General Plan. Specifically, Section 404 of the CWA requires that a permit be obtained from the Corps prior to the discharge of dredged or fill materials into any "waters of the United

States," which includes wetlands. Section 404 permits generally require mitigation to offset the loss of these habitat types, in accordance with Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or acres. Waters of the United States are defined as any surface or subsurface water and are protected by the Porter-Cologne Act. Implementation of the proposed General Plan would allow new and infill development within the policy area which could impact state or federally protected wetlands and/or waters of the United States. Specifically, the areas where wetlands have been identified or could be located include the Live Oak and Yuba City sphere of influence, the communities of Sutter, Meridian, Tudor, and Rio Oso, and the Sutter Pointe Specific Plan area.

The General Plan includes policies ER 2.1 and ER 2.4, which are intended to encourage the conservation, protection, and enhancement of significant natural wetland and riparian habitats in the policy area through requiring no net loss of wetlands and riparian habitats, cooperation with the resource conservation district, requirements for the minimization of surface runoff, and the creation of new wetland mitigation banks. Additional policies that further encourage efforts to preserve and enhance wetland and riparian habitats include Policy ER 3.2, which encourages coordination with the resource agencies charged with the protection of these habitats including the Corps, RWQCB and CDFG. Policies ER 3.3 and ER 3.4 encourage the protection and enhancement of fisheries and waterfowl resources in the policy area, which includes wetland preservation and enhancement. Policy ER 3.6 encourages the protection of important natural vegetation communities including wetlands. Policy ER 4.1 encourages the protection of natural resources including wetland and riparian habitats. Policy ER 4.3 encourages the protection of the Sacramento, Feather and Bear river corridors.

Implementation of the proposed General Plan goals and policies and adherence to identified state and federal laws and regulations and the CWA Section 404 "no net wetland loss" policy currently in place, would reduce impacts on jurisdictional waters of the U.S. and wetlands. Compliance with General Plan policy ER 2.1 would ensure that no-net-loss of state and federally protected wetlands occurs as a result of development in the policy area. Therefore, the impact is *less than significant*.

Full Buildout Analysis

Potential impacts to wetlands discussed above assumed full buildout conditions. However, the additional growth that could occur under full buildout would go beyond 2030 and future planning efforts and environmental analysis would address this additional growth and the potential implications of this growth.

Mitigation Measure

None required.

6.5-6 Implementation of the proposed General Plan could conflict with an adopted habitat conservation plan or natural community conservation plan.

Portions of the policy area occur within the boundaries of the NBHCP, and within boundaries of the proposed (but not-yet-adopted) Yuba-Sutter NCCP/HCP. The Yuba-Sutter NCCP/HCP is still in the developmental stages, with potential adoption still likely some years off. The proposed General Plan includes policies intended to require compliance with existing HCP's, and encourage the support of new HCPs and NCCPs. Specifically, policies ER 1.1 and ER 1.2, encourage participation in the NBHCP and when adopted, the Yuba-Sutter NCCP/HCP. Additional policies that further encourage efforts to encourage and support a comprehensive approach for the conservation, enhancement, and regulation of Sutter County's significant habitat and natural open space resources include policy ER 1.7 that supports mitigation for biological and open space effects that cannot be avoided in accordance with a HCP or compliance with federal, state, and local regulations. Policy ER 1.10 requires the identification and pursuit of economically viable methods and funding sources for the long-term maintenance and management of significant biological and open space resource areas, including state and federal programs.

The proposed General Plan does not conflict with the existing NBHCP or the proposed Yuba-Sutter HCP/NCCP; therefore, this is a *less-than-significant impact*.

Full Buildout Analysis

The additional growth that could occur under full buildout would go beyond 2030 and future planning efforts and environmental analysis would address this additional growth and the potential implications of this growth.

Mitigation Measure

None required.

6.5-7 Implementation of the proposed General Plan could create a potential health hazard that could pose hazards to plant or wildlife within the policy area.

The majority of development within the policy area under the proposed General Plan would consist of residential, mixed-use, commercial and industrial uses. Development within the policy area would result in an increase in population, which in turn would result in an increase in vehicles and associated emissions. An increase in population would also result in an increase in the use of fertilizers, herbicides, and pesticides used in residential

landscaping, public parks, and commercial uses. During irrigation or storm events, these pollutants would be washed into street drains and eventually end up in detention basins and/or the Sacramento, Feather, or Bear rivers or their tributaries potentially affecting plant and wildlife species that live in these areas.

The proposed General Plan has identified goals and policies that address the protection of natural resources including policies ER 2.1 through ER 2.4 that focus on the protection of wetlands and riparian habitat, policies ER 6.8 through ER 6.10 that address water quality, and policies ER 9.1 through ER 9.12 that address air quality. Furthermore, the General Plan identifies additional policies that would improve or reduce greenhouse gas emissions included in the Environmental Resources Element, under Air Quality (see policy ER 9.3). Policies in the Public Health and Safety Element under Hazards and Hazardous Materials would reduce or eliminate exposure to hazardous materials and policies included in the Environmental Resources Element under Water Resources and Quality would reduce or eliminate the amount of contaminants in surface run-off. An increase in air, water, and soil pollutants, as a result of an increase in population, could pose a hazard to plant or wildlife populations within the policy area. Compliance with federal, state and local policies regarding emission control and use/disposal of household/lawn chemicals would help minimize the direct and indirect impacts of production and discharge of pollutants within the policy area. Therefore, it is anticipated that future development under the General Plan would result in a *less-than-significant impact* on plant and animal species associated with the potential to increase health hazards within the county.

Full Buildout Analysis

The additional growth that could occur under full buildout would go beyond 2030 and future planning efforts and environmental analysis would address this additional growth and the potential implications of this growth.

Mitigation Measure

None required.

Growth Areas

Rural Planned Communities

Sutter

The Sutter Growth Area encompasses rural and agricultural land surrounding the community of Sutter at the southern edge of the Sutter Buttes in the north-central portion of the policy area. Although land to be developed in this growth area is representative of much of the rest of the policy area, its proximity to Sutter Buttes increases the likelihood that species

associated with grasslands and oak woodlands (e.g., Swainson's hawk, long-eared owl, burrowing owl, vernal pool crustaceans, special-status upland plant species) are more likely to occur here than in other portions of the policy area. Impacts to biological resources in the Sutter Growth Area would primarily include special-status plants and wildlife, wetlands, and wildlife movement corridors. Compliance with General Plan policies would reduce impacts to a less-than-significant level.

East Nicolaus/Trowbridge

The East Nicolaus/Trowbridge Growth Area encompasses rural and agricultural land surrounding the communities of East Nicolaus and Trowbridge in the southeast portion of the policy area, east of the Feather River and south of the Bear River. Land designated for future development in this growth area consists primarily of agriculture, but irrigation canals and other potential wetlands occur here as well. Impacts to biological resources in the East Nicolaus/Trowbridge Growth Area would most likely include wetlands, loss of raptor foraging habitat, and loss of special-status plants and wildlife species associated with marsh habitats (e.g., giant garter snake, rose mallow), and wildlife movement corridors. Compliance with General Plan policies would reduce impacts to these biological resources a less-than-significant level.

Spheres of Influence

Yuba City – North

The Yuba City – North Growth Area encompasses currently rural and agricultural land surrounding the north side of Yuba City in the northeast portion of the policy area, west of the Feather River. Land to be developed in this growth area may include riparian habitat, raptor (including Swainson's hawk) nesting and foraging habitat, wetlands and wildlife movement corridors. Impacts to biological resources in the Yuba City – North Growth Area would include wetlands, sensitive habitats (riparian), raptor nesting and foraging habitat, and wildlife movement corridors. Compliance with general Plan policies would reduce impacts to a less-than-significant level.

Yuba City – South

The Yuba City – South Growth Area encompasses rural and agricultural land surrounding the south side of Yuba City in the northeast portion of the policy area, west of the Feather River. Land to be developed in this growth area, like the Yuba City - North Growth Area, may include riparian habitat, raptor (including Swainson's hawk) nesting and foraging habitat, wetlands and wildlife movement corridors. Impacts to biological resources in the Yuba City – South Growth Area would be the same as the Yuba City – North Growth Area analysis. Compliance with General Plan policies would reduce these impacts to a less-than-significant level.

Sutter Pointe Specific Plan Area

The Sutter Pointe Specific Plan (SPSP) area encompasses rural agricultural land at the southern end of the policy area. Land to be developed in this growth area is generally similar to the remainder of the policy area, but does occur within the boundaries of the Natomas Basin HCP. Species addressed in the SPSP EIR included raptor (including Swainson's hawk) nesting and foraging habitat, burrowing owl nesting and foraging habitat, giant garter snake, wetlands and wildlife movement corridors. Impacts to biological resources in the SPSP area have been addressed at a project level in the SPSP EIR, and mitigation measures are provided to address potential impacts to biological resources.

Industrial/Commercial (I/C)

Land to be developed in this growth area is representative of much of the rest of the policy area, therefore, impacts on biological resources in the Industrial/Commercial Growth Area would be the same as the countywide analysis.

Employment Corridor (EC)

Land to be developed in this growth area is representative of the policy area, therefore, impacts to biological resources in the Employment Corridor Growth Area would be the same as the countywide analysis.

Cumulative Impacts and Mitigation Measures

Unless otherwise identified below, the geographical context for the analysis of cumulative biological impacts includes the areas contained within the northern Central Valley from Redding south to the Sacramento/San Joaquin Delta and from the western Sierra Nevada foothills to the eastern foothills of the Coast Ranges. The primary effects of implementation of the proposed General Plan, when considered with other projects within the cumulative context (as defined above), would be the cumulative direct loss of open space, vegetation associations important to raptors, loss of sensitive or special-status wildlife species, and the loss of sensitive habitat such as riparian and wetlands. Specifically, present and probable future projects in the vicinity of the policy area are anticipated to permanently remove plant and wildlife resources which could affect: special-status species; nesting habitat for resident and migratory avian species; wetlands and riparian vegetation.

Impact 6.5-7, Implementation of the proposed General Plan could create a potential health hazard that would pose a hazard to plant or wildlife within the policy area is specific to the policy area and not additive with other uses. Therefore, this impact is not evaluated at a cumulative level.

6.5-8 Implementation of the proposed General Plan, in combination with other development within the northern Central Valley, could result in a regional loss of special-status plant or wildlife species or their habitat.

As development in the northern central valley continues, sensitive plant and wildlife species native to the region and their habitat, including those species listed under CESA and FESA and those individuals identified by state and federal resources agencies as Species of Concern, Fully Protected, or Sensitive, would be lost through conversion of existing open space and agricultural lands to urban development. Although species that are more mobile might be able to survive these changes in their environment by moving to new areas, less mobile species could simply be locally extirpated (become extinct). With continued conversion of natural habitat to human use, the availability and accessibility of remaining foraging and natural habitats in this ecosystem would dwindle and those remaining natural areas may not be able to support additional plant or animal populations above their current carrying capacities. Thus, the conversion of plant and wildlife habitat on a regional level in the north central valley as a result of cumulative development would result in a regionally significant cumulative impact on special-status species and their habitats.

The policy area encompasses approximately 379,000 acres within the northern central valley that is largely occupied by agriculture and other open space lands. Buildout of the General Plan is expected to result in the conversion of approximately 25,000 acres or slightly over 6 percent of the available land in the policy area to urban development. The remaining portion of the policy area is expected to remain in agriculture and open space through buildout. Since there is only a small percentage of the available land likely to be developed, and proposed General Plan policies, in combination with current legislative requirements, are aimed at placing a high value on protecting biological resources and maintaining contiguous natural habitat, the cumulative contribution of the proposed General Plan is less than considerable. The project would have a *less-than-significant contribution*.

Mitigation Measure

None required.

6.5-9 Implementation of the proposed General Plan, combined with other development within the northern Central Valley, could contribute to the cumulative loss of sensitive natural communities including wetlands and riparian habitat in the region.

Estimates of wetlands that historically existed in California range from 3 to 5 million acres. The current estimate of wetland acreage in California is approximately 450,000 acres; this represents an 85 to 90 percent reduction in total amount of wetlands within California.

Within the northern Central Valley which once had vast wetlands extending over some 4 million acres; these have diminished to approximately 300,000 acres.

The policy area also lies within the historic range of the Central Valley riparian forests. Since the 1850s, the riparian forests along the Sacramento, Feather and Bear rivers and their tributaries have been reduced from approximately 800,000 acres to less than 20,000.³ Historical descriptions of the Central Valley riparian forests in the 1800s characterized the riparian forests as non-uniform in width, ranging from 300 yards to 5 miles. According to these historical accounts, the forests formed continuous stands flanking the Sacramento River in some areas; however, large dense clumps of tree stands were more common. As a result of settlement in the Central Valley, the riparian woodlands were cleared for farming, lumber, flood control, and development. Currently along the Sacramento, Feather and Bear rivers, there are some continuous stands of riparian forests that still remain, but continued urban and agricultural development and modifications along the rivers have greatly diminished this resource.

As wetland and riparian habitats within the northern Central Valley have been reduced substantially from their native range, and probable future development within the region would continue to affect these resources, this is considered a significant cumulative impact.

Currently, data for the proposed General Plan does not provide sufficient detail to identify exact acreage amounts, but it is likely that implementation of the General Plan would, in the short-term, remove an undetermined amount of wetland vegetation. The loss of wetlands and riparian vegetation would be fully mitigated at a minimum of a 1:1 replacement ratio subject to approval by the CDFG through Section 1600 of the Fish and Game Code of California, and the Corps through the Section 404 permit process. Compliance with these regulations would include preparation of a mitigation plan that provides for no net loss of riparian vegetation identified in the policy area through the restoration or creation of riparian habitat to mitigate the permanent loss of the habitat or its functions. Additionally, NPDES regulations, local water quality, and runoff standards would protect the hydrology and ecology of the Sacramento, Feather and Bear rivers and their associated wetland and riparian complexes. In addition, the General Plan contains policies specifically designed to avoid, reduce, or mitigate impacts to riparian vegetation.

Proposed General Plan policies ER 1.3, ER 2.1, ER 3.6, ER 3.7, and ER 4.1 through ER 4.3 all address protection to riparian and other sensitive habitats, and wetlands. Additionally, alterations of, or discharges into, waters of the United States, sensitive natural communities, or state jurisdictional waters must be in conformance with Section 1600 of the Fish and Game Code and Sections 404 and 401 of the CWA. Because future development projects would be required to mitigate in full at a minimum ratio of 1:1, there would be no net loss of

3 Griggs, F.T., and Golet, G.H. 2002. USDA Forest Service Gen. Tech. Rep., PSW-GTR-184.

sensitive habitats. Therefore, because no long-term net loss of wetland resources and riparian vegetation would be attributable to implementation of the General Plan, its contribution would be less than considerable. Therefore, the project would have a *less-than-significant contribution*.

Mitigation Measure

None required.

6.5-10 Implementation of the proposed General Plan, in combination with development within the northern Central Valley, could contribute to the cumulative disruption of migratory fish or wildlife species, established wildlife corridors, or use of native wildlife nursery sites.

The northern central valley once contained extensive grasslands and woodlands with an intricate network of rivers and streams and other wetlands that often served as nursery sites, movement corridors, and/or rest stops along migration routes. As conversion of the northern central valley to agriculture and urban development advanced, much of the habitat formerly available for these purposes has disappeared. While some agriculture, particularly rice farming, is a valuable replacement for some of the habitats that were lost continued conversion to urban development reduces these resources more each year. Thus, the continued disruption of migratory fish or wildlife species, established wildlife corridors, or use of native wildlife nursery sites due to urban and agricultural development would therefore result in a regionally significant cumulative impact.

The policy area is dominated primarily by agricultural development with relatively small areas of urban development concentrated primarily in the cities of Yuba City and Live Oak, with smaller communities including Sutter, East Nicolaus, Tudor and Meridian. Any development that caused an interruption in the Sacramento, Feather and Bear rivers and their tributaries, the Sutter Bypass or the extensive irrigation canal system throughout much of the policy area would have a substantial effect on wildlife dependant of these corridors to reach different habitat areas, resulting in a significant impact. However, at the project level these corridors would be avoided, and development would be limited to areas outside of these corridors. Therefore, the contribution of the proposed project is less-than-considerable, resulting in a *less-than-significant cumulative impact*.

Mitigation Measure

None required.