

3.4 BIOLOGICAL RESOURCES

This section addresses biological resources known or with potential to occur in Yolo County, and describes potential effects adoption and implementation of the proposed CLUO, including issuance of subsequent Cannabis Use Permits pursuant to the adopted CLUO on those resources. Biological resources include common vegetation and habitat types, sensitive plant communities, and common and special-status plant and animal species. The analysis includes a description of the existing environmental conditions, the methods used for assessment, the potential direct and indirect impacts of project implementation, and mitigation measures recommended to address impacts determined to be significant. Federal, state, and local regulations that pertain to biological resources are summarized.

Comments were received from California Department of Food and Agriculture, California Department of Fish and Wildlife, the Yocha Dehe Wintun Nation, and residents in response to the NOP regarding special-status species, raptors, game species (e.g., deer, wild turkey), sensitive habitats (e.g., wetlands, aquatic habitat), the use of chemicals, and consistency with the *Yolo Habitat Conservation Plan/Natural Community Conservation Plan* (HCP/NCCP). These issues are considered below. The reader is referred to Appendix A for comments received on the NOP.

3.4.1 Environmental Setting

The following key sources of data and information were used in the preparation of this section:

- results of California Natural Diversity Database (CNDDB) record search of Yolo County (CNDDB 2018),
- results of California Native Plant Society (CNPS) Rare Plant Program database search of Yolo County (CNPS 2019),
- California Wildlife Habitat Relationships (CDFW 2018a),
- Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo Habitat Conservancy 2018),
- *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), and
- eBird web application (eBird 2018, 2019).

LAND COVER TYPES

There are 20 different land cover types within the County (Table 3.4-1; Exhibit 3.4-1) (Yolo Habitat Conservancy 2018). Approximately 53 percent (343,305 acres) of Yolo County is composed of agricultural land, approximately 12 percent (80,911 acres) is grassland habitat, approximately 12 percent is oak woodland habitat (i.e., blue oak foothill pine, blue oak woodland, valley oak woodland), and approximately 7 percent is chamise or mixed chaparral habitat. Approximately 7 percent of Yolo County contains developed land cover types, primarily in the cities of Woodland, Davis, West Sacramento, and Winters (Exhibit 3.4-1). Total acreages of each habitat type are presented in Table 3.4-1, and land cover types are described below in order of abundance (CDFW 2018a; Yolo Habitat Conservancy 2018). Under this land cover classification system, some habitat that may be zoned for agricultural purposes falls into other land cover categories (e.g., grassland, oak woodland).

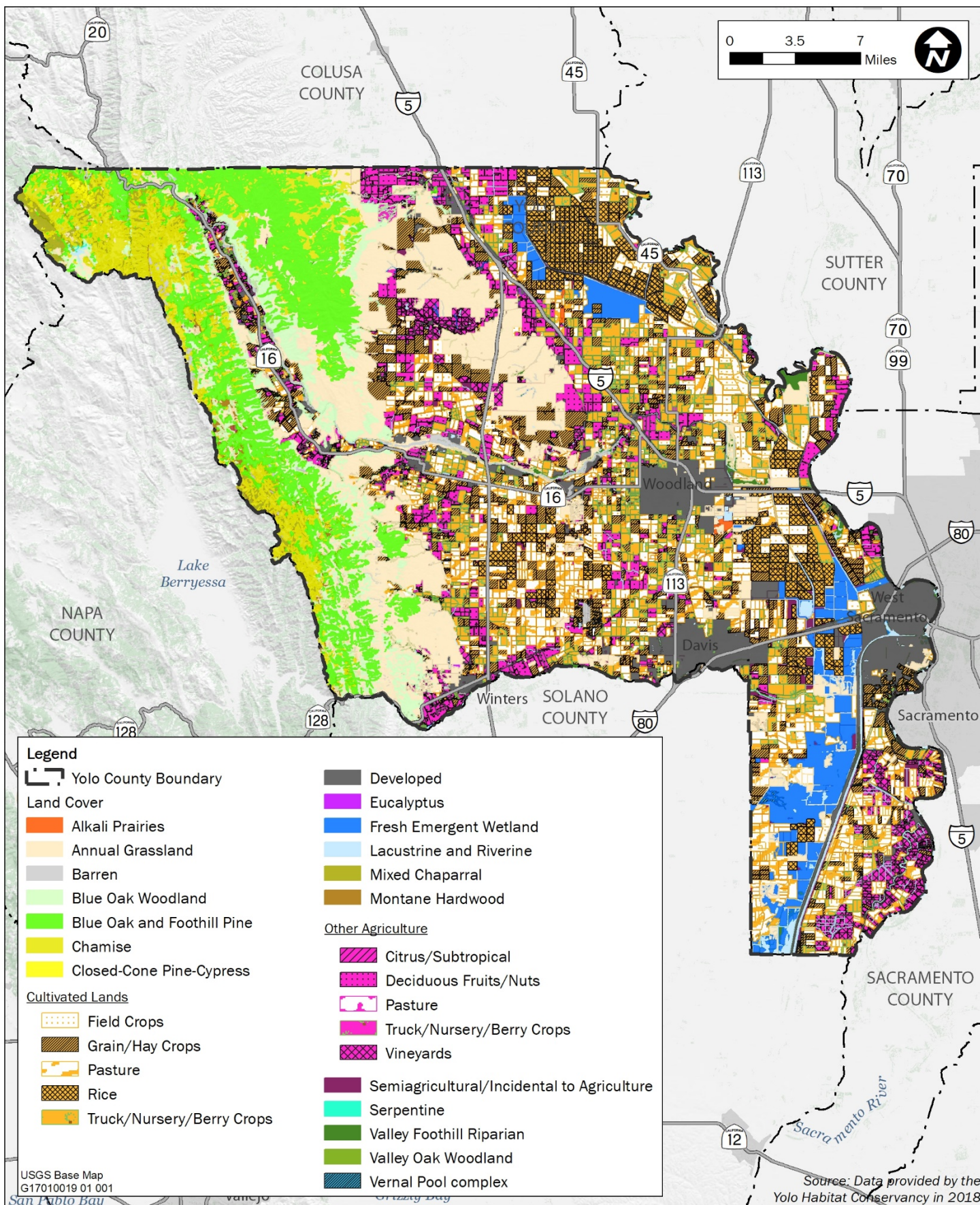


Exhibit 3.4-1

Vegetation Land Cover



Table 3.4-1 Habitat Types within Yolo County

Habitat Type	Size (acres)
Cultivated Lands	250,631
Annual Grassland	80,911
Other Agriculture	62,164
Developed	45,492
Blue Oak and Foothill Pine	43,772
Blue Oak Woodland	35,891
Semiagricultural/Incidental to Agriculture	30,510
Chamise	30,187
Fresh Emergent Wetland	26,309
Mixed Chaparral	14,518
Lacustrine and Riverine	13,493
Valley Foothill Riparian	12,565
Montane Hardwood	3,087
Barren	2,346
Eucalyptus	369
Alkali Prairies	312
Vernal Pool Complex	299
Serpentine	247
Closed-Cone Pine-Cypress	212
Valley Oak Woodland	181

Source: Yolo Habitat Conservancy 2018; data compiled by Ascent Environmental in 2018

Cultivated Lands

The Cultivated Lands category includes the following agricultural land types that can provide habitat for wildlife: alfalfa, field crops, grain/hay crops, pasture, rice, and truck/berry crop agricultural types (Table 3.4-1). The distribution of these agricultural land types within the County may expand and contract rapidly with market conditions and crop rotations. These agricultural types are described below.

Alfalfa

Alfalfa (*Medicago sativa*) is a relatively low-growing perennial herbaceous legume species that is periodically irrigated and cut for hay five times during the growing season. Since it can fix nitrogen, alfalfa is often used as a green manure and is incorporated into the soil as part of many crop rotations. The high protein content of its leaves also make alfalfa highly palatable for rodents such as ground squirrels and gophers, which are often present in high numbers in the fields.

Common wildlife species known to forage in alfalfa fields include American kestrel (*Falco sparverius*), California horned lark (*Eremophila alpestris*), American pipit (*Anthus rubescens*), western meadowlark (*Sturnella neglecta*), red-winged blackbird (*Agelaius phoeniceus*), California meadow vole (*Microtus californicus*), house mouse (*Mus musculus*), brown rat (*Rattus norvegicus*), and black-tailed jackrabbit (*Lepus californicus*) may use these areas as primary habitat.

Alfalfa in particular supports special-status raptor species because it provides such important forage for ground squirrels, gophers, voles, and other small mammals. Special-status raptors such as burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), long-eared owl (*Asio otus*), short-eared owl

(*Asio flammeus*), white-tailed kite (*Elanus leucurus*), northern harrier (*Circus hudsonius*), and Swainson's hawk (*Buteo swainsoni*) can be found foraging in these fields. Alfalfa fields are particularly important for Swainson's hawk which preferentially congregates in large numbers in these fields to forage on insects, voles, and other prey flushed during harvesting or flood irrigating.

Field Crops

Field crops in the County consist of irrigated row crops and represent one of the most abundant agricultural types within Yolo County, including corn, dry beans, sorghum, safflower, Sudan grass, and sunflowers.

Common wildlife species known to forage in field crops include American kestrel, horned lark, American pipit, western meadowlark, red-winged blackbird, yellow-billed magpie (*Pica nuttalli*), house finch (*Haemorhous mexicanus*), herons and egrets. California meadow vole, house mouse, brown rat, and black-tailed jackrabbit may use these areas as primary habitat.

Field crops support special-status wildlife species including Swainson's hawks, which often congregate in large numbers to forage on insects, voles, and other prey flushed during harvesting or flood irrigating. Additionally, Townsend's big-eared bat (*Corynorhinus townsendii*) and mountain plover (*Charadrius montanus*) may utilize plowed fields for foraging.

Grain and Hay Crops

Grain and hay crops include dryland grain and hay production operations in the County. In dryland farming, wheat is the dominant grain crop, with smaller acreages of barley and rye. Oat hay is the dominant hay crop. In some years, dryland grain and hay production occurs on less fertile soils such as those in the Dunnigan Hills and along the base of the Blue Ridge.

Grain and hay crops support common wildlife species, including mourning dove (*Zenaida macroura*), western meadowlark, Brewer's blackbird (*Euphagus cyanocephalus*), red-winged blackbird, yellow-billed magpie, coyote (*Canis latrans*), California ground squirrel (*Otospermophilus beecheyi*), and black-tailed jackrabbit.

Grain and hay crops provide foraging for special-status wildlife, including Swainson's hawk, northern harrier, tricolored blackbird (*Agelaius tricolor*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and pallid bat (*Antrozous pallidus*).

Pasture

Pastures are typically planted with non-native grasses or leguminous plant species and are actively irrigated. Pastures are generally located on landscapes with flat to gently rolling terrain to facilitate border or sprinkler irrigation. Within Yolo County, the majority of the pasturelands are located on valley floors and are concentrated in the south-central and southeastern sections of the County. Pasturelands that have been planted with non-native grasses (i.e., lacking natural/historic biological conditions) do not represent potential habitat for any special-status plant species.

Common wildlife species found in pastures include mallard (*Anas platyrhynchos*), killdeer (*Charadrius vociferus*), western kingbird (*Tyrannus verticalis*), western meadowlark, yellow-billed magpie, and red-winged blackbird.

Pasturelands provide foraging opportunities for special-status wildlife species, including California tiger salamander (*Ambystoma californiense*) (using existing burrows), western spadefoot (*Spea hammondi*), Swainson's hawk, American Peregrine falcon (*Falco peregrinus anatum*), northern harrier, burrowing owl, loggerhead shrike, long-eared owl, short-eared owl, yellow-headed blackbird, tricolored blackbird, Townsend's big-eared bat, and pallid bat. Additionally, these areas provide breeding habitat for northern harrier and burrowing owl (where existing ground squirrel burrows are present).

Rice

Rice is a flood-irrigated crop that is a seed-producing annual grass. It is generally grown in leveled fields that are flooded for most of the growing period and then dried to mature and facilitate harvesting. Commercial rice generally grows to about 2 feet tall and has 100-percent canopy closure when it matures. Rice is generally planted in the spring and harvested in the fall.

Rice provides valuable habitat that varies seasonally for a range of wetland and upland wildlife species. Rice is a particularly important food source for wintering waterfowl. Rice fields support a number of common wildlife species, including the great blue heron (*Ardea herodias*), great egret (*Ardea alba*), snowy egret (*Egretta thula*), black-crowned night heron (*Nycticorax nycticorax*), tundra swan (*Cygnus columbianus*), greater white-fronted goose (*Anser albifrons*), snow goose (*Chen caerulescens*), mallard, gadwall (*Anas strepera*), northern pintail (*Anas acuta*), black-necked stilt (*Himantopus mexicanus*), white-faced ibis (*Plegadis chihi*), long-billed dowitcher (*Limnodromus scolopaceus*), dunlin (*Calidris alpina*), least sandpiper (*Calidris minutilla*), mourning dove, western meadowlark, red-winged blackbird, and various rodents. Rice is known to provide habitat for one special-status species, giant garter snake (*Thamnophis gigas*).

Truck and Berry Crops

Truck and berry crops include intensive agricultural operations that produce food and landscaping plants that are typically transported for sale elsewhere. Truck farming is the cultivation of one or a few fruit or vegetable crops on a relatively large scale for transport to distant markets and includes the production of asparagus, broccoli, onions, garlic, and carrots. The berry crops category encompasses more than typical berries, and is dominated by tomato cultivation, but other berry crops include melons, squashes, cucumbers, onions, garlic, peppers, and strawberries. Farming practices associated with these crops generally suppresses the growth of other vegetation.

Common wildlife species associated with this land cover include foraging raptors, skunks, foxes, yellow-billed magpie, and brewer's blackbirds. Special-status species that utilize truck and berry crops include northern harrier and Swainson's hawk.

Annual Grassland

Grassland habitat in Yolo County includes both annual and perennial grassland types. Grassland is typically dominated by nonnative, naturalized grasses such as barbed goatgrass (*Aegilops triuncialis*), wild oats (*Avena* spp.), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), Italian ryegrass (*Lolium multiflorum*), Medusahead (*Taeniatherum caput-medusae*), and rattail fescue (*Vulpia myuros*). Grassland also supports both native and nonnative forbs. Many common wildlife species utilize grassland habitat, including reptiles, birds, and mammals; and provides important foraging habitat for raptors such as American kestrel and red-tailed hawk (*Buteo jamaicensis*).

Special-status wildlife species known to utilize grassland within the County are as follows. Grassland provides foraging habitat for pallid bat and foraging and denning habitat for American badger (*Taxidea taxus*). Special-status bird species for which grassland provides primary foraging and nesting habitat include northern harrier, and western burrowing owl. Grassland also provides foraging habitat for special-status raptor species including Swainson's hawk, white-tailed kite, golden eagle (*Aquila chrysaetos*), short-eared owl, and long-eared owl. Grassland also serves as primary foraging habitat for loggerhead shrike, grasshopper sparrow (*Ammodramus savannarum*), purple martin (*Progne subis*), tricolored blackbird, and yellow-headed blackbird. California tiger salamander and western spadefoot utilize vernal pools and other wetlands within grassland for breeding and the grassland themselves for cover during movement or during dry periods.

Other Agriculture

Other Agriculture land cover in the County includes citrus and subtropical orchards; deciduous fruit and nut orchards; flower, nursery, and tree farms; vineyards; and a form of pasture specific to this category. These agricultural types are described below.

Citrus and Subtropical Orchards

Citrus and subtropical orchards in Yolo County include olives, oranges, and kiwis. Citrus and subtropical orchards are typically actively irrigated and maintained (e.g., pruning, mowing between rows, pesticide application). If present, the herbaceous understory between rows is dominated by ruderal species and grasses.

Common wildlife including American crows, common raven (*Corvus corax*), Brewer's blackbird, and European starling (*Sturnus vulgaris*).

This type may provide foraging and roosting for western red bats, a special-status species.

Deciduous Fruit and Nut Orchards

Deciduous fruit and nut orchards in the County include almonds, apples, apricots, cherries, figs, peaches, nectarines, pears, pistachios, prunes, and walnuts.

Deciduous fruit and nut orchards support a number of common wildlife species, including those listed above under citrus/subtropical and American robin, yellow-billed magpie, and house finch. Mule deer (*Odocoileus hemionus*) and rabbits may browse on trees, while California ground squirrels may consume fruits and nuts.

This type supports one special-status bat: the western pallid bat.

Flower, Nursery, and Tree Farms

The Flower, Nursery, and Tree Farmland cover in Yolo County includes agricultural operations that produce landscaping plants that are typically transported for sale elsewhere. Nurseries produce flowering plants, shrubs, and trees for local and distant retail sales. Farming practices associated with these crops generally suppresses the growth of other vegetation.

Common wildlife species associated with this land cover will be similar to those listed for the orchard land covers above.

Vineyards

Vineyards comprise single species planted in rows, usually supported on wood and wire trellises. Vineyards are usually treated with herbicides to prevent the growth of herbaceous plants. Vineyards are predominant in the north-central portion of Yolo County, near the Interstate 5 corridor, and along the Sacramento River, near the southern boundary of the County.

Vineyards support a number of common wildlife species, including the American crow, California scrub-jay, American robin, European starling, mourning dove, and house finch. However, they are not primary habitat for special-status species.

Pasture

Pastures under the Other Agriculture land cover type are typically turf farms planted with non-native grasses. These farms are mainly composed of heavily maintained sod with frequent fertilization, watering, and mowing activities. This crop has little value for wildlife because of the heavy maintenance, lack of cover, and elimination of pests (and, in doing so, a prey base).

Developed

In Yolo County, developed land occurs within the cities of Woodland, West Sacramento, Davis, and Winters, unincorporated communities, and along Interstate 5 (I-5), State Route (SR) 505, and SR 16. Along with urban development, suburban development, and other hardscape, urban landcover also includes urban landscaping, lawns, parks, and green zones.

Common urban wildlife species include rock pigeon (*Columba livia*), mourning dove, house sparrow (*Passer domesticus*), European starling, and racoon (*Procyon lotor*). Additionally, the city of Davis currently supports a wild turkey (*Meleagris gallopavo*) population.

Urban areas support special-status wildlife species including roosting and nesting by the white-tailed kite and Swainson's hawk. Purple martin has also been documented nesting recently in urban overpasses and elevated freeways in Yolo County and adjacent lands.

Blue Oak and Foothill Pine

Blue oak and foothill pine woodland land cover is dominated by blue oak (*Quercus douglasii*) and foothill pine (*Pinus sabiniana*); however, interior live oak (*Quercus wislizeni*), California buckeye (*Aesculus californica*), coast live oak (*Quercus agrifolia*), and valley oak (*Quercus lobata*) may also be present. Species typically found in the shrub understory are buckbrush, whiteleaf manzanita (*Arctostaphylos manzanita* ssp. *glaucescens*), redberry (*Rhamnus crocea*), poison oak (*Toxicodendron diversilobum*), silver bush lupine (*Lupinus albifrons*), and blue elderberry (*Sambucus nigra* ssp. *cerulea*). The herbaceous understory supports grass and forb species that are also associated with annual grassland.

Blue oak and foothill pine woodlands support several common wildlife species, including band-tailed pigeon (*Patagioenas fasciata*), hairy woodpecker (*Picoides villosus*), pileated woodpecker (*Dryocopus pileatus*), California scrub-jay (*Aphelocoma californica*), oak titmouse, Hutton's vireo (*Vireo huttoni*), mule deer, bobcat (*Lynx rufus*), and striped skunk (*Mephitis mephitis*).

Special-status species for which oak-foothill pine woodlands provide primary habitat include golden eagle, pallid bat, Townsend's big-eared bat, and western red bat (*Lasiurus blossevillii*).

Blue Oak Woodland

Blue oak is the dominant overstory species within blue oak woodland, and the associated overstory species listed above for blue oak and foothill pine woodland may also be present. Species typically comprising the shrub layer of blue oak woodland are poison oak, California coffeeberry (*Rhamnus californica*), buckbrush, and manzanita (*Arctostaphylos* spp.). The herbaceous understory of blue oak woodland is comparable to that of blue oak-foothill pine woodlands.

Common wildlife species known to utilize blue oak woodland are comparable to those described above for blue oak and foothill pine woodlands.

Special-status species for which blue oak woodland provides primary habitat include golden eagle, loggerhead shrike, white-tailed kite, American badger, pallid bat, Townsend's big-eared bat, and western red bat.

Semiagricultural/Incidental to Agriculture

Semiagricultural areas include livestock feedlots, poultry farms, farmsteads, and miscellaneous semi-agricultural features, such as small roads, ditches, and unplanted areas of cropped fields (e.g., field edges). Feedlots or "feed yards" are confined livestock feeding operations that are used for preparing livestock, mainly cattle, for slaughter. They may contain thousands of animals in an array of pens and support virtually no vegetation. Poultry farms raise chickens, turkeys, ducks, and geese for meat or egg production.

Common wildlife associated with this land cover include Brewer's blackbird, European starling, rock pigeon, and mourning dove.

Tricolored blackbird, which is a special-status wildlife species, may congregate in large numbers to feed on grain at feedlots and poultry operations. Additional special-status species which may use the farmsteads and field edges are Swainson's hawk, white-tailed kite, loggerhead shrike, and western burrowing owl.

Chamise

Chamise (*Adenostoma fasciculatum*) shrublands may consist of nearly homogenous areas of chamise or may have buckbrush (*Ceanothus cuneatus*) as a co-dominant species. In addition to chamise and buckbrush, chamise vegetation types can also support plant species such as California yerba santa (*Eriodictyon californicum*), pitcher sage (*Lepechinia calycina*), and deerweed (*Lotus scoparius*).

This vegetation type supports common wildlife species such as California scrub-jay, wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), and California towhee (*Pipilo crissalis*). Numerous special-status bird species may fly over, forage or take cover in chamise located adjacent to primary habitat but are not dependent on these areas.

Freshwater Emergent Wetland

Freshwater emergent wetland in the County is typically associated with Cache Creek, the Sacramento River, the Yolo Bypass, and other creeks and canals, but can be found anywhere the topography permits perennial or seasonal soil saturation or flooding by fresh water. Perennially flooded areas are typically dominated by cattails, tule, and California bulrush that can reach up to 12 feet in height. Seasonally saturated or inundated areas contain much smaller plant species and are more variable in their plant species composition. Dominant species in many lower elevation, seasonally-inundated wetlands include Baltic rush (*Juncus balticus*), iris-leaved rush (*Juncus xiphioides*), and spikerushes (*Eleocharis* spp.).

Within Yolo County, sedges (*Carex* spp.) and rushes (*Juncus* spp.) dominate the emergent wetlands that are found within the drainages located between the Blue Ridge and Highway 16, between Rocky Ridge and Interstate 5, and in the Dunnigan Hills. There are bulrush and cattail emergent wetlands in the Willow Slough Bypass just east of the City of Davis, and alkali bulrush emergent wetlands in the lowlands just west of the Sacramento River Deep Water Ship Channel in southeast Yolo County.

Saline emergent wetlands, which are salt or brackish marshes consisting mostly of perennial grasses and forbs, are also included in this category. Vegetation in saline emergent wetlands in the County includes perennial pepperweed (*Lepidium latifolium*), saltgrass (*Distichlis spicata*), pickleweed (*Salicornia subterminalis*), tule (*Scirpus acutus*), and white knotweed (*Polygonum punctatum*).

Freshwater emergent wetlands support a number of common wildlife species, including the great blue heron, great egret, snowy egret, black-crowned night-heron, Virginia rail (*Rallus limicola*), common gallinule (*Gallinula galeata*), American coot (*Fulica americana*), marsh wren (*Cistothorus palustris*), song sparrow, and red-winged blackbird.

Freshwater emergent wetlands support special-status species including American peregrine falcon, black tern (*Chlidonias niger*), California black rail (*Laterallus jamaicensis coturniculus*), least bittern (*Ixobrychus exilis*), long-eared owl, northern harrier, short-eared owl, tricolored blackbird, western snowy plover, yellow-headed blackbird, and giant garter snake.

Mixed Chaparral

The majority of the mixed chaparral habitat within Yolo County is present in the western half of the County, associated with the California Coast Ranges. Shrub species dominant on non-serpentine soils are common manzanita (*Arctostaphylos manzanita*), scrub oak (*Quercus berberidifolia*), toyon (*Heteromeles arbutifolia*), and birch-leaf mountain mahogany (*Cercocarpus betuloides*). Other species present in mixed chaparral types are California bay (*Umbellularia californica*), and buckbrush. Herbaceous species present in chaparral are sparse annual grasses, pitcher sage, and deerweed. Shrub species dominant on serpentine soils include whiteleaf manzanita, California bay, and leather oak (*Quercus durata*).

Mixed chaparral supports several common wildlife species including year-round residents, such as western fence lizard, Skilton's skink (*Plestiodon skiltonianus*), gopher snake (*Pituophis catenifer*), California kingsnake (*Lampropeltis californicae*), western rattlesnake (*Crotalus oreganus*), mule deer, coyote, gray fox (*Urocyon cinereoargenteus*), mountain quail (*Oreortyx pictus*), California quail (*Callipepla californica*), mourning dove, Anna's hummingbird (*Calypte anna*), California scrub-jay, oak titmouse (*Baeolophus inornatus*), bushtit (*Psaltiriparus minimus*), Bewick's wren (*Thryomanes bewickii*), California thrasher, wrentit, California towhee, spotted towhee (*Pipilo maculatus*), rufous-crowned sparrow (*Aimophila ruficeps*), sage sparrow (*Amphispiza belli*), and lesser goldfinch (*Carduelis psaltria*). Summer residents include blue-gray gnatcatcher (*Polioptila caerulea*), black-headed grosbeak (*Pheucticus melanocephalus*), orange-crowned warbler (*Vermivora celata*), and lazuli bunting (*Passerina aemona*). Winter residents include hermit thrush

(*Catharus guttatus*), fox sparrow (*Passerella iliaca*), golden-crowned sparrow (*Zonotrichia atricapilla*), white-crowned sparrow (*Zonotrichia leucophrys*), and dark-eyed junco (*Junco hyemalis*). Similar to chamise, special-status bird species may fly over, forage or take cover in mixed chaparral located adjacent to primary habitat but are not dependent on these areas.

Lacustrine and Riverine

Lacustrine habitat in Yolo County includes human-made ponds associated with urban and agricultural development, and the approximately 200-acre Davis Creek reservoir in the northwestern portion of the count, that was built in the 1980s for gold mining purposes. The major riverine features in Yolo County include the Sacramento River (including the Sacramento River Deepwater Ship Channel) along the eastern edge of the County; Cache Creek in the western portion of the County; portions of Putah Creek along the southern edge of the County; and various irrigation ditches, sloughs, creeks, and drainage channels. Agricultural ditches in eastern Yolo County provide habitat for the giant garter snake, federally and state listed as threatened, as well as other aquatic species such as western pond turtle (*Actinemys marmorata*).

The Sacramento River is largest river and watershed system in California, and the river and associated tributaries are vital to anadromous fish species, including two populations of chinook salmon (*Oncorhynchus tshawytscha*) (Central Valley spring-run evolutionarily significant unit [ESU] and Sacramento River winter-run ESU), steelhead (*Oncorhynchus mykiss irideus*), white sturgeon (*Acipenser transmontanus*), and green sturgeon (*Acipenser medirostris*). The watershed also supports delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), and eulachon (*Thaleichthys pacificus*). Marshlands and irrigated agricultural land associated with the Sacramento River watershed provide important habitat for waterfowl, shorebirds, and species like the tricolored blackbird.

The Cache Creek watershed does not support anadromous fish species but supports other native fish such as pikeminnow (*Ptychocheilus grandis*), California roach (*Hesperoleucis symmetricus*), Sacramento sucker (*Catostomus occidentalis*), smallmouth bass (*Micropterus dolomieu*), largemouth bass (*Micropterus salmoides*), and channel catfish (*Ictalurus punctatus*). The watershed also supports California endemic tule elk (*Cervus elaphus nannodes*) and a large overwintering bald eagle (*Haliaeetus leucocephalus*) population.

The Putah Creek watershed supports a breeding population of Chinook salmon and a landlocked population of rainbow trout that was once part of the anadromous steelhead population before construction of the Putah Creek diversion dam.

Valley Foothill Riparian

Valley foothill riparian habitat within Yolo County is associated with aquatic habitat, including the Sacramento River, Cache Creek, Putah Creek, Willow Slough, Union School Slough, Dry Slough, Chickahominy Slough, and the Colusa Basin Drain. Dominant overstory species within this habitat in Yolo County includes valley oak, Fremont cottonwood (*Populus fremontii*), and California sycamore (*Platanus racemosa*); and understory tree species can include white alder (*Alnus rhombifolia*), boxelder, and Oregon ash (*Fraxinus latifolia*). Understory shrub vegetation includes California grape, California wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), blue elderberry, poison oak, common buttonbush (*Cephalanthus occidentalis*), and various willows (*Salix* spp.). Portions of the riparian habitat along Cache Creek contain smallflower tamarisk (*Tamarix parviflora*), which is an invasive species that has become part of the riparian landscape in the region.

Valley foothill riparian woodland supports a number of common wildlife species, including the red-shouldered hawk, great horned owl, black-chinned hummingbird, California scrub-jay, Nuttall's woodpecker, downy woodpecker (*Picoides pubescens*), American crow (*Corvus brachyrhynchos*), bushtit, yellow-billed magpie, oak titmouse, white-breasted nuthatch, black-headed grosbeak, blue grosbeak (*Passerina caerulea*), lazuli bunting, Bullock's oriole, house finch, American goldfinch (*Carduelis tristis*), striped skunk, raccoon, and various rodents.

This type also contains habitat for the following special-status wildlife species, the valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), western pond turtle, bank swallow (*Riparia riparia*), Swainson's hawk, long-eared owl, western yellow-billed cuckoo (*Coccyzus americanus*), white-tailed kite, yellow-breasted chat (*Icteria virens*), pallid bat, Townsend's big-eared bat, and western red bat.

Montane Hardwood

Montane hardwood forests in the County are characterized by a mixture of conifers and broad-leaved trees that are evergreen or deciduous and generally lack a well-developed shrub understory and herbaceous layer. Trees present in the overstory of montane hardwood forest in the County are canyon live oak (*Quercus chrysolepis*), black oak (*Quercus kelloggii*), bigleaf maple (*Acer macrophyllum*), foothill pine, California bay, and California buckeye.

Montane hardwood forest supports several common wildlife species, including western skink, northern alligator lizard (*Elgaria coerulea*), common kingsnake, gopher snake, western rattlesnake, red-tailed hawk, American kestrel, California quail, mourning dove, great horned owl (*Bubo virginianus*), western screech-owl (*Otus kennicottii*), northern pygmy-owl (*Glaucidium gnoma*), Anna's hummingbird, acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), ash-throated flycatcher (*Myiarchus cinerascens*), California scrub-jay, oak titmouse, white-breasted nuthatch (*Sitta carolinensis*), Bewick's wren, house wren (*Troglodytes aedon*), blue-gray gnatcatcher, western bluebird (*Sialia mexicana*), American robin (*Turdus migratorius*), orange-crowned warbler, black-headed grosbeak, lazuli bunting, spotted towhee, California towhee, Bullock's oriole (*Icterus bullockii*), house finch, lesser goldfinch, dark-eyed junco, deer mouse (*Peromyscus maniculatus*), western gray squirrel (*Sciurus griseus*), striped skunk, raccoon, bobcat, and mule deer.

Montane hardwood forest may provide primary habitat for special-status wildlife species including pallid bat and Townsend's big-eared bat.

Barren

Barren habitat is devoid of vegetation and is often associated with urbanization or other disturbances on the landscape. In Yolo County, barren habitat is associated with mining operations along Cache Creek and with future housing development areas in West Sacramento.

Barren habitats support common wildlife species, including killdeer, California gull, mourning dove, horned lark, and house sparrow. This habitat type also provides primary habitat for the western burrowing owl and western snowy plover, which are special-status wildlife species.

Eucalyptus

Large stands of nonnative blue gum (*Eucalyptus globulus*) trees are present within the unincorporated town of Dunnigan. These trees were planted in the 1900s for a hardwood production operation. While blue gum is not a California native species, several bird species use the trees to nest, including American crow, common raven, barn owl (*Tyto alba*), red-tailed hawk, and red-shouldered hawk (*Buteo lineatus*). Eucalyptus stands may also provide nesting habitat for Swainson's hawk.

Alkali Prairies

Alkali prairies are found in the western portion of the County. Alkali prairies occur in low-lying areas within alkaline or saline soils. The salts in the soils are dissolved during the wet winter months, and form high concentrations of salt (i.e., a crust) in these low-lying areas when the water evaporates. The high salt concentration restricts vegetation to salt-tolerant or halophytic (i.e., salt-loving) plant species; vegetation is often dominated by salt grass.

Plant species present in alkali prairies in the County include flat-face downingia (*Downingia pulchella*), curly dock (*Rumex crispus*), gumplant (*Grindelia camporum*), alkali coyote thistle (*Eryngium aristulatum*), alkali heath (*Frankenia salina*), bush seepweed (*Suaeda moquinii*), common spikeweed (*Centromadia pungens*), and annual hairgrass (*Deschampsia danthonoides*).

Common wildlife species found in this land cover include great blue heron, killdeer, and song sparrow (*Melospiza melodia*).

Alkali prairies also support special-status wildlife species, including western snowy plover (*Charadrius alexandrinus nivosus*). Many special-status hawk species, including northern harrier, American peregrine falcon, Swainson's hawk, and white-tailed kite, use these areas for foraging.

Vernal Pool Complex

A vernal pool complex refers to a landscape-scale mosaic of vernal pools that are typically connected by surface features such as swales and/or subsurface water flow. Vernal pools are shallow seasonally-inundated depressions, that are characterized by the presence of a restrictive layer (clay alluvium) that prevents groundwater from percolating downward and effectively keeps water perched at or near the ground surface until it evaporates or is taken up by plants. Vernal pools receive precipitation during the wet winter months, gradually dry down during the spring, and are dry during the summer. Vernal pool complexes in Yolo County are located on the Davis Communications Site, Woodland Regional Park, and CDFW's Tule Ranch Unit of the Yolo Bypass Wildlife Area.

Plant species commonly observed in vernal pool complexes are coyote thistle (*Eryngium castrense*), downingia (*Downingia* spp.), vernal pool goldfields (*Lasthenia fremontii*), popcorn-flower (*Plagiobothrys* spp.) vernal pool buttercup (*Ranunculus bonariensis* var. *trisepalus*), vernal pool hairgrass (*Deschampsia danthonioides*), and woolly marbles (*Psilocarphus brevissimus*).

Some common wildlife species that occur in vernal pool complexes include various aquatic invertebrates such as species of small crustaceans; seed shrimp, copepods, and daphnia; and insects; aquatic beetles, water boatman, backswimmers. Waterfowl may feed on these invertebrates during the wet season. During the dry season, common wildlife species would be similar to those associated with grassland.

Vernal pool complexes provide primary habitat for special-status wildlife species including Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and California tiger salamander (within the designated critical habitat area for the species in the Dunnigan Hills). Other special-status wildlife species, including northern harrier, prairie falcon, Swainson's hawk and white-tailed kite presumably may use vernal pool complex incidental to foraging in adjacent grassland habitats.

Serpentine

Serpentine vegetation types identified in the County are serpentine chaparral, serpentine grassland, and serpentine barrens; all are rare in Yolo County. Serpentine soils in the County are derived from Franciscan Complex rock of the Little Blue Ridge. Serpentine soils are not abundant in California (approximately 1 percent of the state's land area); however, where they occur, the complex interaction of plants, soils, and rock makes a striking impact on the landscape. Serpentine rock is composed mainly of iron magnesium silicate, with "impurities" of chromium, nickel, and other toxic metallic elements. Because of this unusual chemical makeup, the soils weathering from serpentinite are infertile or even toxic to most plants. Some plants are adapted to serpentine soils, and over 200 species, subspecies, and varieties of plants in California are restricted wholly or in large part to serpentine habitat.

Common wildlife species known to utilize these areas are comparable to those that utilize grassland; however, serpentine does not provide primary habitat for special-status species.

Closed-Cone Pine-Cypress

Closed-cone pine-cypress forest encompasses is co-dominated by knobcone pine (*Pinus attenuata*) and MacNab Cypress (*Cupressus macnabiana*). Closed-cone pine-cypress forest in the County consists of relatively small trees that require periodic fires for seedling recruitment. Areas dominated by knobcone pine occur on the north-facing slope of the Blue Ridge, and along Yolo County's northern boundary immediately

above Cache Creek. Areas dominated by MacNab cypress are present at the University of California's McLaughlin Reserve in the Little Blue Ridge at the junction of Yolo, Napa, and Lake Counties.

Common wildlife species known to utilize closed-cone pine-cypress forest include many of those listed for other forest and woodland land covers. Closed-cone pine-cypress does not provide primary habitat for special-status wildlife.

Valley Oak Woodland

Valley oak woodland in the County consists of stands dominated by valley oak that are located outside of riparian zones. Valley oak woodland is considered separate from the Valley Foothill Riparian vegetation type described above, which encompasses streamside habitats that are dominated by valley oak, but that also have a greater abundance of typical riparian species, such as Fremont cottonwood, ash (*Fraxinus* spp.), and willows.

Valley oak woodlands typically occur in lowland areas that have deep, well-drained alluvial soils. Valley oak woodlands were once much more abundant within lowland areas, but the conversion of these areas to agriculture has reduced the distribution within Yolo County to a few scattered, dense stands and small groves or individual trees adjacent to around farmsteads, agricultural work areas, roadsides, and within agriculture fields.

Valley oak woodlands support nesting and foraging of numerous common wildlife species, including, but not limited to Nuttall's woodpecker, yellow-billed magpie, California scrub-jay, oak titmouse, white-breasted nuthatch, western bluebird, American kestrel, and red-tailed hawk.

Special-status plant species with the potential to occur in valley oak woodlands are comparable to those that could potentially occur in oak-foothill pine woodland.

SPECIAL-STATUS SPECIES

Special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA) (Fish and Game Section 2050 et seq.), the federal Endangered Species Act (ESA), or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. For this program EIR, special-status species are defined as:

- species listed or proposed for listing as threatened or endangered under the ESA (50 CFR Section 17.12) for listed plants, (50 CFR Section 17.11) for listed animals, and various notices in the *Federal Register* for proposed species;
- species that are candidates for possible future listing as threatened or endangered under the ESA (75 CFR Section 69222);
- species that are listed, proposed for listing, or candidates for listing by the State of California as threatened or endangered under CESA of 1984 (14 CCR Section 670.5);
- plants considered by CDFW to be "rare, threatened, or endangered in California" (California Rare Plant Ranks 1A, 1B, 2A, and 2B) (CNDDDB 2018; CNPS 2019);
- species that meet the definition of rare or endangered under the State CEQA Guidelines Section 15380;
- animals fully protected in California (Fish and Game Code Section 3511 for birds, Section 4700 for mammals, and Section 5050 for reptiles and amphibians);
- animal species of special concern to CDFW;

- considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G); or
- species covered under the Yolo HCP/NCCP.

Special-Status Wildlife

A total of 46 special-status wildlife species have potential to occur within Yolo County (Table 3.4-2).

Table 3.4-2 Special-Status Animal Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹		Habitat	Occurrence in Yolo County
	Federal	State		
Amphibians and Reptiles				
California tiger salamander <i>Ambystoma californiense</i>	FT	ST	Cismontane woodland, meadow and seep, riparian woodland, valley and foothill grassland, vernal pool, and wetlands. Central Valley DPS federally listed as threatened. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	California tiger salamander is known to occur in Yolo County in association with wetland, vernal pool, and grassland habitat (CNDDB 2018). Suitable habitat for this species is likely present throughout the County, excluding upper elevations in the California Coast Ranges in the western portion of the County. Critical habitat for this species is present within Yolo County (see “Critical Habitat” section below and Exhibit 3.4-2).
Foothill yellow-legged frog <i>Rana boylei</i>	—	SC SSC	Aquatic, chaparral, cismontane woodland, coastal scrub, Klamath/north coast flowing waters, lower montane coniferous forest, meadow and seep, riparian forest, riparian woodland, and Sacramento/San Joaquin flowing waters. Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Need at least some cobble-sized substrate for egg-laying. Need at least 15 weeks to attain metamorphosis.	Foothill yellow-legged frog is known to occur in Yolo County within the Cache Creek, Davis Creek, and Putah Creek watersheds (CNDDB 2018). Suitable habitat for this species is likely present throughout these watersheds in areas with rocky substrate and other favorable conditions (e.g., part shade, shallow).
Giant garter snake <i>Thamnophis gígas</i>	FT	ST	Marsh and swamp, riparian scrub, wetland. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Giant garter snake is known to occur in northeastern Yolo County within irrigation canals, rice fields, and other drainages (CNDDB 2018). Two concentrations of giant garter snake are currently known in the County, including one near Sycamore Slough and the Colusa Basin drainage canal in the northeastern portion of the County, and one within the Yolo Bypass (Yolo Habitat Conservancy 2018).
Western pond turtle <i>Actinemys marmorata</i>	—	SSC	Aquatic, artificial flowing waters, Klamath/north coast flowing waters, Klamath/north coast standing waters, marsh and swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing and standing waters. A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy	Western pond turtle is known to occur in Yolo County within the Putah Creek and Cache Creek drainages (CNDDB 2018). Western pond turtle can likely occur within any aquatic habitat in the County, including irrigation ditches and human-made ponds.

Table 3.4-2 Special-Status Animal Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹		Habitat	Occurrence in Yolo County
	Federal	State		
			open fields) upland habitat up to 0.5 kilometer from water for egg-laying.	
Western spadefoot <i>Spea hammondi</i>	—	SSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pool, and wetlands. Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	There are two known occurrences of western spadefoot in Yolo County west of the unincorporated town of Dunnigan along Buckeye Creek (CNDDB 2018). Western spadefoot could be present elsewhere in Yolo County within suitable vernal pool, wetland, and grassland habitat.
Birds				
American peregrine falcon <i>Falco peregrinus anatum</i>	FD	SD FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	American peregrine falcon is known to occur throughout Yolo County (eBird 2019). The species could nest and forage in various habitats throughout the County.
Bald eagle <i>Haliaeetus leucocephalus</i>	FD	SE FP	Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Bald eagle is known to occur throughout Yolo County (eBird 2019). The species could nest and forage near aquatic habitat throughout the County.
Bank swallow <i>Riparia</i>	—	ST	Riparian scrub, riparian woodland. Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Bank swallow colonies are known to occur along Cache Creek and the Sacramento River in Yolo County (CNDDB 2018). Bank swallows have been observed throughout the County (eBird 2018), and likely forage over aquatic habitat such as the Yolo Bypass.
Black tern <i>Chlidonias niger</i>	—	SSC	Freshwater lakes, ponds, marshes and flooded agricultural fields. At coastal lagoons and estuaries during migration. Breeding range reduced. Breeds primarily in Modoc Plateau region, with some breeding in Sacramento and San Joaquin valleys	Black tern is known to occur throughout Yolo County (eBird 2019). The species could nest and forage near aquatic habitat throughout the County.
Burrowing owl <i>Athene cunicularia</i>	—	SSC	Coastal prairie, coastal scrub, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	There are many known occurrences of burrowing owl in Yolo County, especially in the vicinity of the city of Davis and in the southeastern portion of the County (CNDDB 2018). Suitable habitat for this species is present within grassland habitat and agricultural land throughout the County.
California black rail <i>Laterallus jamaicensis coturniculus</i>	—	ST FP	Brackish marsh, freshwater marsh, marsh and swamp, salt marsh, wetland. Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	There is one known occurrence of California black rail in Yolo County; near the Sacramento River Deepwater Ship Channel (CNDDB 2018). Black rail is not common in the region but could be present in freshwater or saline emergent wetland habitat in the County.
Golden eagle <i>Aquila chrysaetos</i>	—	FP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Golden eagle is known to occur throughout Yolo County (eBird 2019). The species could nest within large trees in the County and may forage in various habitats throughout the County.

Table 3.4-2 Special-Status Animal Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹		Habitat	Occurrence in Yolo County
	Federal	State		
Grasshopper sparrow <i>Ammodramus savannarum</i>	—	SSC	Valley and foothill grassland. Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	There is one known grasshopper sparrow nesting occurrence within Yolo County (CNDDDB 2018) and many observations of the species throughout the County (eBird 2018). Suitable habitat for this species is present within grasslands throughout the colony.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE	SE	Riparian forest, riparian scrub, riparian woodland. Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet, nests placed along margins of bushes or on twigs projecting into pathways, usually willow, <i>Baccharis</i> , mesquite.	The historic range of least Bell's vireo includes Yolo County. While the species was extirpated throughout much of the historic range, subsequent to listing under the Endangered Species Act, the least Bell's vireo population is expanding. Though very uncommon, several individuals have been observed in the nearby Yolo Bypass area (CNDDDB 2018; eBird 2018). While the species is uncommon, it is possible that recolonization of the historic range could continue into the foreseeable future.
Least bittern <i>Ixobrychus exilis</i>	—	SSC	Marsh and swamp, wetlands. Colonial nester in marshlands and borders of ponds and reservoirs which provide ample cover. Nests usually placed low in tules, over water.	Least bittern is known to occur in some areas of Yolo County (eBird 2019). The species could nest and forage within aquatic habitats throughout the County.
Loggerhead shrike <i>Lanius ludovicianus</i>	—	SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Loggerhead shrike is known to occur throughout Yolo County (eBird 2019). The species could nest and forage within shrub and grassland habitats throughout the County.
Long-eared owl <i>Asio otus</i>	—	SSC	Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	Long-eared owl is known to occur throughout Yolo County (eBird 2019). The species could nest within riparian woodlands and forage throughout the County.
Mountain plover <i>Charadrius montanus</i>	—	SSC	Chenopod scrub, valley and foothill grassland. Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground and flat topography. Prefers grazed areas and areas with burrowing rodents.	Mountain plover is known to occur in grassland and agricultural land throughout Yolo County (CNDDDB 2018; eBird 2018). The species could occur in these habitats throughout the County.
Northern harrier <i>Circus hudsonius</i>	—	SSC	Coastal scrub, Great Basin grassland, marsh and swamp, riparian scrub, valley and foothill grassland, and wetlands. Coastal salt and fresh-water marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Northern harrier is known to nest in Yolo County (CNDDDB 2018) and utilizes grassland and agricultural foraging habitat extensively throughout the County (eBird 2018). This species could nest within grassland, chaparral, wetland, and agricultural habitat throughout the County.
Purple martin <i>Progne subis</i>	—	SSC	Nests in old woodpecker cavities mostly, also in human-made structures. Nest often located in tall, isolated tree/snag.	Purple martin is known to occur throughout Yolo County (eBird 2019). The species could nest within trees or human-made structures throughout the County.

Table 3.4-2 Special-Status Animal Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹		Habitat	Occurrence in Yolo County
	Federal	State		
Short-eared owl <i>Asio flammeus</i>	—	SSC	Found in swamps, lowland meadows, irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	Short-eared owl is known to occur throughout Yolo County (eBird 2019). The species could nest within agricultural and grassland habitat and forage throughout the County.
Song sparrow ("Modesto" population) <i>Melospiza melodia</i>	—	SSC	Marsh and swamp, wetlands. Emergent freshwater marshes, riparian willow thickets, riparian forests of valley oak (<i>Quercus lobata</i>), and vegetated irrigation canals and levees.	The "Modesto" population of song sparrow has occurred historically in Yolo County and has been observed more recently in the Yolo Bypass area (CNDDB 2018). Suitable habitat for this species is present in freshwater emergent wetlands and riparian habitat throughout the County.
Swainson's hawk <i>Buteo swainsoni</i>	—	ST	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	There are many known Swainson's hawk nesting occurrences in Yolo County, which is a hotspot for the species in California (CNDDB 2018). Suitable nesting habitat is present within riparian habitat and trees adjacent to grassland and agricultural habitat in the County, and foraging habitat is present in grassland and agricultural fields.
Tricolored blackbird <i>Agelaius tricolor</i>	—	ST SSC	Freshwater marsh, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	There are many known tricolored blackbird colonies in Yolo County, and suitable habitat is present within freshwater emergent wetland habitat and agricultural habitat throughout the County (CNDDB 2018).
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT	SSC	Great Basin standing waters, sand shore, wetland. Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Western snowy plovers have been observed within habitats such as the Yolo Bypass area and water treatment facility ponds (CNDDB 2018; eBird 2018). Suitable habitat is potentially present for this species in the County, associated with wetland and aquatic habitat.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	FT	SE	Riparian forest. Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Though an uncommon species, the western yellow-billed cuckoo has been observed within the suitable riparian habitat along Putah Creek, near west campus and Russell Ranch (CNDDB 2018). Potentially suitable habitat for this species is present in riparian habitat associated with aquatic habitat in the County.
White-tailed kite <i>Elanus leucurus</i>	—	FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	There are several known nesting occurrences and many recent observations of white-tailed kite within Yolo County (CNDDB 2018; eBird 2018). Suitable nesting habitat for this species is present in riparian and oak woodland habitat throughout the County.
Yellow-breasted chat <i>Icteria virens</i>	—	SSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Yellow-breasted chat is known to occur throughout Yolo County (eBird 2019). The species could nest within riparian habitat throughout the County.

Table 3.4-2 Special-Status Animal Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹		Habitat	Occurrence in Yolo County
	Federal	State		
Yellow-headed blackbird <i>Xanthocephalus</i>	—	SSC	Marsh and swamp, wetland. Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds. Nests only where large insects such as <i>Odonata</i> are abundant, nesting timed with maximum emergence of aquatic insects.	Yellow-headed blackbirds are known to occur within Yolo County, and could be present within suitable habitat such as freshwater emergent wetlands associated with the Sacramento River (CNDDDB 2018; eBird 2018).
Fish				
Chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha</i> pop. 6	FT	ST	Aquatic. Sacramento/San Joaquin flowing waters. Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temperatures greater than 27 °C are lethal to adults. Federal listing refers to populations spawning in Sacramento River and tributaries.	The Central Valley spring-run ESU of chinook salmon is known to occur in Yolo County within the Sacramento River (CNDDDB 2018). A spawning population of chinook salmon is present within Putah Creek; however it is not clear how these salmon fit into the existing ESUs.
Chinook salmon - Sacramento River winter-run ESU <i>Oncorhynchus tshawytscha</i> pop. 7	FE	SE	Aquatic. Sacramento/San Joaquin flowing waters. Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 °C and 14 °C for spawning.	The Sacramento River winter-run ESU of chinook salmon is known to occur in Yolo County within the Sacramento River (CNDDDB 2018).
Delta smelt <i>Hypomesus transpacificus</i>	FT	SE	Aquatic, estuary. Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities greater than 10 ppt. Most often at salinities less than 2 ppt.	Delta smelt is known to occur in Yolo County within the Sacramento River (CNDDDB 2018). Critical habitat for this species is present within Yolo County (see “Critical Habitat” section below and Exhibit 3.4-2).
Eulachon <i>Thaleichthys pacificus</i>	FT	—	Aquatic, Klamath/North coast flowing waters, Sacramento River. Spawn in lower reaches of coastal rivers with moderate water velocities and bottom of pea-sized gravel, sand and woody debris	Eulachon is known to occur in Yolo County within the Sacramento River (CNDDDB 2018).
Green sturgeon <i>Acipenser medirostris</i>	FT	SSC	Spawns in the Sacramento, Klamath, and Trinity Rivers. Spawns at temperatures between 8-14 degrees C. Preferred spawning substrate is large cobble but can range from clean sand to bedrock.	Green sturgeon is known to occur in Yolo County within the Sacramento River.
Longfin smelt <i>Spirinchus thaleichthys</i>	FC	SSC	Aquatic, estuary. Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15–30 ppt but can be found in completely freshwater to almost pure seawater.	Longfin smelt is known to occur in Yolo County within the Sacramento River (CNDDDB 2018).
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	—	SSC	Aquatic, estuary, freshwater marsh, Sacramento/San Joaquin flowing waters. Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	Sacramento splittail is known to occur in Yolo County within the Sacramento and Feather Rivers (CNDDDB 2018).
Steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus</i> pop. 11	FT	—	Aquatic. Sacramento/San Joaquin flowing waters. Populations in the Sacramento and San Joaquin rivers and their tributaries.	The Central Valley DPS of steelhead is known to occur in Yolo County within the Sacramento and Feather Rivers (CNDDDB 2018). While Putah Creek was part of the historic steelhead

Table 3.4-2 Special-Status Animal Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹		Habitat	Occurrence in Yolo County
	Federal	State		
				watershed in the Sacramento/San Joaquin region, the creek is now anthropogenically blocked by the Putah Creek Diversion Dam. Fish populations that were once part of the anadromous steelhead population are now landlocked, and are now considered to be part of the resident, freshwater rainbow trout population.
White sturgeon <i>Acipenser transmontanus</i>	—	SSC	Live in estuaries of large rivers, moving into freshwater to spawn. Most abundant in brackish portions of estuaries. In estuaries adults concentrate in deep areas with soft bottoms.	White sturgeon is known to occur in Yolo County within the Sacramento River.
Invertebrates				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	FE	—	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	There is one known occurrence of Conservancy fairy shrimp in Yolo County, within a playa pool near the Yolo Bypass area (CNDDB 2018). This species could be found within suitable vernal pool habitat where present in the County.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	—	Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>). Prefers to lay eggs in elderberries 2–8 inches in diameter; some preference shown for "stressed" elderberries.	Valley elderberry longhorn beetles are known to occur in Yolo County, in association with blue elderberry shrubs in riparian habitat along Putah Creek, Cache Creek, and the Sacramento River (CNDDB 2018). Suitable habitat is present within intact or remnant riparian stands with blue elderberry shrubs.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	FT	—	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	There are several known occurrences of vernal pool fairy shrimp in Yolo County, including wetland, grassland, and agricultural habitats with vernal pools (CNDDB 2018). This species could be found within suitable vernal pool habitat where present in the County.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	FE	—	Valley and foothill grassland, vernal pool, wetland. Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	There are several known occurrences of vernal pool tadpole shrimp in Yolo County, including wetland, grassland, and agricultural habitats with vernal pools (CNDDB 2018). This species could be found within suitable vernal pool habitat where present in the County. Critical habitat for this species is present within Yolo County (see "Critical Habitat" section below and Exhibit 3.4-2).
Mammals				
American badger <i>Taxidea taxus</i>	—	SSC	Alkali marsh, alkali playa, alpine, alpine dwarf scrub, bog a fen, brackish marsh, broadleaved upland forest, chaparral, chenopod scrub, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with	There are several known occurrences of American badger within Yolo County, and though urban and agricultural development has likely excluded this species from much of the historic range in the County, badgers are likely present within the relatively contiguous grassland habitat

Table 3.4-2 Special-Status Animal Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹		Habitat	Occurrence in Yolo County
	Federal	State		
			friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	in less developed portion of the County (CNDDB 2018).
Pallid bat <i>Antrozous pallidus</i>	—	SSC	Chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley and foothill grassland. Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	There are two known historic occurrences of pallid bat in Yolo County (CNDDB 2018). Potentially suitable habitat for the species is present within large trees on the valley floor and rocky habitat in the western portion of the County.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	—	SSC	Broadleaved upland forest, chaparral, chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, meadow & seep, Mojavean desert scrub, riparian forest, riparian woodland, Sonoran desert scrub. Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Townsend's big-eared bats are known to occur within Yolo County, and have been documented in the western portion of the County (CNDDB 2018). Suitable habitat for Townsend's big-eared bat in the County includes human-made structures such as mines and buildings associated with urban or agricultural development.
Western red bat <i>Lasiurus blossevillii</i>	—	SSC	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland. Roosts primarily in trees, 2–40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Western red bats are known to occur within Yolo County and have been documented in the western portion of the County (CNDDB 2018). Suitable habitat for western red bat in the County includes broadleaf trees such as cottonwood or sycamore, as well as orchard trees.

Notes: CNDDB = California Natural Diversity Database; DPS = distinct population segment; ESU = evolutionarily significant unit; ppt = parts per thousand.

¹ Legal Status Definitions

Federal:

FE Endangered (legally protected)

FT Threatened (legally protected)

FC Candidate for Listing

FD Delisted

State:

FP Fully protected (legally protected)

SSC Species of special concern (no formal protection other than CEQA consideration)

SE Endangered (legally protected)

ST Threatened (legally protected)

SC Candidate for Listing

SD Delisted

Sources: CNDDB 2018; eBird 2018; eBird 2019

Special-Status Plants

A total of 34 special-status plant species occur within Yolo County (Table 3.4-3).

Table 3.4-3 Special-Status Plant Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Bent-flowered fiddleneck <i>Amsinckia lunaris</i>	—	—	1B.2	Cismontane woodland, valley and foothill grassland, coastal bluff scrub. 10 to 2,608 feet in elevation. Blooms March-June.
Jepson's milk-vetch <i>Astragalus rattanii</i> var. <i>jepsonianus</i>	—	—	1B.2	Cismontane woodland, valley and foothill grassland, chaparral. Commonly on serpentine in grassland or openings in chaparral. 574 to 3,297 feet in elevation. Blooms March-June.
Ferris' milk-vetch <i>Astragalus tener</i> var. <i>ferrisiae</i>	—	—	1B.1	Wetland. Meadows and seeps, valley and foothill grassland. Subalkaline flats on overflow land in the Central Valley; usually seen in dry, adobe soil. 16 to 246 feet in elevation. Blooms April-May.
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	—	—	1B.2	Wetland. Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 0 to 551 feet in elevation. Blooms March-June.
Heartscale <i>Atriplex cordulata</i> var. <i>cordulata</i>	—	—	1B.2	Chenopod scrub, valley and foothill grassland, meadows and seeps. Alkaline flats and scalds in the Central Valley, sandy soils. 10 to 902 feet in elevation. Blooms April-October.
Brittlescale <i>Atriplex depressa</i>	—	—	1B.2	Alkali playa, wetland. Chenopod scrub, meadows and seeps, playas, valley and foothill grassland, vernal pools. Usually in alkali scalds or alkaline clay in meadows or annual grassland; rarely associated with riparian, marshes, or vernal pools. 3 to 1,066 feet in elevation. Blooms April-October.
Lagoon sedge <i>Carex lenticularis</i> var. <i>limnophila</i>	—	—	2B.2	Bogs and fens, marshes and swamps, north coast coniferous forest. Lakeshores, beaches. Often in gravelly substrates. 0 to 20 feet in elevation. Blooms June-August.
Pink creamsacs <i>Castilleja rubicundula</i> var. <i>rubicundula</i>	—	—	1B.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Openings in chaparral or grasslands. On serpentine. 66 to 3,002 feet in elevation. Blooms April-June.
Pappose tarplant <i>Centromadia parryi</i> ssp. <i>parryi</i>	—	—	1B.2	Chaparral, coastal prairie, meadows and seeps, coastal salt marsh, valley and foothill grassland. Vernal mesic, often alkaline sites. 7 to 1,378 feet in elevation. Blooms May-November.
Palmate-bracted bird's-beak <i>Chloropyron palmatum</i>	FE	SE	1B.1	Chenopod scrub, valley and foothill grassland, meadow and seep, wetland. Usually on Pescadero silty clay, which is alkaline, with <i>Distichlis</i> , <i>Frankenia</i> , etc. 16 to 509 feet in elevation. Blooms May-October.
Deep-scarred cryptantha <i>Cryptantha excavata</i>	—	—	1B.3	Cismontane woodland. Sandy, gravelly, dry streambanks. 328 to 1,640 feet in elevation. Blooms April-May.
Snow Mountain buckwheat <i>Eriogonum nervulosum</i>	—	—	1B.2	Chaparral. Dry serpentine outcrops, balds, and barrens. 1,460 to 6,906 feet in elevation. Blooms June-September.
Jepson's coyote-thistle <i>Eryngium jepsonii</i>	—	—	1B.2	Vernal pools, valley and foothill grassland. Clay. 10 to 984 feet in elevation. Blooms April-August.
San Joaquin spearscale <i>Extriplex joaquinana</i>	—	—	1B.2	Alkali playa. Chenopod scrub, alkali meadow, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. 3 to 2,740 feet in elevation. Blooms April-October.
Adobe-lily <i>Fritillaria pluriflora</i>	—	—	1B.2	Chaparral, cismontane woodland, foothill grassland. Usually on clay soils; sometimes serpentine. 148 to 3,100 feet in elevation. Blooms February-April.
Hall's harmonia <i>Harmonia hallii</i>	—	—	1B.2	Chaparral. Serpentine hills and ridges. Open, rocky areas within chaparral. 1,099 to 3,051 feet in elevation. Blooms April-June.

Table 3.4-3 Special-Status Plant Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Drymaria-like western flax <i>Hesperolinon drymarioides</i>	—	—	1B.2	Closed-cone coniferous forest, chaparral, cismontane woodland, valley and foothill grassland. Serpentine soils, mostly within chaparral. 1,296 to 6,562 feet in elevation. Blooms May-August.
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	—	—	1B.2	Wetland. Marshes and swamps (freshwater). Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the Delta watershed. 0 to 509 feet in elevation. Blooms June-September.
Northern California black walnut <i>Juglans hindsii</i>	—	—	1B.1	Riparian forest, riparian woodland. Few extant native stands remain; widely naturalized. Deep alluvial soil associated with a creek or stream. 0 to 2,100 feet in elevation. Blooms April-May.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	—	—	1B.1	Alkali playa, wetland. Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 3 to 4,511 feet in elevation. Blooms February-June.
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	—	—	1B.2	Wetland. Freshwater and brackish marshes. Often found with <i>Typha</i> , <i>Aster lentus</i> , <i>Rosa californica</i> , <i>Juncus</i> spp., <i>Scirpus</i> , etc. Usually on marsh and slough edges. 0 to 16 feet in elevation. Blooms May-September.
Colusa layia <i>Layia septentrionalis</i>	—	—	1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil. 49 to 3,609 feet in elevation. Blooms April-May.
Heckard's pepper-grass <i>Lepidium latipes</i> var. <i>heckardii</i>	—	—	1B.2	Valley and foothill grassland, vernal pools. Grassland, and sometimes vernal pool edges. Alkaline soils. 3 to 98 feet in elevation. Blooms March-May.
Jepson's leptosiphon <i>Leptosiphon jepsonii</i>	—	—	1B.2	Chaparral, cismontane woodland. Open to partially shaded grassy slopes. On volcanics or the periphery of serpentine substrates. 180 to 2,805 feet in elevation. Blooms March-May.
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	—	—	1B.1	Wetland. Freshwater and brackish marshes, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. 0 to 33 feet in elevation. Blooms April-November.
Baker's navarretia <i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	—	—	1B.1	Wetland. Cismontane woodland, meadows and seeps, vernal pools, valley and foothill grassland, lower montane coniferous forest. Vernal pools and swales; adobe or alkaline soils. 16 to 5,709 feet in elevation. Blooms April-July.
Colusa grass <i>Neostapfia colusana</i>	FT	SE	1B.1	Vernal pools, wetland. Usually in the bottoms of large, or deep vernal pools; adobe soils. 16 to 410 feet in elevation. Blooms May-August. Critical habitat for this species is present within Yolo County (see "Critical Habitat" section below and Exhibit 3.4-2).
Bearded popcornflower <i>Plagiobothrys hystriulus</i>	—	—	1B.1	Wetland. Vernal pools, valley and foothill grassland. Wet sites. 0 to 902 feet in elevation. Blooms April-May.
California alkali grass <i>Puccinellia simplex</i>	—	—	1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernal mesic. Sinks, flats, and lake margins. 3 to 3002 feet in elevation. Blooms March-May.
Keck's checkerbloom <i>Sidalcea keckii</i>	FE	—	1B.1	Cismontane woodland, valley and foothill grassland. Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. 279 to 1,657 feet in elevation. Blooms April-June.
Green jewelflower <i>Streptanthus hesperidis</i>	—	—	1B.2	Chaparral, cismontane woodland. Openings in chaparral or woodland; serpentine, rocky sites. 787 to 2,510 feet in elevation. Blooms May-July.
Suisun Marsh aster <i>Symphyotrichum lentum</i>	—	—	1B.2	Wetland. Marshes and swamps (brackish and freshwater). Most often seen along sloughs with <i>Phragmites</i> , <i>Scirpus</i> , blackberry, <i>Typha</i> , etc. 0 to 98 feet in elevation. Blooms April-November.

Table 3.4-3 Special-Status Plant Species Known to Occur in Yolo County and Their Potential for Occurrence

Species	Listing Status ¹			Habitat
	Federal	State	CRPR	
Saline clover <i>Trifolium hydrophilum</i>	—	—	1B.2	Wetland. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. 0 to 984 feet in elevation. Blooms April-June.
Crampton's tuctoria or Solano grass <i>Tuctoria mucronata</i>	FE	SE	1B.1	Wetland. Vernal pools, valley and foothill grassland. Clay bottoms of drying vernal pools and lakes in valley grassland. 16 to 49 feet in elevation. Blooms April-August. Critical habitat for this species is present within Yolo County (see "Critical Habitat" section below and Exhibit 3.4-2).

Notes: CRPR = California Rare Plant Rank.

¹ Legal Status Definitions

Federal:

FE Endangered (legally protected by ESA)

FT Threatened (legally protected by ESA)

State:

SE Endangered (legally protected by CESA)

California Rare Plant Ranks:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks:

0.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Sources: CNDDB 2018; CNPS 2019

CRITICAL HABITAT

Critical habitat is a specific, formally designated geographic area(s) that contains physical or biological features essential for the conservation of a threatened or endangered species and that may require special management and protection during federal actions. The critical habitat designation imposes no requirements on private or state actions on private or state lands where no federal funding, permits or approvals are required. Critical habitat may include an area that is not currently occupied by the species but that may be needed for recovery. Areas shown on maps as critical habitat units, as designated by the U.S. Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS), are often larger than the areas that actually support habitat for the species: only those areas within the critical habitat units that provide the essential physical or biological features are subject to ESA Section 7 consultation. Critical habitat for five species (one amphibian, one fish, one invertebrate, and two plants) is present within Yolo County (Exhibit 3.4-2).

California Tiger Salamander

There are approximately 2,731 acres of critical habitat for California tiger salamander in Yolo County, located within vernal pool habitat in the Dunnigan Hills, west of I-5 in the northern portion of the County (Exhibit 3.4-2).

Delta Smelt

There are approximately 92,005 acres of critical habitat for delta smelt in Yolo County, encompassing the Sacramento River watershed south of and including West Sacramento (Exhibit 3.4-2).

Vernal Pool Tadpole Shrimp

There are approximately 440 acres of critical habitat for vernal pool tadpole shrimp in Yolo County within a vernal pool area southeast of the city of Davis. This critical habitat area also serves as critical habitat for two federally listed plant species: Colusa grass (*Neostapfia colusana*) and Solano grass (*Tuctoria mucronata*) (Exhibit 3.4-2).

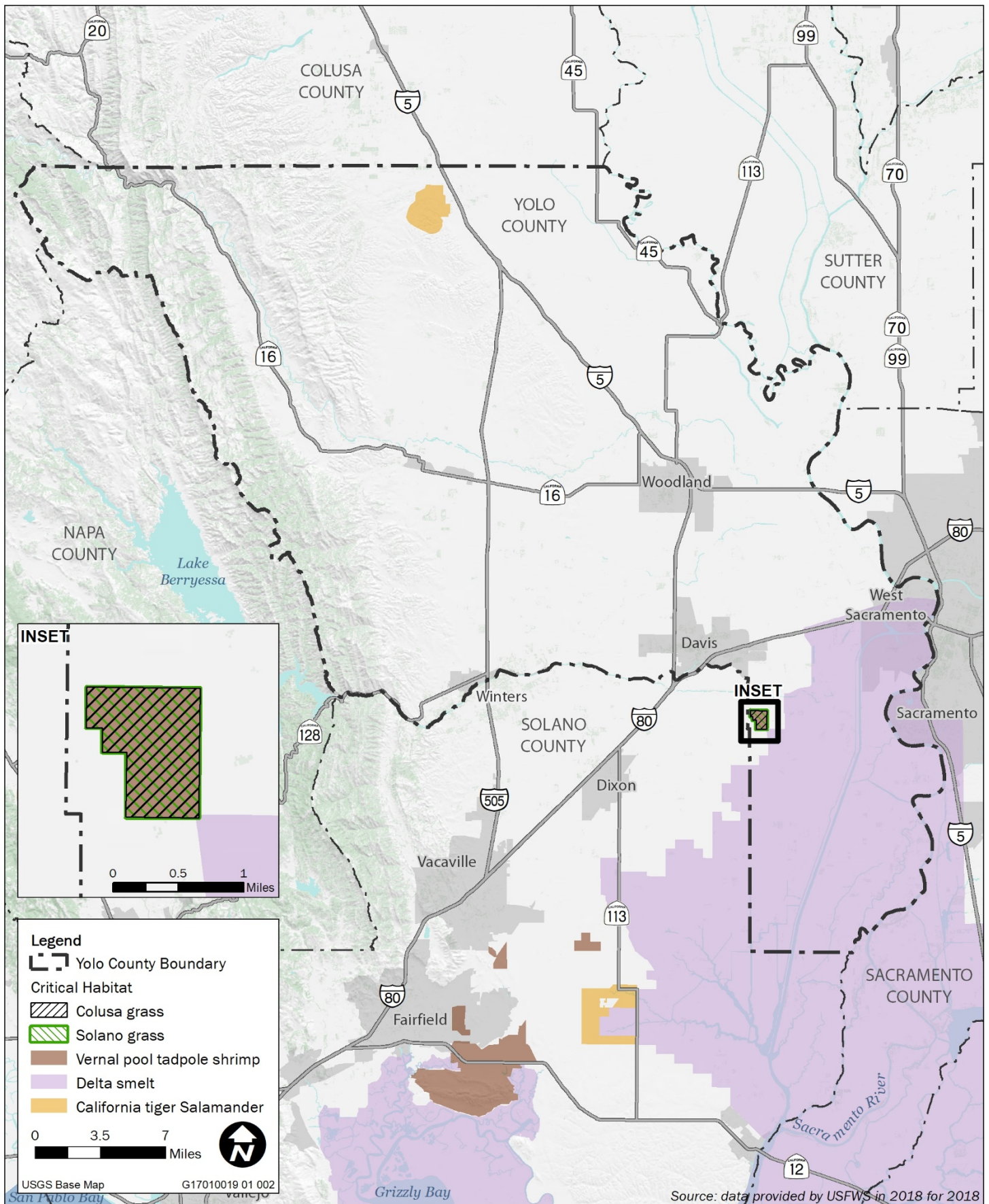


Exhibit 3.4-2

Critical Habitat Map

Colusa Grass

There are approximately 440 acres of critical habitat for Colusa grass in Yolo County within a vernal pool area southeast of the city of Davis. This critical habitat area also serves as critical habitat for vernal pool tadpole shrimp and Solano grass (Exhibit 3.4-2).

Solano Grass

There are approximately 440 acres of critical habitat for Solano grass in Yolo County within a vernal pool area southeast of the city of Davis. This critical habitat area also serves as critical habitat for vernal pool tadpole shrimp and Colusa grass (Exhibit 3.4-2).

SENSITIVE NATURAL COMMUNITIES

Sensitive habitat types include those that are of special concern to CDFW, or that are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and Section 404 of the Clean Water Act (CWA), as discussed in Section 3.4.2, “Regulatory Setting,” below. Sensitive habitats may be of special concern to regulatory agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species.

CDFW maintains a list of plant communities that are native to California. Within that list, CDFW identifies special-status plant communities (i.e., sensitive natural communities), which it defines as communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status species or their habitat. Special-status plant communities are tracked in the CNDDDB. Four sensitive natural communities were reported in the CNDDDB and occur within Yolo County (Exhibit 3.4-3).

Great Valley Cottonwood Riparian Forest

Great valley cottonwood riparian forest is a dense, deciduous riparian forest dominated by Fremont cottonwood and willow. The understory of this habitat is typically dense, and may include California grape, box elder, or Oregon ash. This habitat is associated with streams and rivers and is limited to isolated remnants in the Sacramento Valley (Holland 1986). Great valley cottonwood riparian forest is present in the in the city of West Sacramento adjacent to the Sacramento River (Exhibit 3.4-3).

Great Valley Mixed Riparian Forest

Great valley mixed riparian forest contains several tree species, including Fremont cottonwood, box elder, Oregon ash, willow, California sycamore, and California walnut. This habitat is associated with streams and rivers and is limited to isolated remnants in the Sacramento Valley (Holland 1986). Great valley mixed riparian forest habitat is present in the northeastern portion of Yolo County adjacent to the Sacramento River (Exhibit 3.4-3).

Elderberry Savanna

Elderberry savanna is dominated by blue elderberry and typically has an understory of various grasses and forbs. This habitat has a patchy distribution throughout the Sacramento valley and is associated with surviving stands of riparian vegetation (Holland 1986). Elderberry savanna habitat is present in the city of West Sacramento adjacent to the Sacramento River (Exhibit 3.4-3). Blue elderberry shrubs provide habitat for valley elderberry longhorn beetle, which is listed as threatened under the ESA.

Valley Oak Woodland

Valley oak woodland is typically dominated by valley oak, which is often the only tree species present in the habitat (Holland 1986). Valley oak woodland habitat is present in Yolo County adjacent to SR 113 (Exhibit 3.4-3).

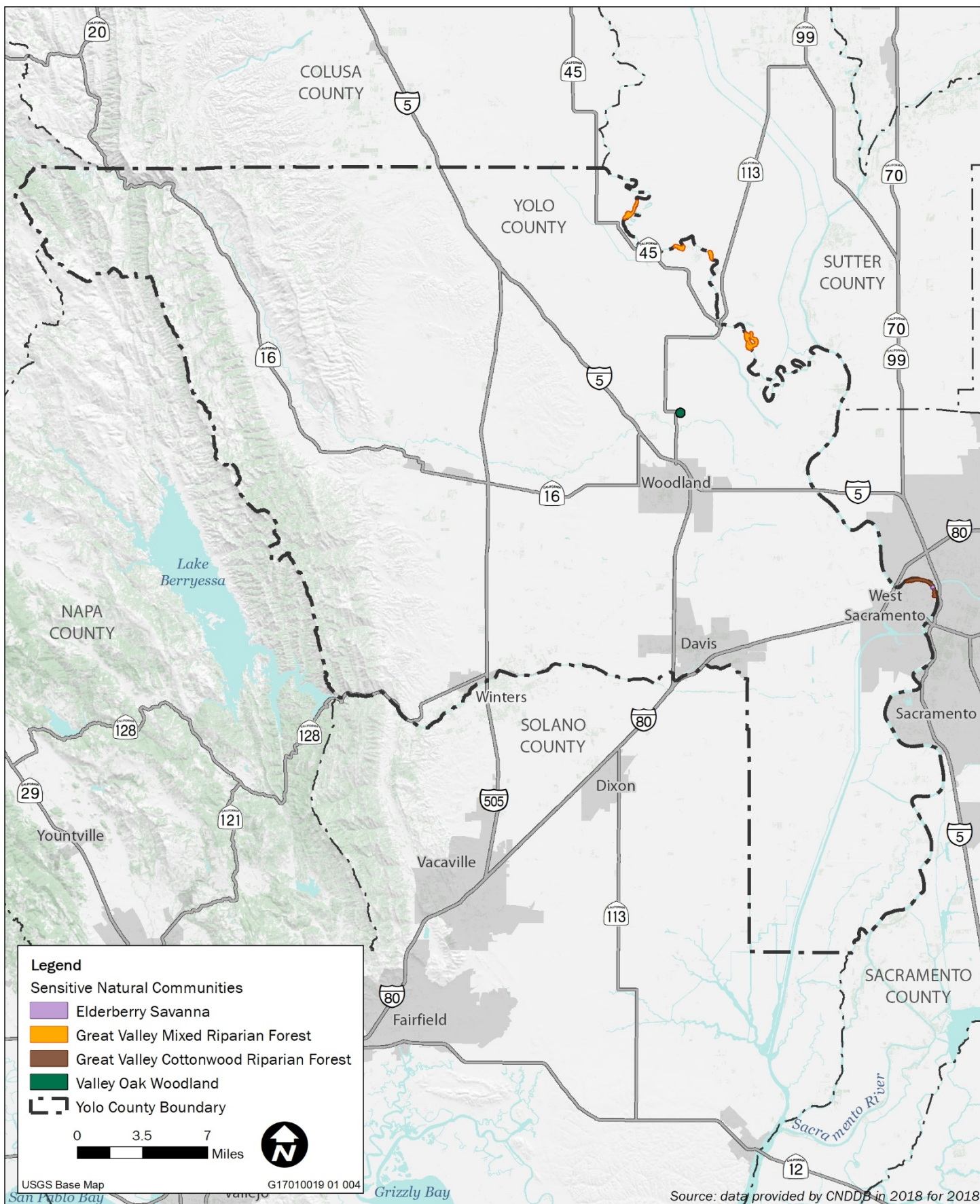


Exhibit 3.4-3

Sensitive Natural Communities



INVASIVE PLANT SPECIES

An invasive plant is one that is not native to a region, but rather is introduced, and has a tendency to crowd out native vegetation and thereby adversely affect the wildlife that feeds on it. There have been efforts to remove invasive plant species, such as tamarisk and giant reed (*Arundo donax*) within the Cache Creek and Putah Creek watersheds as well as species like perennial pepperweed and yellow star thistle (*Centaurea solstitialis*) from grassland areas. Invasive plants can threaten grassland habitat and can adversely affect streambank habitat for breeding fish.

WATERS OF THE UNITED STATES AND STATE

Yolo County includes a portion of the Sacramento River watershed, as well as Cache Creek and Putah Creek (Exhibit 3.4-1). Other aquatic features within the County include smaller creeks, canals, sloughs, and irrigation ditches; as well as human-made reservoirs (e.g., Davis Creek Reservoir) and ponds. Many of these aquatic features have nearby associated wetland habitat, including saline and freshwater wetlands, and approximately 5,462 acres of sensitive riparian habitat (see “Land Cover Types” section, above).

CANNABIS PRIORITY WATERSHEDS

The State Water Resources Control Board (SWRCB) in coordination with CDFW have identified “Cannabis Priority Watersheds” throughout the state. All Cannabis Priority Watersheds contain a high concentration of cannabis cultivation; noncompliant cannabis cultivation in these high-value areas has the potential to cause severe environmental impacts. Pursuant to CCR Section 8216, if SWRCB or CDFW notifies the California Department of Food and Agriculture (CDFA) in writing that cannabis cultivation is causing significant adverse impacts on the environment in a watershed or other geographic area pursuant to Section 26069, Subdivision (c)(1), of the Business and Professions Code, CDFA shall not issue new licenses or increase the total number of plant identifiers within that watershed or area while the moratorium is in effect.

A “Cannabis Priority Watershed” may also meet some or all of the following criteria:

- Contains or supports critical habitat for terrestrial or aquatic species (see “Critical Habitat” section, above);
- Contains water courses with low flow conditions where water levels recede or are at risk of receding into the “danger zone” for aquatic life. These are survival-level flows at which aquatic habitat and species will be harmed;
- Contains a critical water supply, where excessive water usage or diversions present unreasonable stress or pose a significant threat to the long-term and sustainable water use;
- Has complaints that allege cannabis cultivation that contributes to or causes natural resources violations, or that affects senior water right holders;
- Is part of past or ongoing restoration efforts;
- Is listed under CWA Section 303(d) as an impaired waterbody;
- Contains surface water body that is listed as a fully appropriated stream; and
- Contains a waterbody is designated as a “Wild and Scenic River” pursuant to the PRC Section 5093.

The Upper Cache Creek watershed has been designated as a Cannabis Priority Watershed in the northwestern portion of Yolo County (see Exhibit 3.4-4).

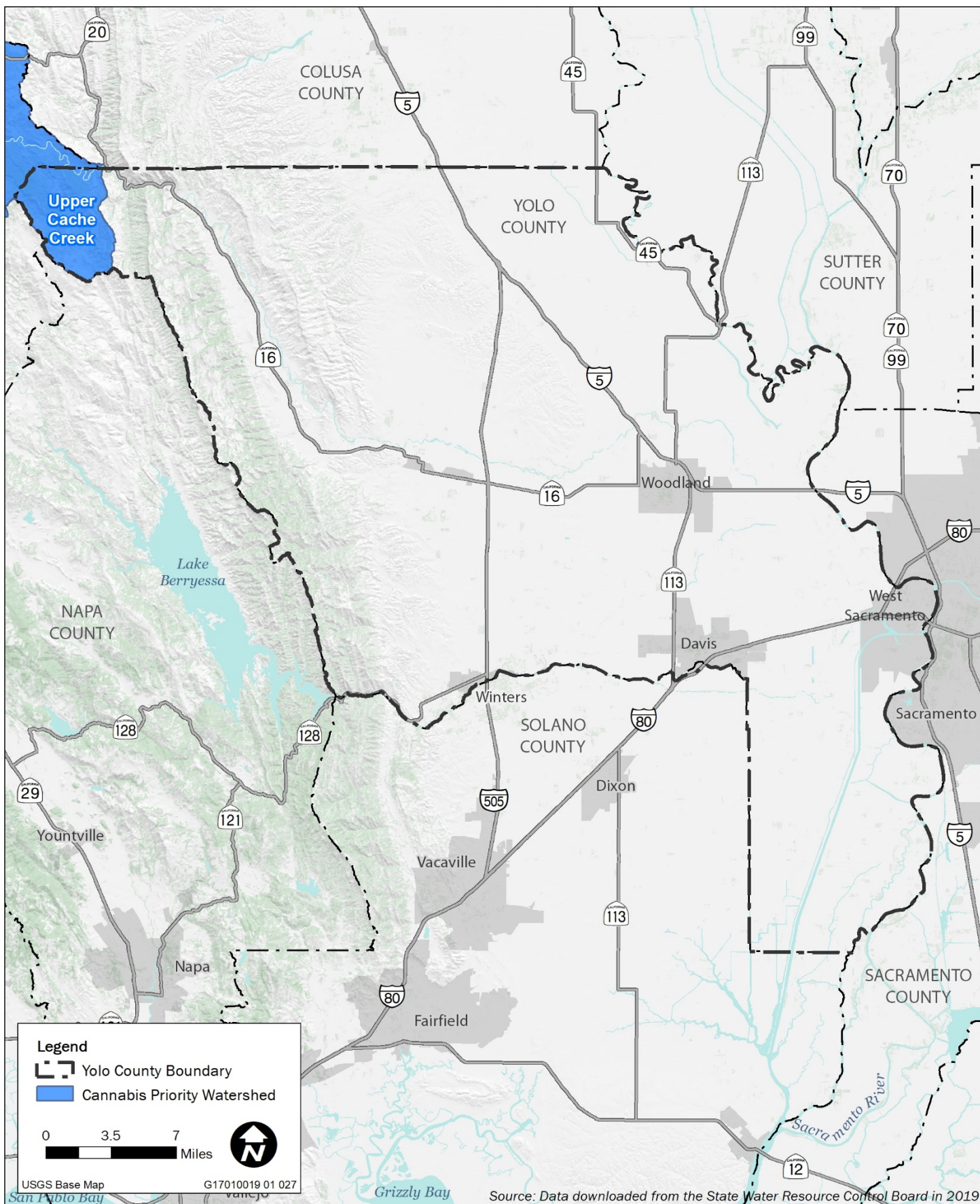


Exhibit 3.4-4

Cannabis Priority Watershed



WILDLIFE MOVEMENT CORRIDORS

The California Essential Habitat Connectivity Project was commissioned by the California Department of Transportation and CDFW with the purpose of making transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010). This project included mapping Essential Connectivity Areas (ECAs).

Yolo County contains several areas of relatively undisturbed wildlife habitat, including the California Coast Ranges, the Dunnigan Hills, and the Sacramento River, including the Yolo Bypass (Exhibit 3.4-5). As shown in Exhibit 3.4-5, ECAs occur within these portions of Yolo County, especially within the western portion of the County. The ECAs are not regulatory delineations and are identified as lands likely important to wildlife movement between large, mostly natural areas at the statewide level. The ECAs form a functional network of wildlands that are important to the continued support of California's diverse natural communities.

3.4.2 Regulatory Setting

FEDERAL

Federal Endangered Species Act

Pursuant to the ESA (16 USC Section 1531 et seq.), USFWS and NMFS regulate the taking of species listed in the ESA as threatened or endangered. In general, persons subject to the ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take.

Clean Water Act

Section 404 of the CWA requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Many surface waters and wetlands in California meet the criteria for waters of the United States, including lakes, rivers, and wetlands. In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate regional water quality control board (RWQCB) indicating that the action would uphold state water quality standards.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times since, prohibits the taking of bald and golden eagles without a permit from the Secretary of the Interior. Like the ESA, the Bald and Golden Eagle Protection Act defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 USC 668-668c). For the purpose of the act, disturbance that would injure an eagle, decrease productivity, or cause nest abandonment, including habitat alterations that could have these results, are considered take and can result in civil or criminal penalties.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities."

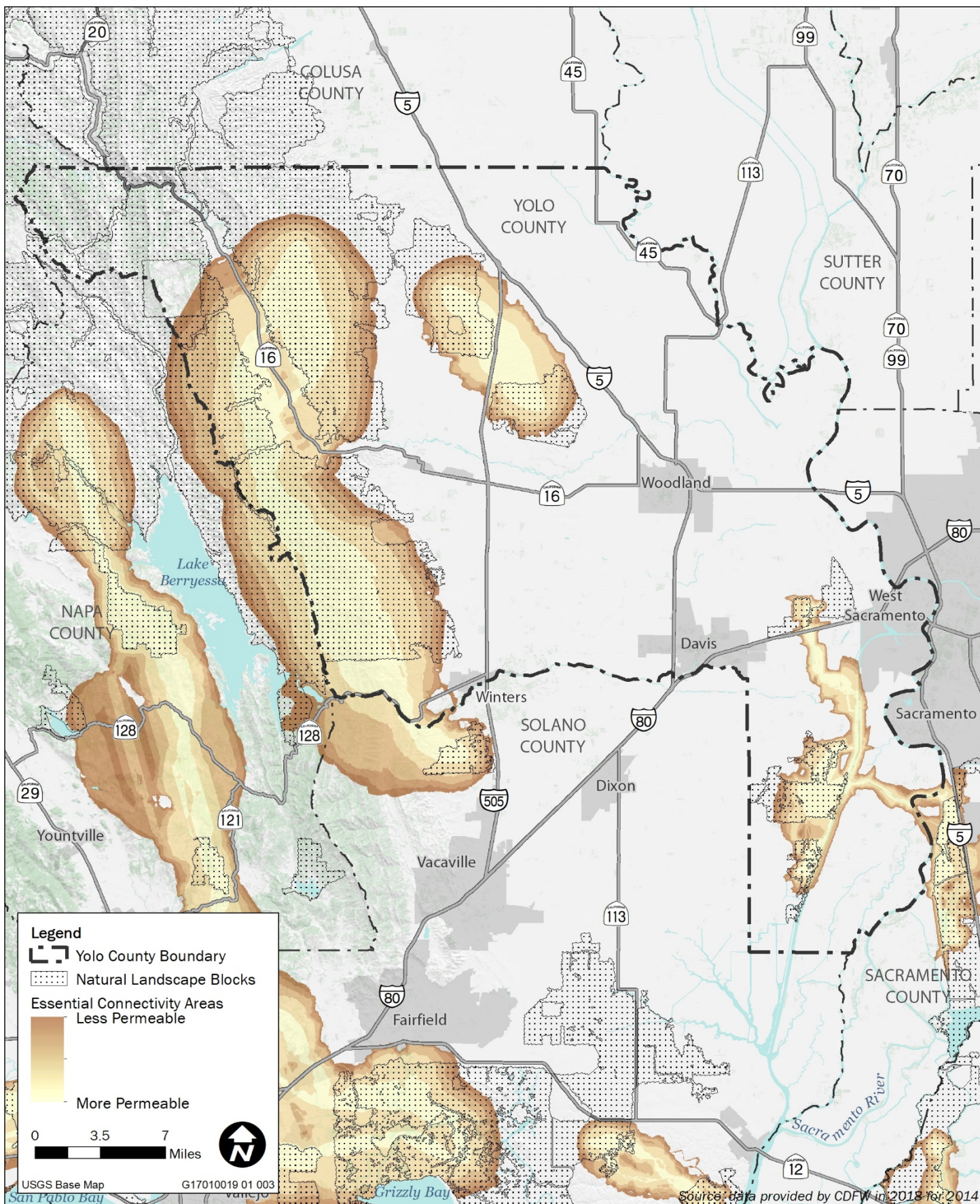


Exhibit 3.4-5

Habitat Connectivity



STATE

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Act, waters of the state fall under the jurisdiction of the appropriate RWQCB. The RWQCB must prepare and periodically update water quality control plans (basin plans). Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control point and nonpoint sources of pollution to achieve and maintain these standards. The RWQCB's jurisdiction includes federally protected waters as well as areas that meet the definition of "waters of the state." Waters of the state is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under Section 401 of the CWA provided they meet the definition of waters of the state. Actions that affect waters of the state, including wetlands, must meet the RWQCB's waste discharge requirements.

On April 2, 2019, the SWRCB adopted the proposed State Wetland Definition and Procedures for Discharges of Dredge or Fill Material to Waters of the State. Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. This includes all waters of the United States, but also areas not regulated under the federal Clean Water Act. The State Water Resources Control Board (2019) defines an area as a wetland as follows:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

State Water Resources Control Board Order WQ 2019-0001-DWQ

Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2019-0001-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Wastes Associated with Cannabis Cultivation Activities, includes the following requirements (terms) for state-licensed cultivation sites that are associated with biological resources. The reader is referred to Section 3.10, "Hydrology and Water Quality," for requirements associated with protection of water quality and surface water flows.

The entire order is available for review at:

https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2019/wqo2019_0001_dwq.pdf

- Term 1. Prior to commencing any cannabis cultivation activities, including cannabis cultivation land development or alteration, the cannabis cultivator shall comply with all applicable federal, state, and local laws, regulations, and permitting requirements, as applicable, including but not limited to the following:
 - The Clean Water Act (CWA) as implemented through permits, enforcement orders, and self-implementing requirements. When needed per the requirements of the CWA, the cannabis cultivator shall obtain a CWA section 404 (33 U.S.C. § 1344) permit from the United States Army Corps of Engineers (Army Corps) and a CWA section 401 (33 U.S.C. § 1341) water quality certification from the State Water Board or the Regional Water Board with jurisdiction. If the CWA permit cannot be obtained, the cannabis cultivator shall contact the appropriate Regional Water Board or State Water Board prior to commencing any cultivation activities. The Regional Water Board or State Water Board will determine if the cannabis cultivation activity and discharge is covered by the Requirements in the Policy and Cannabis General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (Cannabis Cultivation General Order).
 - The California Water Code as implemented through applicable water quality control plans (often referred to as Basin Plans), waste discharge requirements (WDRs) or waivers of WDRs, enforcement orders, and self-implementing requirements issued by the State Water Resources Control Board (State Water Board) or Regional Water Quality Control Boards (Regional Water Boards).

- All applicable state, city, county, or local regulations, ordinances, or license requirements including, but not limited to those for cannabis cultivation, grading, construction, and building.
 - All applicable requirements of the California Department of Fish and Wildlife (CDFW).
 - All applicable requirements of the California Department of Forestry and Fire Protection (CAL FIRE), including the Board of Forestry.
 - California Environmental Quality Act and the National Environmental Policy Act.
- Term 3. The cannabis cultivator shall apply for a Lake and Streambed Alteration Agreement (LSA Agreement) or consult with CDFW to determine if a LSA Agreement is needed prior to commencing any activity that may substantially:
 - divert or obstruct the natural flow of any river, stream, or lake;
 - change or use any material from the bed, channel, or bank of any river, stream, or lake; or
 - deposit debris, waste, or other materials that could pass into any river stream or lake

“Any river, stream or lake,” as defined by CDFW, includes those that are episodic (they are dry for periods of time) as well as those that are perennial (they flow year-round). This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. It may also apply to work undertaken within the flood plain of a body of water.

- Term 4. Cannabis cultivators shall not take any action which results in the taking of Special-Status Plants (state listed and California Native Plant Society 1B.1 and 1B.2), Fully Protected species (Fish and Game Code sections 3511, 4700, 5050, and 5515), or a threatened, endangered, or candidate species under either the California Endangered Species Act (ESA) (Fish & Game Code §§ 2050 et seq.) or the federal ESA (16 U.S.C. § 1531 et seq.). If a “take,” as defined by the California ESA (Fish and Game Code section 86) or the federal ESA (16 U.S.C. § 1532(21)), may result from any act authorized under this Policy, the cannabis cultivator must obtain authorization from CDFW, National Marine Fisheries Service, and United States Fish and Wildlife Service, as applicable, to incidentally take such species prior to land disturbance or operation associated with the cannabis cultivation activities. The cannabis cultivator is responsible for meeting all requirements under the California ESA and the federal ESA.
- Term 10. Prior to commencing any cannabis land development or site expansion activities, the cannabis cultivator shall retain a Qualified Biologist to identify sensitive plant, wildlife species, or communities at the proposed development site. If sensitive plant, wildlife species, or communities are identified, the cannabis cultivator and Qualified Biologist shall consult with CDFW and CAL FIRE to designate a nodisturbance buffer to protect identified sensitive plant, wildlife species, and communities. A copy of the report shall be submitted to the appropriate Regional Water Board.
- Term 11. To prevent transfer of invasive species,⁵ all equipment used at the cannabis cultivation site, including excavators, graders, etc., shall be cleaned before arriving and before leaving the site.
- Term 37. Cannabis cultivators shall comply with the minimum riparian setbacks described below for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, petroleum powered pump locations, off-stream water storage areas, and chemical toilet placement). The riparian setbacks shall be measured from the waterbody’s bankfull stage (high flow water levels that occur every 1.5 to 2 years) or from the top edge of the waterbody bank in incised channels, whichever is more conservative. Riparian setbacks for springheads shall be measured from the springhead in all directions (circular buffer). Riparian setbacks for wetlands shall be measured from the edge of wetland as delineated by a Qualified Professional with experience implementing the Corps of Engineers Wetlands Delineation Manual (with regional supplements). The Regional Water Board Executive Officer may require additional riparian setbacks or additional requirements, as needed, to meet the performance

requirement of protecting surface water from discharges that threaten water quality. If the cannabis cultivation site cannot be managed to protect water quality, the Executive Officer of the applicable Regional Water Board may revoke authorization for cannabis cultivation activities at the cannabis cultivation site.

California Endangered Species Act

Pursuant to CESA, a permit from CDFW is required for projects that could result in the “take” of a plant or animal species that is listed by the state as threatened or endangered. Under CESA, “take” is defined as an activity that would directly or indirectly kill an individual of a species, but the CESA definition of take does not include “harm” or “harass,” like the ESA definition does. As a result, the threshold for take is higher under CESA than under the ESA. Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2081 incidental take permit.

California Native Plant Protection Act of 1977

The California Native Plant Protection Act (NPPA) (Fish and Game Code Sections 1900–1913) prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the NPPA, which ensures that state-listed plant species are protected when state agencies are involved and projects are subject to CEQA. In this case, plants listed as rare under the NPPA are not protected under CESA, but rather may receive protection in response to significant impacts, in accordance with CEQA.

California Fish and Game Code Sections 3503 and 3503.5—Protection of Bird Nests

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests because of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young.

California Fish and Game Code —Fully Protected Species

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code describe the take prohibitions for fully protected birds, mammals, reptiles and amphibians, and fish. Species listed under these statutes may not be taken or possessed at any time and no incidental take permits can be issued for these species except for scientific research purposes or for relocation to protect livestock.

California Fish and Game Code Section 1602—Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do the following without first notifying CDFW:

- substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation. CDFW’s jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A CDFW streambed alteration agreement must be obtained for any action that would result in an impact on a river, stream, or lake.

Oak Woodlands Conservation Act

The Oak Woodlands Conservation Act was signed into California law on September 24, 2004. Section 21083.4 of the California Public Resources Code requires counties to determine if a project within their jurisdiction may result in conversion of oak woodlands that would have a significant adverse effect on the environment. If the County determines that a project would result in a significant adverse effect on oak woodlands, mitigation measures to reduce the significant adverse effect of converting oak woodlands to other land uses are required.

Delta Protection Act of 1992

The Delta Protection Act (California Water Code Section 12220) established the Delta Protection Commission. The Delta Reform Act of 2009 amended the 1992 act in November 2009. The commission has land use planning jurisdiction over the Delta Primary Zone, which generally consists of lands in the central portion of the Delta that were not within either the urban limit line or sphere of influence of any local government's general plan. The Primary Zone, which comprises 487,625 acres, or approximately 66 percent, of the Delta, encompasses portions of San Joaquin, Contra Costa, Solano, Yolo, and Sacramento Counties. Lands in Yolo County that are overlaid by the Primary and Secondary Delta Zones are comprised of areas in the southeastern corner of the County, which includes lands that are part of the Yolo Bypass.

The Delta Protection Commission is charged with preparing a regional plan for the Primary Zone to address land uses and resources management, with particular emphasis on agriculture, which was designated by the Delta Protection Act as the primary use of this zone. This plan, the Land Use & Resource Management Plan, provides guidance to local governments. Specifically, Land Use Policy P-2 and Agriculture Policies P-1 through P-10 address the role of local governments in preserving and protecting long-term agricultural viability and open space values in the Primary Zone through implementation of general plan policies and zoning codes.

LOCAL

Yolo Habitat Conservation Plan/Natural Community Conservation Plan

The HCP/NCCP and accompanying environmental impact statement/environmental impact report (EIS/EIR) was approved by the County and other local agency participants in 2018. The Yolo HCP/NCCP became effective January 11, 2019 upon receipt of final approval by state and federal wildlife agencies. The Yolo HCP/NCCP is available for review at: <https://www.yolohabitatconservancy.org/>. The Yolo HCP/NCCP allows for the incidental take of 12 specified species listed under the federal ESA and CESA, subject to conditions. The HCP/NCCP is implemented by the Yolo Habitat Conservancy, a joint powers agency composed of Yolo County, and the four incorporated cities within the County (Davis, West Sacramento, Woodland, and Winters). The HCP/NCCP planning area includes the entirety of Yolo County which is approximately 653,500 acres. The plan also includes conservation activities outside of Yolo County within an additional 1,174 acres along Putah Creek in Solano County. The plan provides coverage for 12 species: eight state-listed or federally listed species and four species that are not listed but could become listed during the 50-year term of the plan. The covered species are palmate-bracted bird's beak (*Chloropyron palmatum*), valley elderberry longhorn beetle, California tiger salamander, western pond turtle, giant garter snake, Swainson's hawk, white-tailed kite, western yellow-billed cuckoo, burrowing owl, least Bell's vireo (*Vireo bellii pusillus*), bank swallow, and tricolored blackbird.

For covered activities and species, the Yolo HCP/NCCP requires land cover mapping and planning-level surveys to determine the potential for presence of sensitive natural resources, including covered species, and payment of applicable fees. If these resources are determined to be present or likely to be present, the Yolo HCP/NCCP requires applicants to conduct protocol-level surveys for these resources. Applicants must incorporate Avoidance and Minimization Measures (AMMs) to minimize impacts on sensitive natural communities, wetlands, waters of the United States and state, and covered plant and wildlife species. Implementation of AMMs may include designing projects to avoid sensitive natural resources, worker training, implementing no-disturbance buffers, avoiding work during certain times of the year (e.g.,

Swainson's hawk breeding season), and/or biological monitoring. The Yolo HCP/NCCP provides take coverage under CESA (Natural Community Conservation Planning Act [NCCPA]) and the ESA (Section 10) for covered species.

Because cannabis operations are currently illegal under federal law, cannabis activities are not considered covered activities under the HCP portion of the Yolo HCP/NCCP for federally listed species, and coverage could not be extended for impacts on federally listed species. Until cannabis activities are legalized at the federal level, the effect of this is that incidental take coverage is not available for the six covered species with federal listing status: (even if separately listed under CESA) (palmate-bracted bird's beak, valley elderberry longhorn beetle, California tiger salamander, giant garter snake, western yellow-billed cuckoo, and least Bell's vireo).

Yolo County 2030 Countywide General Plan

Yolo County 2030 Countywide General Plan (General Plan) policies specific to biological resources and potentially relevant to the adoption and implementation of the proposed CLUO are identified below:

- **Policy CO-2.1:** Consider and maintain the ecological function of landscapes, connecting features, watersheds, and wildlife movement corridors.
- **Policy CO-2.2:** Focus conservation efforts on high priority conservation areas (core reserves) that consider and promote the protection and enhancement of species diversity and habitat values, and that contribute to sustainable landscapes connected to each other and to regional resources.
- **Policy CO-2.3:** Preserve and enhance those biological communities that contribute to the county's rich biodiversity including blue oak and mixed oak woodlands, native grassland prairies, wetlands, riparian areas, aquatic habitat, agricultural lands, heritage valley oak trees, remnant valley oak groves, and roadside tree rows.
- **Policy CO-2.4:** Coordinate with other regional efforts (e.g., Yolo County HCP/NCCP) to sustain or recover special-status populations by preserving and enhancing habitats for special-status species.
- **Policy CO-2.5:** Protect, restore, and enhance habitat for sensitive fish species, so long as it does not result in the large-scale conversion of existing agricultural resources.
- **Policy CO-2.9:** Protect riparian areas to maintain and balance wildlife values.
- **Policy CO-2.10:** Encourage the restoration of native habitat.
- **Policy CO-2.11:** Ensure that open space buffers are provided between sensitive habitat and planned development.
- **Policy CO-2.13:** Promote the use of oak woodlands conservation banks to mitigate for losses due to development impacts and to provide carbon sequestration for greenhouse gas emission under applicable State programs.
- **Policy CO-2.14:** Ensure no net loss of oak woodlands, alkali sinks, rare soils, vernal pools, or geological substrates that support rare endemic species, with the following exception. The limited loss of blue oak woodland and grasslands may be acceptable, where the fragmentation of large forests exceeding 10 acres is avoided, and where losses are mitigated.
- **Policy CO-2.16:** Existing native vegetation shall be conserved where possible and integrated into new development if appropriate.

- **Policy CO-2.17:** Emphasize and encourage the use of wildlife-friendly farming practices within the County's Agricultural Districts and with private landowners, including:
 - Establishing native shrub hedgerows and/or tree rows along field borders.
 - Protecting remnant valley oak trees.
 - Planting tree rows along roadsides, field borders, and rural driveways.
 - Creating and/or maintaining berms.
 - Winter flooding of fields.
 - Restoring field margins (filter strips), ponds, and woodlands in non-farmed areas.
 - Using native species and grassland restoration in marginal areas.
 - Managing and maintaining irrigation and drainage canals to provide habitat, support native species, and serve as wildlife movement corridors.
 - Managing winter stubble to provide foraging habitat.
 - Discouraging the conversion of open ditches to underground pipes, which could adversely affect giant garter snakes and other wildlife that rely on open waters.
 - Widening watercourses, including the use of setback levees.
- **Policy CO-2.18:** Coordinate with the Yolo County Resource Conservation District, Natural Resources Conservation Service, UC Cooperative Extension, and other farm organizations to encourage farming practices and the management of private agricultural land that is supportive of wildlife habitat values.
- **Policy CO-2.19:** Support the use of sustainable farming methods that minimize the use of products such as pesticides, fuels, and petroleum-based fertilizers.
- **Policy CO-2.20:** Encourage the use of wildlife-friendly Best Management Practices to minimize unintentional killing of wildlife, such as restricting mowing during nesting season for ground-nesting birds or draining of flooded fields before fledging of wetland species.
- **Policy CO-2.21:** Promote wildlife-friendly farming through mechanisms such as farm-land trusts, conservation easements, and safe harbor-type agreements.
- **Policy CO-2.22:** Prohibit development within a minimum of 100 feet from the top of banks for all lakes, perennial ponds, rivers, creeks, sloughs, and perennial streams. A larger setback is preferred. The setback will allow for fire and flood protection, a natural riparian corridor (or wetland vegetation), a planned recreational trail where applicable, and vegetated landscape for stormwater to pass through before it enters the water body. Recreational trails and other features established in the setback should be unpaved and located along the outside of the riparian corridors whenever possible to minimize intrusions and maintain the integrity of the riparian habitat. Exceptions to this action include irrigation pumps, roads and bridges, levees, docks, public boat ramps, and similar uses, so long as these uses are sited and operated in a manner that minimizes impacts to aquatic and riparian features.
- **Policy CO-2.23:** Support efforts to coordinate the removal of non-native, invasive vegetation within watersheds and replacement with native plants.

- **Policy CO-2.30:** Protect and enhance streams, channels, seasonal and permanent marshland, wetlands, sloughs, riparian habitat, and vernal pools in land planning and community design.
- **Policy CO-2.31:** Protect wetland ecosystems by minimizing erosion and pollution from grading, especially during grading and construction projects.
- **Policy CO-2.34:** Recognize, protect, and enhance the habitat value and role of wildlife migration corridors for the Sacramento River, Putah Creek, Willow Slough, the Blue Ridge, the Capay Hills, the Dunnigan Hills, and Cache Creek.
- **Policy CO-2.36:** Habitat preserved as a part of any mitigation requirements shall be preserved in perpetuity through deed restrictions, conservation easement restrictions, or other method to ensure that the habitat remains protected. All habitat mitigation must have a secure, ongoing funding source for operation and maintenance.
- **Policy CO-2.37:** Where applicable in riparian areas, ensure that required state and federal permits/approvals are secured before development of approved projects.
- **Policy CO-2.38:** Avoid adverse impacts to wildlife movement corridors and nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds). Preserve the functional value of movement corridors to ensure that essential habitat areas do not become isolated from one another due to the placement of either temporary or permanent barriers within the corridors. Encourage avoidance of nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds) during periods when the sites are actively used and that nursery sites which are used repeatedly over time are preserved to the greatest feasible extent or fully mitigated if they cannot be avoided.
- **Policy CO-2.40:** Preserve grassland habitat within 2,100 feet of documented California tiger salamander breeding ponds or implement required mitigation (equivalent or more stringent) as imposed by appropriate agencies or through the County HCP/NCCP, to fully mitigate impacts consistent with local, State, and federal requirements. Implementation and funding of mitigation measures for projects that will be developed in phases over time may also be phased, with the applicable mitigation being implemented and funded before the final approval of each phase or sub-phase.
- **Policy CO-2.41:** Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and federal requirements.
- **Policy CO-2.42:** Projects that would impact Swainson's hawk foraging habitat shall participate in the Agreement Regarding Mitigation for Impacts to Swainson's Hawk Foraging Habitat in Yolo County entered into by the CDFG (CDFW) and the Yolo County HCP/NCCP Joint Powers Agency, or satisfy other subsequent adopted mitigation requirements consistent with applicable local, State, and federal requirements.
- **Policy CO-2.43:** Projects that have the potential to impact California tiger salamander breeding or terrestrial habitat in the Dunnigan Hills area, shall conduct a project-level biological assessment to determine the potential to impact California tiger salamander upland or breeding habitat (if such assessment has not already been done as part of an approved HCP/NCCP). Such an assessment will be required for all projects located within 1.3 miles of a known or potential breeding site. Development activities that would result in isolation of the breeding or upland habitat will be required to mitigate for such impacts. Mitigation shall consist of two components: 1) habitat preservation and enhancement of suitable upland habitat, 2) preservation and construction of new breeding habitat. California tiger salamander upland habitat must be mitigated at a ratio of 3:1 (preserved:impacted), located within 2,100 feet of an occupied habitat, and include at least one suitable breeding pond. Equivalent or more stringent mitigation may be implemented as determined by trustee and responsible agencies. Mitigation must be coordinated with the HCP/NCCP program if adopted.

- **Action CO-A27:** Protect the habitat value and biological function of oak woodlands, grasslands, riparian areas, and wetland habitats. Avoid activities that remove or degrade these habitats and establish buffers to avoid encroachment into sensitive areas.
- **Policy CC-4.11:** Site specific information shall be required for each application, subject to site conditions and available technical information, as determined by the County lead department, in order to enable informed decision-making and ensure consistency with the General Plan and with the assumptions of the General Plan EIR. Technical information and surveys requested may include, but not be limited to, the following: air quality and/or greenhouse gas emissions calculations, agricultural resource assessment/agricultural and evaluation and site assessment (LESA), biological resources assessment, cultural resources assessment, fiscal impact analysis, flood risk analysis, hydrology and water quality analysis, geotechnical/soils study, land use compatibility analysis, noise analysis, Phase One environmental site assessment, sewer capacity and service analysis, storm drainage capacity and service analysis, title report, traffic and circulation study, visual simulation and lighting study, and water supply assessment.

When a technical study is required, it must cover the entire acreage upon which development is being proposed including any off-site improvements (e.g., wells; pumps; force mains; new roads; dirt borrow sites; etc.) that may be necessary. Technical studies must meet CEQA standards and the standards in the applicable industry. As necessary, the technical studies shall include recommendations that are to be implemented as part of the project.

Yolo County Oak Woodland Conservation and Enhancement Plan

Oak woodlands are defined by state law as an oak stand with a greater than 10-percent canopy cover or that may have historically supported a greater than 10-percent canopy cover. Oak woodlands in Yolo County are found primarily in the foothills of the Coast Ranges located in the western portion of the County. The Yolo County Oak Woodland Conservation and Enhancement Plan promotes voluntary efforts to conserve and enhance the County's existing oak woodlands to help minimize the effects of land conversion and other factors that disturb the health and longevity of existing oak woodlands.

Cache Creek Resources Management Plan

The Cache Creek Resources Management Plan (CCRMP) is a creek restoration plan that eliminated in-channel commercial mining and established a policy and regulatory framework for seven important elements: covering agriculture, aggregate resources, riparian and wildlife resources, water resources, floodway and channel stability, open space and recreation, and the cultural landscape. Specific goals and objectives were adopted for each of the elements, with suggested policies for their implementation.

The CCRMP also established the Cache Creek Improvement Program (CCIP) for implementing ongoing projects to improve, stabilize, and maintain the creek. Applicable objectives are listed below:

- **Objective 4.3-1:** Conserve and protect existing riparian habitat within the Cache Creek Resources Management Plan (CCRMP) area to the greatest extent possible. Where channel maintenance or improvement activities result in the removal of riparian habitat, require disturbed areas to be restored. Where vegetation has been removed within the channel to maintain or improve flood flow conveyance capacity and/or erosion control purposes, restoration shall be done in nearby areas that do not adversely affect flood flow conveyance capacity.
- **Objective 4.3-2:** Establish conditions to encourage the development of a variety of natural riparian habitat types within the CCRMP area in order to support biological resources associated with Cache Creek.
- **Objective 4.3-3:** Adopt standards for planning, implementing, and monitoring habitat revegetation and restoration projects in order to ensure consistency, maximize success, and account for future uncertainty due to climate change.

- **Objective 4.3-4:** Ensure that the establishment of habitat does not significantly divert streamflow or cause excessive erosion or damage to nearby structures and/or property.
- **Objective 4.3-5:** Encourage the use of alternative methods and practices for erosion control that incorporate riparian vegetation in the design.
- **Objective 4.3-6:** Coordinate restoration programs with relevant planning efforts of both the County and other private and public agencies. Encourage regional mitigation to occur within the Cache Creek Area Plan (CCAP) area, consistent with the program and the Parkway Plan. Require mitigation obligations resulting from mining applications to be implemented within the CCAP area, consistent with the Parkway Plan.

Yolo Bypass Wildlife Area Land Management Plan

The Yolo Bypass Wildlife Area comprises approximately 16,770 acres of managed wildlife habitat and agricultural land within the Yolo Bypass. The Bypass conveys seasonal high flows from the Sacramento River to help control river stage and protect the cities of Sacramento, West Sacramento, and Davis and other local communities, farms, and lands from flooding. The Yolo Bypass Wildlife Area Land Management Plan was prepared through a partnership between CDFW and the Yolo Basin Foundation. The Yolo Bypass Wildlife Area Land Management Plan includes the following goals that pertain to biological resources:

- **Species Guilds Goal 1:** Manage and maintain habitat communities for shorebird and wading bird species.
- **Species Guilds Goal 2:** Manage and maintain habitat communities for waterfowl species.
- **Species Guilds Goal 3:** Maintain and enhance habitat for upland game species.
- **Species Guilds Goal 4:** Manage and maintain habitat communities for raptors.
- **Species Guilds Goal 5:** Manage and maintain habitat communities for cavity-nesting bird species.
- **Species Guilds Goal 6:** Manage and maintain communities for neotropical bird species.
- **Species Guilds Goal 7:** Manage and maintain communities for a variety of other waterbird species including grebes, rails, and songbirds associated with emergent marsh vegetation.
- **Species Guilds Goal 8:** Maintain and enhance foraging opportunities for the presence of breeding colonies of bats roosting under the Yolo Causeway.
- **Special Species Goal 1:** Without specifically managing for special-status species, the communities at the Yolo Wildlife Area should be managed in a way that generally improves overall habitat quality for specie abundance and diversity while not discouraging the establishment of special-status species.
- **Invasive Species Goal 1:** Prevent the introduction and spread of invasive nonnative species that have no benefit to wildlife.
- **Seasonal and Permanent Wetland Ecosystems Goal 1:** Restore and enhance wetlands to conditions that provide desired ecological functions.
- **Riparian Goal 1:** Maintain and enhance riparian communities for native species diversity and abundance (including special-status species).
- **Riparian Goal 2:** Restore and enhance riparian communities to conditions that provide desired ecological functions.
- **Grassland and Upland Goal 1:** Maintain and enhance grassland and upland communities for diversity and abundance of native species (including special-status species).

- **Grassland and Upland Goal 2:** Restore and enhance grassland and upland communities to conditions that provide desired ecological functions.
- **Aquatic Ecosystems Goal 1:** Maintain and enhance aquatic ecosystems for diversity and abundance of native species (including special-status species).
- **Aquatic Ecosystems Goal 2:** Maintain and enhance habitat for game fish species.
- **Aquatic Ecosystems Goal 3:** Restore and enhance aquatic ecosystems to conditions that provide desired ecological functions.

3.4.3 Environmental Impacts and Mitigation Measures

METHODS AND ASSUMPTIONS

The impact analysis below evaluates to what extent adoption and implementation of the CLUO, including issuance of subsequent Cannabis Use Permits pursuant to the CLUO, may result in significant impacts on biological resources in the County. This program-level analysis is based upon the review of the best available data regarding biological resources in the County as described previously in Section 3.4.1, “Environmental Setting.” The footprint and design details of site-specific cannabis projects are not known at this time but this analysis uses the extent and general locations of future cannabis uses assumed under each of the five alternatives based on Table 2-4 and Exhibits 2-4 through 2-8 that are provided in Chapter 2, “Description of Preferred Alternative and Equal Weight Alternatives,” to provide an assessment and comparison of reasonably foreseeable outcomes from different regulatory scenarios.

Chapter 4, “Cumulative Impacts and Overconcentration,” contains a separate detailed analysis of the potential for cumulative effects not otherwise identified in this section, and effects from concentrations or clusters of multiple cannabis uses located in distinct subregions of the County.

Construction activities that may result in biological resource impacts are assumed for each alternative to take place within the entire activity footprint of cannabis cultivation and noncultivation sites for Alternatives 2, 3, 4, and 5 described in Chapter 2, “Description of Preferred Alternative and Equal Weight Alternatives” (see Table 2-4 and Appendix D). Construction would consist of vegetation removal, grading and/or trenching for the creation of cultivation sites, building pads, parking areas, access roadways, infrastructure, and drainage improvements. The reader is referred to Appendix D for further details on assumed construction and operational activities for cannabis uses under each alternative. These activities could result in conversion of natural habitats. The assumptions for the extent of cannabis site activity footprints identified in Table 2-4 in Chapter 2, “Description of Preferred Alternative and Equal Weight Alternatives,” were used in the impact analysis below.

Operations for cannabis uses are assumed to be contained within the identified activity footprint for cultivation sites and noncultivation sites. Operational activities that could impact biological resources include the following.

- **Cultivation uses:** Activities related to the site preparation, planting, maintenance, and harvesting of cannabis (including both outdoors and in structures) through the use of staff, equipment, and vehicles resulting in indirect disturbance (e.g., visual, auditory) to wildlife in the immediate vicinity of the site.
- **Noncultivation uses:** Employee vehicle, service/delivery vehicle, and customer vehicle and equipment use resulting in indirect disturbance (e.g., visual, auditory) to wildlife in the immediate vicinity of the site.

Specific requirements of existing laws and regulations described in the regulatory setting as well as the proposed CLUO (see Appendix C) were assessed for their ability to avoid or reduce the exposure of biological resources to substantial adverse effects.

Federal agencies, including but not limited to USACE and USFWS, cannot issue permits for activities associated with commercial cannabis activities due to the current federal legal status of these activities. Consequently, projects under the proposed CLUO would be required to avoid federally regulated resources including plant and wildlife species listed under the ESA and waters of the United States as required under Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2019-0001-DWQ (which is regulated under the federal CWA) until such time as the federal government recognizes cannabis as a legal agricultural crop. Projects under the CLUO would be required to participate in the Yolo HCP/NCCP, which will include incorporation of AMMs into project design and payment of applicable mitigation fees. The mitigation measures included in the analysis below are consistent with Yolo HCP/NCCP Avoidance and Minimization Measures, where applicable given the federal status of cannabis activities. The identified mitigation measures are structured to provide appropriate mitigation under the existing condition wherein cannabis activities cannot be treated as a covered activity, and under potential future conditions should cannabis activities be legalized by the federal government.

Land Cover Impact Analysis

Because the precise location and abundance of special-status species is unknown within the County, impacts are evaluated based on habitat suitability. However, for context, between 18 and 379 acres of land conversion are assumed to occur under the five CLUO alternatives based on the assumptions for each alternative (see Table 2-5).

Under all alternatives, a certain number of existing and eligible cannabis cultivation sites are assumed to relocate to meet zoning and buffer standards of the CLUO. It is assumed for analysis purposes that these sites would relocate nearby to a site with the same or similar land cover type. Alternatives 2, 3, 4, and 5 also assume the development of additional cultivation sites and new noncultivation cannabis uses. Based on the locations of existing and eligible cannabis cultivation sites and the assumed location of proposed new cannabis operations, available land area assumed for each alternative to determine land cover and habitat type that might be affected using Figures 3.4-6 through 3.4-10.

Table 3.4-4 identifies the percentage of land cover type that might be impacted by each alternative.

Section 8-2.1408(RR) of the CLUO prohibits disturbance or removal of native trees, tree clusters or stands, oak woodlands, and riparian woodlands; thus, impacts or conversion of the “woodland habitat” land cover category are not expected. Section 8-2.1408(D) of the CLUO, General Plan policies, and Attachment A of SWRCB Order WQ 2019-0001-DWQ, require setbacks from aquatic and riparian habitat. Additionally, cannabis operations under the CLUO would be required to avoid federally regulated resources, including waters of the United States, until such time as the federal government recognizes cannabis as a legal agricultural crop. As a result, impacts or conversions of the “aquatic habitat” is not anticipated. Additionally, most of the shrub and serpentine habitat land cover category occurs within the foothills of the Coast Ranges. For analysis purposes, it is assumed that relocated existing and eligible cultivation sites and new cannabis operations would not be located within this region based on Exhibits 2-4 through 2-8.

Table 3.4-4 Percent of Land Cover Available that Could be Potentially Impacted from Relocation of Existing and Eligible Cultivation Sites and Development of New Cannabis Sites

Land Cover Types	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Annual Grassland	2%	16%	10%	14%	16%
Aquatic Habitat	less than 1%	less than 1%	1%	less than 1%	less than 1%
Shrub and Serpentine Habitat	0%	7%	4%	6%	7%
Woodland Habitat	1%	24%	15%	20%	24%
Barren	less than 1%	less than 1%	less than 1%	1%	less than 1%
Developed	2%	less than 1%	1%	3%	less than 1%
Agricultural	92%	51%	74%	56%	51%

It is assumed for analysis purposes that the majority of cannabis uses would occur within land previously developed for agriculture and that some may be located within annual grassland habitat. Conversion of annual grassland habitat within areas zoned for agriculture in the County has been considered in the General Plan EIR, so potential conversion of the habitat would not result in a new, previously undisclosed environmental impact. However, previously unidentified special-status species or other resources could occur within annual grassland habitat.

Noncultivation Cannabis Uses in Areas Zoned for Commercial or Industrial Use

As described in Section 3.0, Approach to the Environmental Analysis,” and Appendix D, it is assumed that 10 percent of the noncultivation cannabis operations (e.g., nurseries, processing, manufacturing) under Alternatives 2, 3, and 4 would be located within areas in the County zoned for commercial or industrial use. Based on County GIS data, approximately 70 percent of the commercial zoned areas are developed and approximately 80 percent of the industrial zone areas are developed. However, some areas zoned for commercial or industrial use contain marginally suitable wildlife habitat, including ruderal grassland, ponds, stands of trees, and isolated trees. Special-status plant species can occur within disturbed habitats, like ruderal grassland and roadsides. Burrowing owl can occur within marginal ruderal grassland habitat is suitable nesting burrows are present. Additionally, special-status birds and other native nesting birds protected by California Fish and Game Code, may nest within isolated trees surrounded by development. It is likely that areas zoned for commercial or industrial use would provide lower-quality habitat for special-status plants and wildlife than areas zoned for agricultural use; however, some of these species may still occur, especially those that are more tolerant of disturbed habitats.

THRESHOLDS OF SIGNIFICANCE

Thresholds of significance are based on Section 15065 and Appendix G of the State CEQA Guidelines. These thresholds address the biological resource conditions and associated policies and regulations in the County (e.g., General Plan and Yolo HCP/NCCP) as well as potential effects associated cultivation operations (land disturbance, building construction, and use of lighting).

The project would result in a significant impact on biological resources if it would:

- have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- have a substantial adverse effect on state-protected or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance where such a conflict would result in an adverse change in the environment;
- conflict with the provisions of the HCP/NCCP, or other approved local, regional, or state HCP; or
- substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; or substantially reduce the number or restrict the range of an endangered, rare, or threatened species.

IMPACTS AND MITIGATION MEASURES

Impact BIO-1: Adversely Affect Special-Status Species

Adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO could result in land use conversion which could adversely affect several special-status wildlife species under each of the five alternatives. Implementation of the CLUO could result in disturbance, injury, or direct mortality or reduced breeding productivity of these species. Special-status wildlife species are protected under the ESA, CESA, the California Fish and Game Code, CEQA, and other regulations. Construction of cannabis uses as a result of implementation of the proposed CLUO could also result in disturbance to or loss of several special-status plant species, if they are present. Additionally, construction could result in introduction or spread of invasive plants during vegetation removal, ground disturbance, or introduction of off-site soils, which could result in exclusion of special-status plants. The loss of special-status plants could substantially affect the abundance, distribution, and viability of local and regional populations of these species. The loss of special-status wildlife and plant species and habitat would be a **significant** impact for all alternatives.

A total of 46 special-status wildlife species were identified as having potential to occur in Yolo County, including reptiles, amphibians, nesting birds, fish, invertebrates, and mammals (Table 3.4-2). Eleven of these special-status wildlife species are considered covered species under the Yolo HCP/NCCP. A total of 34 special-status plants were identified as having potential to occur within Yolo County (Table 3.4-3). One of these plant species is considered a covered species under the Yolo HCP/NCCP. Relocation of existing cannabis cultivation sites and construction and operation of new cannabis uses could result in adverse effects to special-status species if present within or adjacent to the activity footprint.

The CLUO includes the following performance standards that address special-status species and habitat impacts:

- Section 8-2.1408(D) requires cannabis applicants to survey and disclose on-site biological resources pursuant to Section 8-2.1410(C)(2), and to avoid special-status species and habitats where feasible and mitigated pursuant to the Yolo HCP/NCCP and applicable state requirements when impacts cannot be avoided. Permittees must demonstrate compliance with an LSA Agreement pursuant to State Fish and Game Code 1602 if one is required. Permittees shall comply with the minimum 100-foot setback requirement set forth in Policy CO-2.22 of the General Plan as applicable. Permittees must demonstrate compliance with the Yolo HCP/NCCP, if applicable, and subsequent relevant adopted plans.
- Section 8-2.1408(A) requires adherence to California state law and to CDPR regulations that specifies proper application and storage of pesticides, rodenticides, and insecticides to protect human health and the environment. Specifically, the proposed ordinance includes the following requirements:
 - Agricultural Applications – This category includes fertilizers, herbicides, pesticides, rodenticides, fumigants, and other inputs/applications for improved agricultural performance. Permittees shall comply with applicable County and State requirements for use to the satisfaction of the County Agricultural Commissioner and other responsible official. CDFA licensees shall implement the Pest Management Plan required pursuant to Section 8106(a)(3) and Section 8106(b)(2) of the CDFA Regulations, as applicable. CDFA licensees shall comply with pesticide laws and regulations as enforced by the CDPR pursuant to Section 8307, Pesticide Use Requirements, of the CDFA Regulations.

In addition, state testing requirements for cannabis goods to be accepted limit the extent that pesticides can be used. The reader is referred to Chapter 2, “Description of Preferred Alternative and Equal Weight Alternatives,” for a further description of state testing requirements.

- Section 8-2.1408(OO) requires that cannabis site design shall comply with all applicable codes, standards, regulations, and guidelines, and shall demonstrate consideration of odor control, air quality, noise control, workflow, safety and security, lighting, aesthetics, protection of resources (e.g., biological, cultural, trees) and other appropriate impact mitigation.

- Section 8-2.1408(RR) requires tree protections that include a prohibition on detrimental activity within the dripline. Removal of native trees and tree clusters or stands, particularly oak woodlands, remnant valley oaks, and riparian woodlands, is prohibited.

In addition to these requirements, as discussed above in Section 3.4.2 “Regulatory Setting,” cannabis cultivation sites are subject to compliance with Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2019-0001-DWQ, which includes the following requirements (terms). It is assumed for the purposes of this analysis that compliance with Terms 4, 10, and 37 would be satisfied for Yolo HCP/NCCP covered state-listed-only species via compliance with the requirements of the Yolo HCP/NCCP.

- Term 4: Cannabis cultivators shall not take any action which results in the taking of Special-Status Plants (state listed and California Native Plant Society 1B.1 and 1B.2), Fully Protected species (Fish and Game Code sections 3511, 4700, 5050, and 5515), or a threatened, endangered, or candidate species under either the California Endangered Species Act (ESA) (Fish & Game Code §§ 2050 et seq.) or the federal ESA (16 U.S.C. § 1531 et seq.). If a “take,” as defined by the California ESA (Fish and Game Code section 86) or the federal ESA (16 U.S.C. § 1532(21)), may result from any act authorized under this Policy, the cannabis cultivator must obtain authorization from CDFW, National Marine Fisheries Service, and United States Fish and Wildlife Service, as applicable, to incidentally take such species prior to land disturbance or operation associated with the cannabis cultivation activities. The cannabis cultivator is responsible for meeting all requirements under the California ESA and the federal ESA. (Note: Authorization for take of a federally listed species under FESA is not currently allowed for cannabis uses).
- Term 10: Prior to commencing any cannabis land development or site expansion activities the cannabis cultivator shall retain a Qualified Biologist to identify sensitive plant, wildlife species, or natural communities at the proposed development site. If sensitive plant, wildlife species, or natural communities are identified, the cannabis cultivator and Qualified Biologist shall consult with CDFW and CAL FIRE to designate a no-disturbance buffer to protect identified sensitive plant, wildlife species, and natural communities. A copy of the report shall be submitted to the appropriate Regional Water Board.
- Term 37: Cannabis cultivators shall comply with the minimum riparian setbacks described in Table 3.4-5 for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, petroleum powered pump locations, water storage areas, and chemical toilet placement).

Table 3.4-5 Minimum Riparian Setbacks^{1,2}

Common Name	Watercourse Class ³	Distance
Perennial watercourses, waterbodies (e.g., lakes, ponds), or springs ⁴	I	150 feet
Intermittent watercourses or wetlands	II	100 feet
Ephemeral watercourses	III	50 feet
Man-made irrigation canals, water supply reservoirs, or hydroelectric canals that support native aquatic species	IV	Established Riparian Vegetation Zone
All other man-made irrigation canals, water supply reservoirs, or hydroelectric canals	IV	N/A

¹ A regional water quality control board (RWQCB) may adopt site-specific waste discharge requirements (WDRs) or an enforcement order for a cannabis cultivator with requirements that are inconsistent with the setbacks in this table if the Executive Officer determines that the site-specific WDRs or enforcement order contains sufficient requirements to be protective of water quality.

² Cannabis cultivators enrolled in a RWQCB order adopting WDRs or a waiver of WDRs for cannabis cultivation activities prior to October 17, 2017, may retain reduced setbacks applicable under that RWQCB order unless the RWQCB Executive Officer determines that the reduced setbacks applicable under that order are not protective of water quality.

³ Except where more restrictive, the stream class designations are equivalent to the Forest Practice Rules Water Course and Lake Protection Zone definitions (California Code of Regulations, Title 14, Chapter 4. Forest Practice Rules, Subchapters 4, 5, and 6 Forest District Rules, Article 6 Water Course and Lake Protection).

⁴ Spring riparian setbacks default to the applicable watercourse riparian setback 150 feet downstream and/or upstream of the spring's confluence with the watercourse or 150 feet downstream of the point where the spring forms a watercourse with defined bed and banks.

All licensed cannabis cultivation operations are required to comply with the numeric and narrative instream flow requirements for all diversions of surface water and groundwater as part of compliance with Attachment A (Section 3 – Numeric and Narrative Instream Flow Requirements) of SWRCB Order WQ 2019-0001-DWQ. These requirements include design requirements for fish screens, diversion structures, off-stream storage reservoirs, and storage bladders.

Diversion provisions of the standards are based on three types of requirements to ensure sufficient instream flows:

- dry season forbearance period and limitations on the wet season diversions,
- narrative instream flow requirements, and
- numeric instream flow requirements during the wet season.

Instream flow requirements during the wet season were established by the SWRCB in consultation with CDFW for the protection of aquatic species life history needs, including endangered anadromous salmonids. Numeric instream flow requirements (minimum instream flows required to protect aquatic species) are established for each region in the state in Attachment A of SWRCB Order WQ 2019-0001-DWQ. Aquatic base flows have also been established to address instream flow impacts from groundwater diversions. The aquatic base flow is the set of chemical, physical, and biological conditions that represent limiting conditions for aquatic life in stream environments.

Surface water and groundwater diversions for cannabis cultivation operations are limited in the following manner:

- Surface water diversions will be prohibited from April 1 to October 31 each year (forbearance period).
- Surface water diversions may occur from November 1 to March 31 each year subject to the following requirements:
 - Surface water diversions will not occur until the real-time daily average flow is greater than the minimum monthly instream flow requirement at a compliance gage for 7 consecutive days or after December 15 when flows are greater than the numeric flow requirement.
 - Surface water diversions must bypass a minimum of 50 percent of the streamflow past the point of diversion as estimated based on the cultivator's visual observation.
- The SWRCB will monitor instream flows during the dry season and evaluate whether the number or location of groundwater diversions to determine whether imposition of a groundwater forbearance period or other measures. The SWRCB will notify cannabis cultivators of the possibility of a groundwater forbearance period or that other measures may be imposed to address the low-flow condition.

The SWRCB's flow standards and diversion requirements were developed to protect fish spawning, migration, and rearing for endangered anadromous salmonids, and flows needed to maintain natural flow variability within each watershed. The diversion requirements would ensure that the individual and cumulative effects of water diversions and discharges associated with cannabis cultivation do not affect instream flows necessary for fish spawning, migration, and rearing for endangered anadromous salmonids, and flows needed to maintain natural flow variability (SWRCB 2017a). The policy was scientifically peer reviewed by four experts. The peer review determined that water quality, instream flow, and diversion requirements of the policy were based on sound scientific knowledge, methods, and data (SWRCB 2017b).

Pursuant to CCR Section 8216, if the SWRCB or CDFW notifies CDFA in writing that cannabis cultivation is causing significant adverse impacts on the environment in a watershed or other geographic area pursuant to Section 26069, Subdivision (c)(1), of the Business and Professions Code, CDFA shall not issue new licenses or increase the total number of plant identifiers within that watershed or area while the moratorium is in effect.

CLUO performance standards that are based on General Plan policies identified in Section 3.4.2, “Regulatory Setting,” and SWRCB requirements would reduce the likelihood of adverse effects on some special-status wildlife and plants. Adverse impacts on wildlife as a result of exposure to pesticides, including rodenticides, would be avoided by implementation of Section 8-2.1408(A) of the CLUO as well as state pesticide requirements, which would both limit the use and regulate the proper use of these chemicals within cannabis cultivation sites. CLUO performance standards and General Plan and SWRCB requirements would also reduce impacts on aquatic species (e.g., special-status fish, vernal pool invertebrates, wetland plant species) by requiring riparian setbacks from aquatic habitat and limiting surface water diversions. Section 1408(D) of the CLUO and Term 10 of Attachment A of SWRCB Order WQ 2019-0001-DWQ would reduce impacts on special-status species by requiring identification of these species within the activity footprint, avoidance of the species if found (e.g., by implementation of no-disturbance buffers), or mitigation for impacts on the species (e.g., consultation with applicable agencies, participation in the Yolo HCP/NCCP).

Construction impacts as a result of adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO, are assumed to include vegetation removal, grading and/or trenching, or conversion of natural habitats (see Appendix D). These activities could result in disturbance, injury, direct mortality, reduced breeding productivity, or loss of habitat for special-status species.

Operation impacts as a result of adoption and implementation of the proposed CLUO may include presence of equipment and staff that could result in visual or auditory disturbance to special-status wildlife if present nearby. Potential impacts to biological resources from the use of nighttime lighting would be mitigated through compliance with CLUO standards that prohibit lighting in hoop houses (Section 8-2.1408[X]), and standards that include shielding of exterior lighting and containment of mixed-light and indoor cultivation lighting within buildings to avoid off-site impacts (Section 8-2.1408[Z]).

Alternatives 1, 2, 3, and 5 assume that personal use outdoor cultivation may occur in any zoning district on a parcel with a legal residence. Personal use outdoor cultivation of up to six plants is assumed to occur within pots or garden areas on the grounds of the parcel. Alternative 4 would limit personal use cultivation to indoor only. These activities would likely involve no more than 100 square feet of land area and would be required to be outside of front yard and side yard setback areas. Given the minor extent of this potential ground disturbance contained within existing developed parcels, no significant impacts on special-status species and their habitat are expected.

Alternative 1: Cultivation (Ancillary Nurseries and Processing Only) with Existing Limits (Existing Operations with CLUO) (CEQA Preferred Alternative)

Nine of the 78 existing and eligible cannabis cultivation sites are assumed to relocate under Alternative 1 due to proposed zoning standards under the CLUO, and it is further assumed that these sites would relocate nearby within other areas zoned for agricultural uses. Of the land assumed available for cultivation site relocation under this alternative, approximately over 90 percent contains agricultural uses and approximately 2 percent contains urban/suburban development (Table 3.4-4; Exhibit 3.4-6). The land cover near the cultivation sites that would involve relocation includes primarily orchard and vineyard (approximately 49 percent) and row crop/grain (39 percent), as well as smaller areas of rice (approximately 6 percent), pastureland (approximately 3 percent), and uncultivated land (approximately 3 percent) (Exhibit 3.4-6). Relocation activities would include closure and restoration of the existing cultivation sites and construction of new cultivation sites that is assumed to convert approximately 18 acres of existing land cover (2 acres per cultivation site based on assumptions identified in Appendix D).

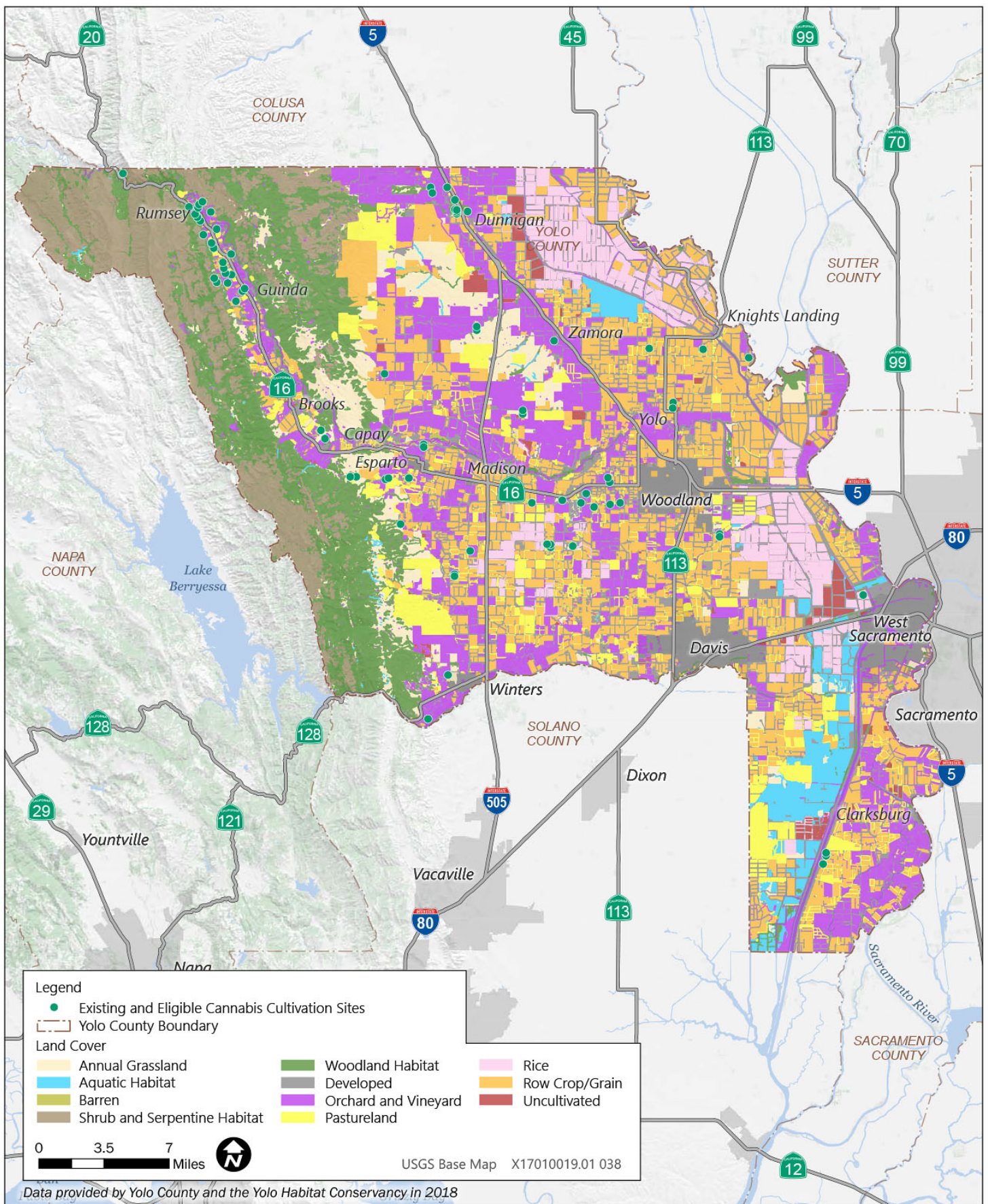


Exhibit 3.4-6

Land Cover and Alternative 1

While the land available for relocation of these nine cannabis cultivation sites contains predominately agricultural land, many types of agriculture act as a surrogate for natural habitat for special-status species. Swainson's hawk and white-tailed kite forage within row crops/grain crops, pasture, and fallow fields in agricultural areas. Burrowing owls frequently occur within agricultural areas. Agricultural areas can support wetland habitat, including vernal pools, which provide suitable habitat for many special-status species, including California tiger salamander, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Cannabis cultivation sites would be required by CLUO standards, and General Plan and SWRCB policies to avoid wetland habitat; however, some wetland habitats have not been previously mapped, and as a result, presence of wetland habitat within a proposed site cannot be ruled out. Irrigation ditches associated with agricultural operations provide suitable habitat for several special-status species, including western pond turtle and giant garter snake. Giant garter snake, in particular, has adapted to thriving in flooded rice fields. Additionally, many special-status plant species that occur within valley grassland habitats can also occur within pastureland; and several species also occur within disturbed habitats (e.g., irrigation ditches, roadsides).

While CLUO and SWRCB requirements would reduce the likelihood of adverse effects on special-status wildlife and plants, as described above, there would still be potential for impact because presence of special-status species may only be determined through protocol-level surveys (including for special-status species not covered by the Yolo HCP/NCCP) and specific avoidance measures to prevent disturbance or direct loss of these species would be required in excess of CLUO performance standards and SWRCB requirements (e.g., no disturbance buffers).

This impact would be **significant** under Alternative 1.

Alternative 2: All License Types with Moderate Limits

Thirty of the 78 existing and eligible cannabis cultivation sites are assumed to relocate under Alternative 2 due to proposed zoning and buffering standards under the CLUO, and it is further assumed that these sites would relocate nearby. The 30 relocated sites and the additional 54 new cannabis cultivation and noncultivation uses assumed under this alternative could be located within a number of different habitat types (Exhibit 3.4-7). Of the land assumed available under this alternative in which cultivation sites could relocate and construction of new cannabis operations could occur, approximately over 50 percent consists of agricultural uses and approximately 16 percent consists of annual grassland (Table 3.4-4, Exhibit 3.4-7). The available acreage within the agricultural land cover category includes primarily row crop/grain (approximately 42 percent) and orchard and vineyard (approximately 38 percent) as well as smaller areas of pastureland (approximately 11 percent), rice (approximately 7 percent), and uncultivated land (approximately 2 percent) (Exhibit 3.4-7).

Relocation activities would include closure and restoration of the existing cultivation sites and construction of a new cultivation site, which is assumed to convert approximately 60 acres of existing land cover (2 acres per cultivation site based on assumptions identified in Appendix D). Construction of new cannabis uses, including two new cultivation sites and new noncultivation uses, would include conversion of approximately 104 acres of existing land cover under Alternative 2 (based on assumptions identified in Table 2-5 and Appendix D).

Because approximately half of the land available for relocation or new cannabis uses contains agricultural uses, assuming that existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 2 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to annual grassland habitat, and approximately 16 percent of the available land assumed under Alternative 2 contains annual grassland habitat. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could occur within annual grassland habitat.

Grassland habitat within the County supports several special-status plant and wildlife species. Additionally, while the assumed available land under Alternative 2 contains predominately agricultural land, many types of agriculture act as a surrogate for natural habitat for special-status species. Swainson's hawk and white-tailed kite forage within row crops/grain crops, pasture, and fallow fields in agricultural areas. Burrowing owls

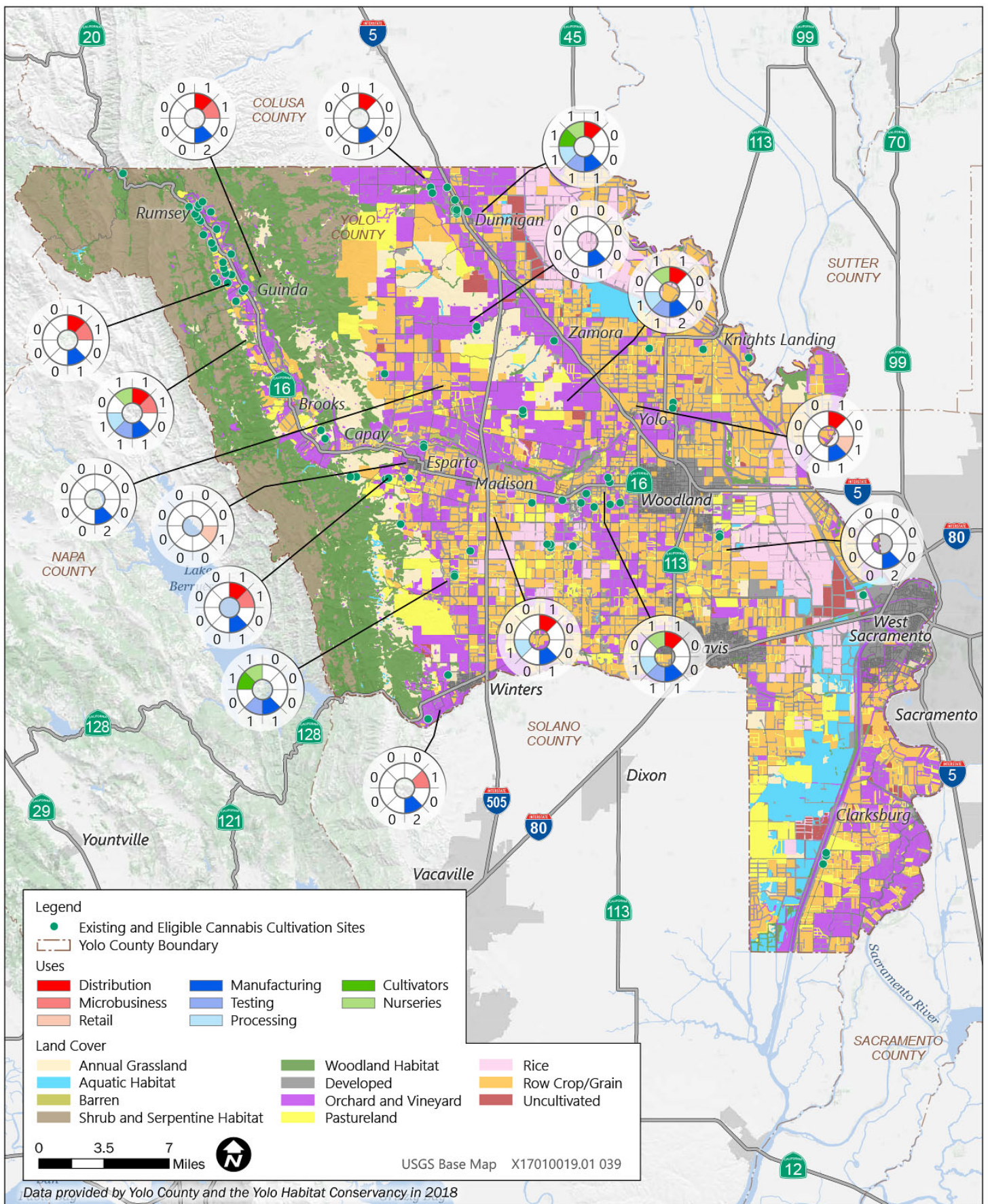


Exhibit 3.4-7

Land Cover and Alternative 2

frequently occur within agricultural areas. Agricultural areas can support wetland habitat, including vernal pools, which provide suitable habitat for many special-status species, including California tiger salamander, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Cannabis cultivation sites would be required by CLUO standards, and General Plan and SWRCB policies to avoid wetland habitat; however, some wetland habitats have not been previously mapped, and as a result, presence of wetland habitat within a proposed site cannot be ruled out. Often, these wetland habitats have not been previously mapped. Irrigation ditches associated with agricultural operations provide suitable habitat for several special-status species, including western pond turtle and giant garter snake. Giant garter snake, in particular, has adapted to thriving in flooded rice fields. Additionally, many special-status plant species that occur within valley grassland habitats can also occur within pastureland; and several species also occur within disturbed habitats (e.g., irrigation ditches, roadsides).

Relocation of the 30 existing and eligible cannabis cultivation sites and the assumed development of 54 new cannabis uses would include construction activities such as grading, trenching, ground disturbance, and vegetation removal of up to 164 acres. Operation of the cultivation sites and other cannabis uses could include visual or auditory disturbance sources, including equipment, vehicles, and personnel. These activities could result in disturbance or loss of special-status plant or wildlife species if present within the activity footprint.

While CLUO and SWRCB requirements would reduce the likelihood of adverse effects on special-status wildlife and plants, there would still be potential for impact because presence of special-status species may only be determined through focused or protocol-level surveys (including for special-status species not covered by the Yolo HCP/NCCP) and specific avoidance measures to prevent disturbance or direct loss of these species would be required in excess of CLUO performance standards and SWRCB requirements (e.g., no disturbance buffers).

This impact would be **significant** under Alternative 2.

Alternative 3: All License Types with High Limits

Nine of the 78 existing and eligible cannabis cultivation sites would be assumed to relocate under Alternative 3 due to proposed zoning standards under the CLUO, and it is further assumed that these sites would relocate nearby. The nine relocated sites and the additional 186 new cannabis cultivation and noncultivation uses assumed under this alternative could be located within a number of different habitat types (Exhibit 3.4-8). The available land assumed under Alternative 3 in which cultivation sites could relocate and construction of new cannabis uses could occur contains approximately 74 percent agricultural uses and 10 percent annual grassland (Table 3.4-4; Exhibit 3.4-8). The available acreage within the agricultural land cover category includes primarily row crop/grain (approximately 48 percent) and orchard and vineyard (approximately 30 percent) as well as smaller areas of rice (approximately 11 percent), pastureland (approximately 8 percent), and uncultivated land (approximately 3 percent) (Exhibit 3.4-8).

Relocation activities would include closure and restoration of the existing cultivation sites and construction of a new cultivation site that is assumed to convert approximately 18 acres of existing land cover (2 acres per cultivation site based on assumptions identified in Appendix D). Construction of new cannabis uses, including 82 new cultivation sites and 104 noncultivation sites assumed under Alternative 3, would include conversion of approximately 361 acres of existing land cover (based on assumptions identified in Table 2-5 and Appendix D).

Because a majority of the land available for relocation or new development contains agricultural uses, assuming that existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 3 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. While rice makes up only 11 percent of the total available agricultural land cover assumed under Alternative 3, the total acreage of rice land cover available for relocation or new development is nearly five times greater than the available acreage of rice under any other alternative. Further, some of the available

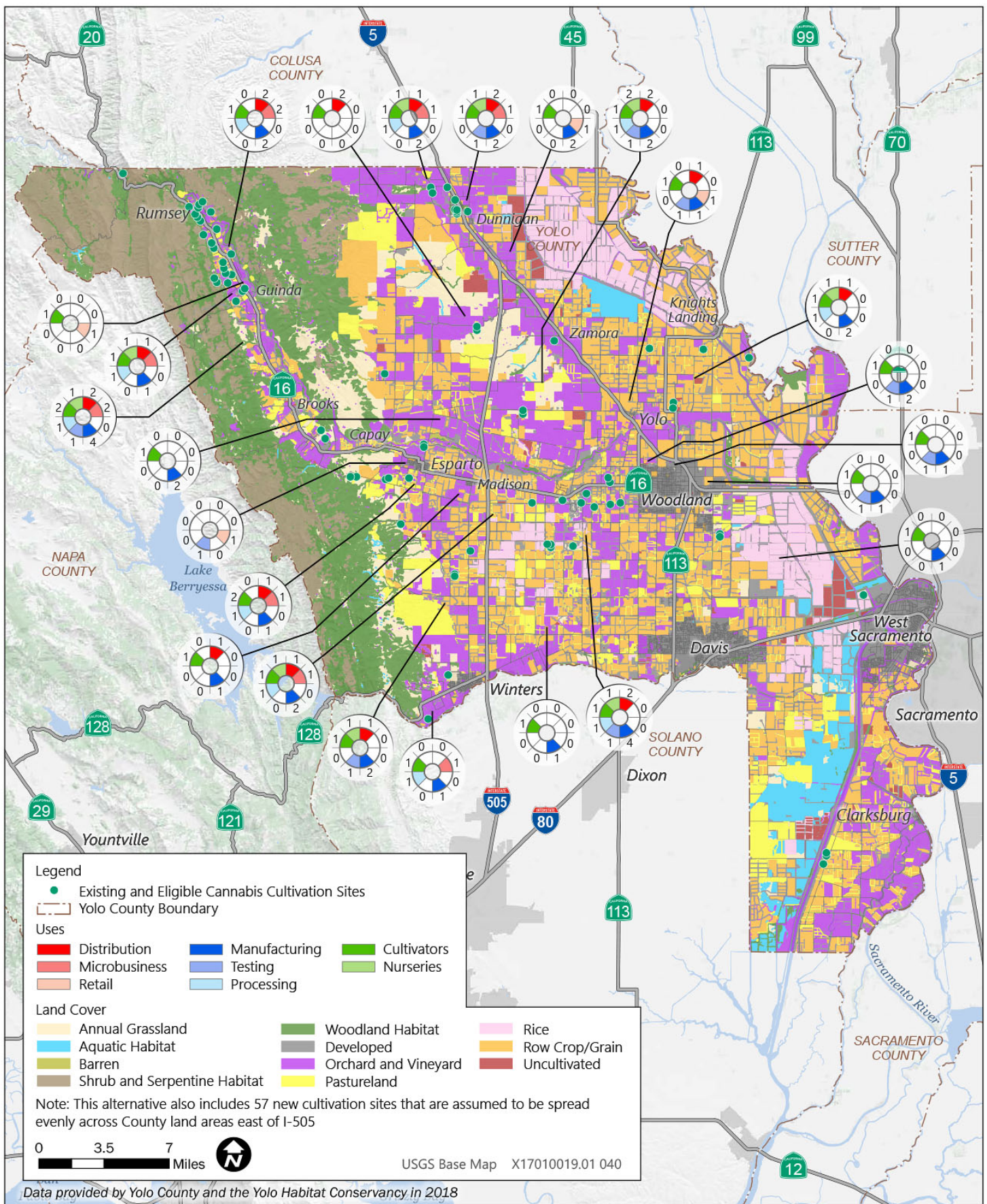


Exhibit 3.4-8

Land Cover and Alternative 3

agricultural land in the County is located adjacent to annual grassland habitat, and approximately 10 percent of the available acreage under Alternative 3 contains annual grassland. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could occur within annual grassland habitat.

Grassland habitat within the County supports several special-status plant and wildlife species. Additionally, while the available land assumed under Alternative 3 contains predominately agricultural land, many types of agriculture act as a surrogate for natural habitat for special-status species. Swainson's hawk and white-tailed kite forage within row crops/grain crops, pasture, and fallow fields in agricultural areas. Burrowing owls frequently occur within agricultural areas. Agricultural areas can support wetland habitat, including vernal pools, which provide suitable habitat for many special-status species, including California tiger salamander, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Cannabis cultivation sites would be required by CLUO standards, and General Plan and SWRCB policies to avoid wetland habitat; however, some wetland habitats have not been previously mapped, and as a result, presence of wetland habitat within a proposed site cannot be ruled out. Irrigation ditches associated with agricultural operations provide suitable habitat for several special-status species, including western pond turtle and giant garter snake. Giant garter snake, in particular, has adapted to thriving in flooded rice fields. Because the available acreage of rice under Alternative 3 is greater than any other alternative, it is reasonable to assume that the potential for impacts on giant garter snake would also be greater. Additionally, many special-status plant species that occur within valley grassland habitats can also occur within pastureland; and several species also occur within disturbed habitats (e.g., irrigation ditches, roadsides).

Relocation of the nine existing and eligible cannabis cultivation sites and development of 186 new cannabis operations is assumed to include construction activities such as grading, trenching, ground disturbance, and vegetation removal up to 379 acres. Operation of the cultivation sites and other cannabis uses could include visual or auditory disturbance sources, including equipment, vehicles, and personnel. These activities could result in disturbance or loss of special-status plant or wildlife species if present within the activity footprint.

While CLUO and SWRCB requirements would reduce the likelihood of adverse effects on special-status wildlife and plants, there would still be potential for impact because presence of special-status species may only be determined through focused or protocol-level surveys (including for special-status species not covered by the Yolo HCP/NCCP) and specific avoidance measures to prevent disturbance or direct loss of these species would be required in excess of CLUO performance standards and SWRCB requirements (e.g., no disturbance buffers).

This impact would be **significant** under Alternative 3.

Alternative 4: Mixed-Light/Indoor License Types Only with Moderate Limits, No Hoop Houses or Outdoor Use Types

Nine of the 78 existing and eligible cannabis cultivation sites are assumed to relocate under Alternative 4 due to proposed zoning standards under the CLUO, and it is further assumed that these sites would relocate nearby. Additionally, 75 of the existing and eligible cannabis sites with outdoor cultivation are assumed to entirely convert to indoor or mixed-light (greenhouse) cultivation. This alternative is also assumed to result in the construction of two new mixed-light or indoor cultivation sites and a total of 52 new noncultivation uses. While impacts related to conversion to mixed-light or indoor operations are not expected to be as substantial as a complete relocation, conversion may require construction of new on-site roadways/parking, buildings, and infrastructure. The nine relocated sites, 75 converted sites, and the additional 54 new cannabis cultivation and noncultivation uses assumed in this alternative could be located within a number of different habitat types (Exhibit 3.4-9). The available land assumed in this alternative in which cultivation sites could relocate and construction of new cannabis operations could occur contains approximately 56 percent agricultural uses and 14 percent annual grassland (Table 3.4-4; Exhibit 3.4-9). The available acreage within the agricultural land cover category includes primarily row crop/grain (approximately 44 percent) and orchard and vineyard (approximately 39 percent) as well as smaller areas of pastureland (approximately 9 percent), rice (approximately 5 percent), and uncultivated land (approximately 2 percent) (Exhibit 3.4-9).

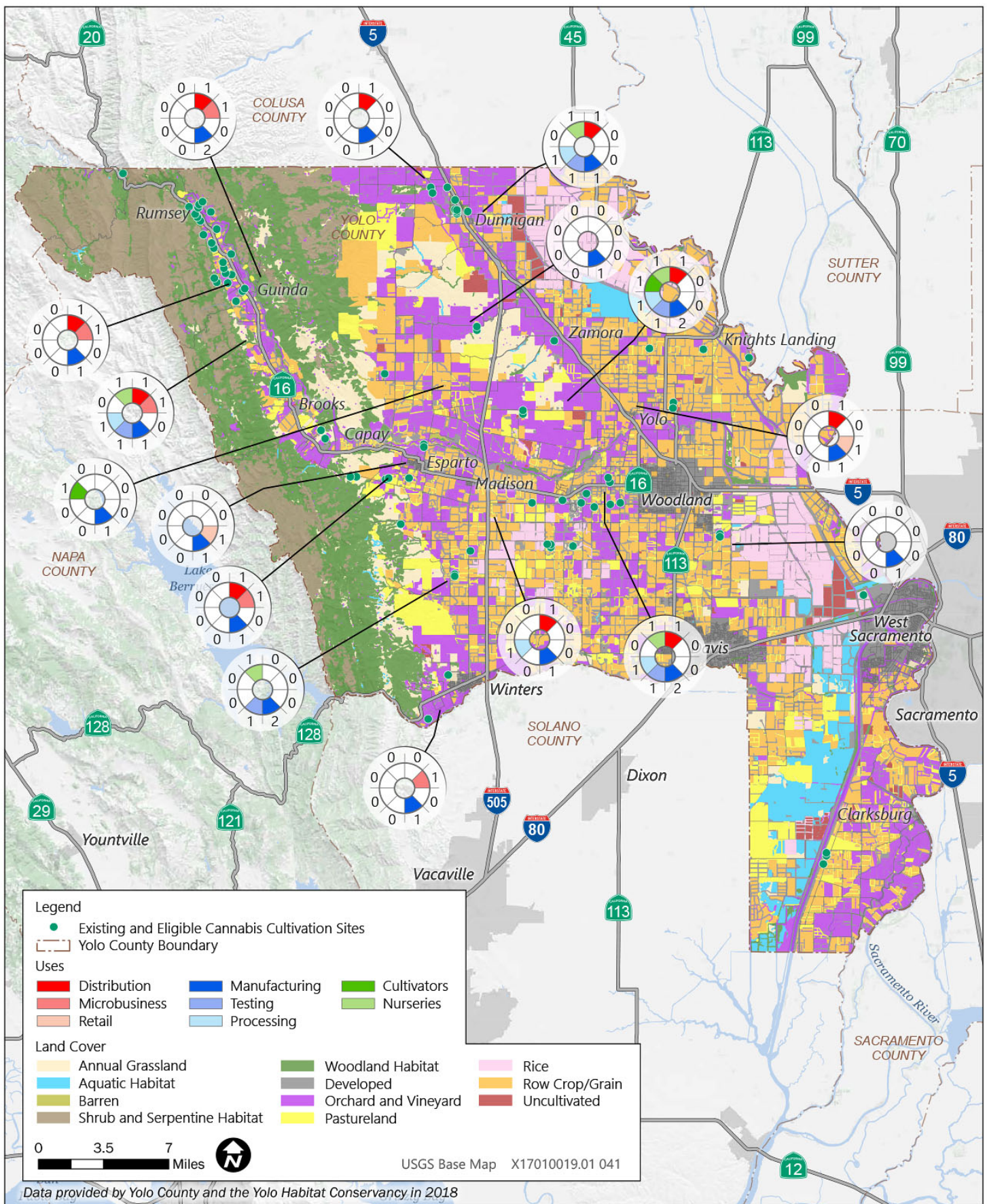


Exhibit 3.4-9

Land Cover and Alternative 4

Relocation activities would include closure and restoration of the existing cultivation sites and construction of a new cultivation site that is assumed to convert approximately 18 acres of existing land cover (2 acres per cultivation site based on assumptions identified in Appendix D). Construction of new cannabis uses assumed under Alternative 4, including two new cultivation sites, would include conversion of approximately 104 acres of existing land cover (based on assumptions identified in Appendix D).

Because over half of the land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 4 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. Additionally, some of the available agricultural land in the County is located adjacent to annual grassland habitat, and approximately 14 percent of the available acreage assumed under Alternative 4 contains annual grassland habitat. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could occur within annual grassland habitat.

Grassland habitat within the County supports several special-status plant and wildlife species. Additionally, while the available land assumed under Alternative 4 contains predominately agricultural land, many types of agriculture act as a surrogate for natural habitat for special-status species. Swainson's hawk and white-tailed kite forage within row crops/grain crops, pasture, and fallow fields in agricultural areas. Burrowing owls frequently occur within agricultural areas. Agricultural areas can support wetland habitat, including vernal pools, which provide suitable habitat for many special-status species, including California tiger salamander, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Cannabis cultivation sites would be required by CLUO standards, and General Plan and SWRCB policies to avoid wetland habitat; however, some wetland habitats have not been previously mapped, and as a result, presence of wetland habitat within a proposed site cannot be ruled out. Irrigation ditches associated with agricultural operations provide suitable habitat for several special-status species, including western pond turtle and giant garter snake. Giant garter snake, in particular, has adapted to thriving in flooded rice fields. Additionally, many special-status plant species that occur within valley grassland habitats can also occur within pastureland; and several species also occur within disturbed habitats (e.g., irrigation ditches, roadsides).

Relocation of the nine existing and eligible cannabis cultivation sites, conversion of the 75 existing and eligible cannabis cultivation sites to indoor or mixed light operations, and development of 54 new cannabis uses assumed under Alternative 4 would include construction activities such as grading, trenching, ground disturbance, and vegetation removal up to 122 acres. Operation of the cultivation sites and other cannabis uses could include visual or auditory disturbance sources, including equipment, vehicles, and personnel. These activities could result in disturbance or loss of special-status plant or wildlife species if present within the activity footprint.

While CLUO and SWRCB requirements would reduce the likelihood of adverse effects on special-status wildlife and plants, there would still be potential for impact because presence of special-status species may only be determined through focused or protocol-level surveys (including for special-status species not covered by the Yolo HCP/NCCP) and specific avoidance measures to prevent disturbance or direct loss of these species would be required in excess of CLUO performance standards and SWRCB requirements (e.g., no disturbance buffers).

This impact would be **significant** under Alternative 4.

Alternative 5: All License Types with Moderate Limits, within Agricultural Zones Only, No Retail

Thirty of the 78 existing and eligible cannabis cultivation sites are assumed to relocate under Alternative 5 due to proposed zoning and buffering standards under the CLUO, and it is further assumed that these sites would relocate nearby. The 30 relocated sites and the additional 52 new cannabis cultivation and noncultivation uses assumed under this alternative could be located within a number of different habitat types within areas zoned for agriculture (Exhibit 3.4-10). The available land assumed under this alternative in which cultivation sites could relocate and construction of new cannabis operations could occur contains approximately 51 percent agricultural uses and 16 percent annual grassland (Table 3.4-4; Exhibit 3.4-10).

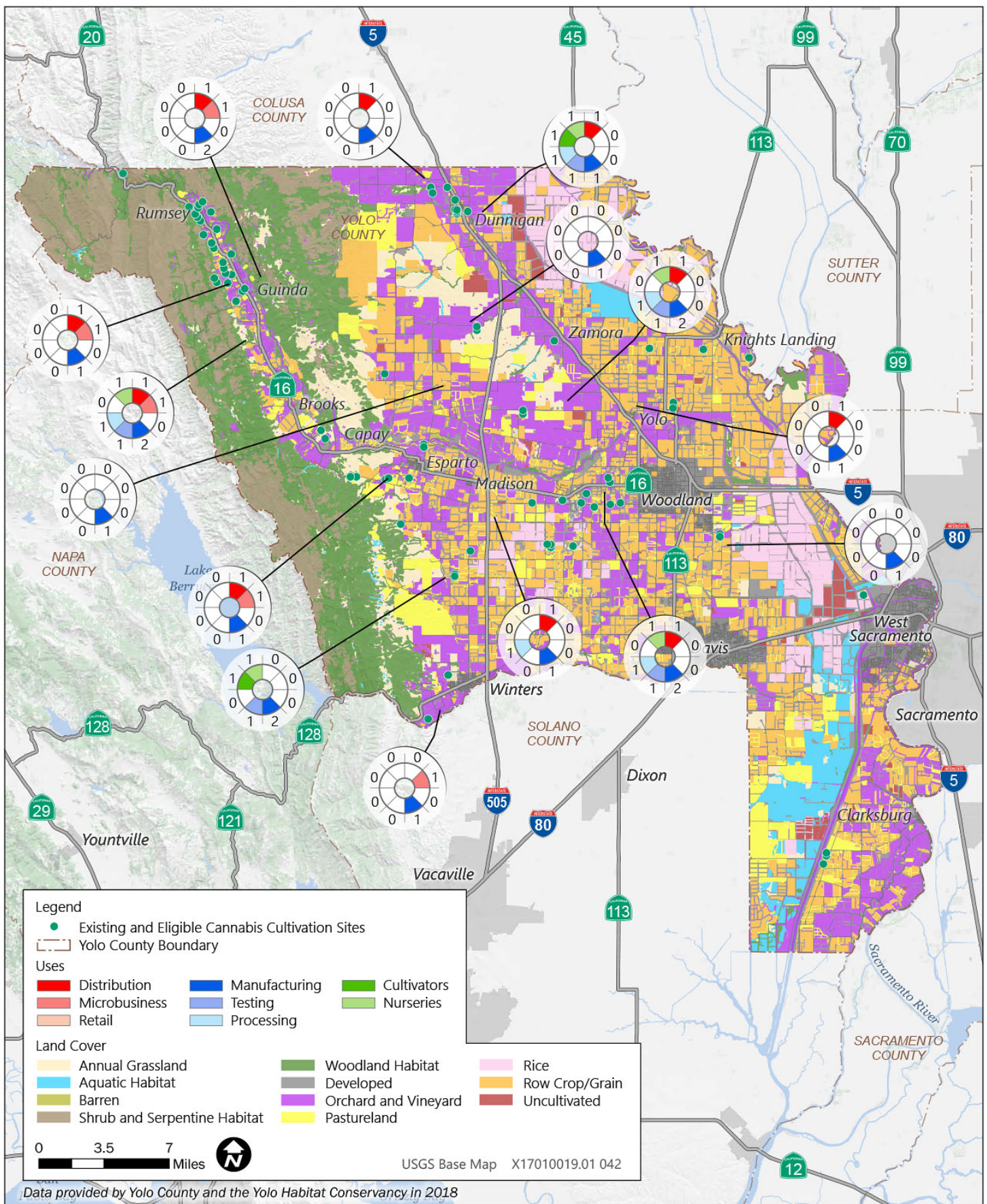


Exhibit 3.4-10

Land Cover and Alternative 5

The available acreage within the agricultural land cover category includes primarily row crop/grain (approximately 42 percent) and orchard and vineyard (approximately 38 percent) as well as smaller areas of pastureland (approximately 11 percent), rice (approximately 7 percent), and uncultivated land (approximately 2 percent) (Exhibit 3.4-10).

Relocation activities would include closure and restoration of the existing cultivation sites and construction of new cultivation sites that is assumed to convert approximately 60 acres of existing land cover (2 acres per cultivation site based on assumptions identified in Appendix D). Construction of new cannabis uses, including two new cultivation sites assumed under Alternative 5, would include conversion of approximately 103 acres of existing land cover (based on assumptions identified in Appendix D).

Because half of the land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 5 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. Additionally, some of the available agricultural land in the County is located adjacent to annual grassland habitat, and approximately 16 percent of the available acreage assumed under Alternative 5 contains annual grassland habitat. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could occur within annual grassland habitat.

Grassland habitat within the County supports several special-status plant and wildlife species. Under Alternative 5 all the land assumed to be available is designated Agriculture (AG). Many types of agriculture act as a surrogate for natural habitat for special-status species. Swainson's hawk and white-tailed kite forage within row crops/grain crops, pasture, and fallow fields in agricultural areas. Burrowing owls frequently occur within agricultural areas. Agricultural areas can support wetland habitat, including vernal pools, which provide suitable habitat for many special-status species, including California tiger salamander, vernal pool fairy shrimp, and vernal pool tadpole shrimp. Cannabis cultivation sites would be required by CLUO standards, and General Plan and SWRCB policies to avoid wetland habitat; however, some wetland habitats have not been previously mapped, and as a result, presence of wetland habitat within a proposed site cannot be ruled out. Irrigation ditches associated with agricultural operations provide suitable habitat for several special-status species, including western pond turtle and giant garter snake. Giant garter snake, in particular, has adapted to thriving in flooded rice fields. Additionally, many special-status plant species that occur within valley grassland habitats can also occur within pastureland; and several species also occur within disturbed habitats (e.g., irrigation ditches, roadsides).

Relocation of the 30 existing and eligible cannabis cultivation sites and development of 52 new cannabis uses assumed under Alternative 5 include construction activities such as grading, trenching, ground disturbance, and vegetation removal up to 163 acres. Operation of the cultivation sites and other cannabis uses could include visual or auditory disturbance sources, including equipment, vehicles, and personnel. These activities could result in disturbance or loss of special-status plant or wildlife species if present within the activity footprint.

While CLUO and SWRCB requirements would reduce the likelihood of adverse effects on special-status wildlife and plants, there would still be potential for impact because presence of special-status species may only be determined through focused or protocol-level surveys (including for special-status species not covered by the Yolo HCP/NCCP) and specific avoidance measures to prevent disturbance or direct loss of these species would be required in excess of CLUO performance standards and SWRCB requirements (e.g., no disturbance buffers).

This impact would be **significant** under Alternative 5.

Mitigation Measures

Mitigation Measure BIO-1: Conduct Preapproval Reconnaissance-Level Surveys for Biological Resources, Participate in the Yolo HCP/NCCP (including payment of fees and implementation of AMMs), and Obtain Applicable Permits (Alternatives 1, 2, 3, 4, and 5)

Expand the requirements of Section 8-2.1408(D) of the CLUO to include the following:

Reconnaissance-Level Survey

Permittees shall include a reconnaissance-level survey for biological resources conducted on the parcel of the cannabis use by a qualified biologist (i.e., familiar with wildlife, plants, and habitats in Yolo County). The reconnaissance-level survey shall include the following elements:

- Prior to the reconnaissance-level survey, the qualified biologist shall conduct a data review to determine the special-status plant, special-status wildlife, sensitive habitats (e.g., federally-protected wetlands, waters of the state, riparian habitat, sensitive natural communities) that have the potential to occur within the proposed activity footprint of the cannabis use. This will include review of the best available, current data including vegetation mapping data, the Yolo HCP/NCCP, and database searches of the CNDDDB and the CNPS Inventory of Rare and Endangered Plants of California.
- The qualified biologist shall map land cover, identify natural communities, and assess the habitat suitability of the proposed activity footprint of the cannabis use for special-status plants, special-status wildlife, and sensitive habitats identified as having potential to occur, consistent with the requirements of the Yolo HCP/NCCP for species covered by the plan, and consistent with Term 10 under Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2019-0001-DWQ, if applicable.
- The biologist shall provide a letter report to the applicant and the County with evidence to support a conclusion as to whether special-status species and sensitive habitats are present or are likely to occur within the proposed activity footprint of the cannabis use.
- If the reconnaissance-level survey identifies no potential for special-status plants, special-status wildlife, or sensitive habitats to occur, the applicant will not be subject to additional biological resources protection measures.
- If special-status plants, special-status wildlife, suitable habitat for these species, or sensitive habitats are identified within or adjacent to the proposed activity footprint of the cannabis use, then the following measures would apply.

Species Covered under the Yolo HCP/NCCP

If species covered under the Yolo HCP/NCCP are determined to be present or likely to be present within the proposed activity footprint of the cannabis use, the applicant shall assume presence of these species and satisfy the requirements of the HCP/NCCP.

- If species covered under the Yolo HCP/NCCP that are not listed under CESA or ESA or are only listed under CESA could occur within the proposed activity footprint of the cannabis use, payment of HCP/NCCP mitigation fees and implementation of applicable HCP/NCCP avoidance and minimization measures are required
- If species covered under the Yolo HCP/NCCP that are also listed under both CESA and ESA or only under ESA could occur within the proposed activity footprint of the cannabis use, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal permits, authorizations, and procedures/protocols under the HCP portion of the HCP/NCCP can be applied.

Special-Status Species Not Covered under the Yolo HCP/NCCP

If species not covered under the Yolo HCP/NCCP are determined to be present or likely to be present within the proposed activity footprint of the cannabis use, the applicant shall apply biological resource protection measures consistent with state and local requirements as described below:

- If CDFW Species of Special Concern, species listed only under CESA, nesting raptors and native birds protected under California Fish and Game Code, or plants considered by CDFW to be “rare, threatened, or endangered in California” could occur within the proposed activity footprint of the cannabis use, the applicant will retain a qualified biologist to conduct protocol-level surveys for these species where established, current protocols are available (e.g., Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities [CDFW 2018b], Staff Report on Burrowing Owl Mitigation [CDFG 2012]). If an established protocol is not available for a special-status species, then the qualified biologist will consult with CDFW or USFWS to determine the survey protocol.
- If CDFW Species of Special Concern, species listed only under CESA, or plants considered by CDFW to be “rare, threatened, or endangered in California” are identified within the proposed activity footprint of the cannabis use during protocol-level surveys, then these species will be avoided by implementing no-disturbance buffers or redesigning the project, if feasible.
- If avoidance of CDFW Species of Special Concern, species listed only under CESA, or plants considered by CDFW to be “rare, threatened, or endangered in California” is not feasible, then the applicant will consult with CDFW to determine applicable, established minimization measures for the given species, and will implement these measures. If impacts on species listed under CESA are unavoidable, then the applicant will submit an incidental take permit application to CDFW and receive take authorization before commencing development of the proposed activity footprint of the cannabis use. Conditions of incidental take authorization may include minimization measures to reduce impacts, and compensation for loss of the species including but not limited to purchasing credits from a CDFW-approved mitigation bank.
- If species listed under both CESA and ESA or only under ESA could occur within the proposed activity footprint of the cannabis use, the applicant must avoid impacts by implementing no-disturbance buffers or redesigning the project until such time as federal permits, authorizations, and procedures/protocols can be applied.

Sensitive Habitats

If sensitive habitats, including federally-protected wetlands, waters of the state, riparian habitat, or sensitive natural communities (e.g., elderberry savanna, valley oak woodland) are identified within the proposed activity footprint of the cannabis use, these habitats will be avoided by implementing no-disturbance buffers as required by the SWRCB and the Yolo HCP/NCCP, such that the habitat is completely protected from direct and indirect adverse effects of project development. All ground disturbance, vegetation removal, and staging activities will be prohibited within this no-disturbance buffer, which may require project redesign.

- A delineation of waters of the United States, including identification of hydrology, hydric soils, and hydrophytic vegetation, by a qualified biologist may be required to identify the exact extent of wetland features.
- If federally protected wetlands cannot be avoided by at least 50 feet, then the proposed commercial cannabis operation will not be permitted until such time as cannabis uses may receive federal wetland permitting coverage under Section 404 of the CWA.

Significance after Mitigation

Implementation of Mitigation Measure BIO-1 would reduce significant impacts on special-status species and sensitive habitat because it would require applicants to identify the species and habitats during reconnaissance-level and protocol-level surveys, to seek coverage for species covered under the Yolo HCP/NCCP by participating in the plan, to avoid these species and habitats as feasible and as required by

state and federal law, or to seek incidental take coverage for state-listed species. Implementation of this mitigation measure would be consistent with General Plan policies CO-2.3 (preservation of biological communities), CO-2.41 (address impacts to special-status species), and CC-4.11 (technical study biological resources for site-specific applications). Adoption and implementation of the proposed CLUO with Mitigation Measure BIO-1 is not expected to substantially reduce the number or restrict the range of any of these species and impacts would be **less than significant** for all alternatives.

Impact BIO-2: Adversely Affect Riparian Habitat and Other Sensitive Natural Communities

Adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO could adversely affect riparian habitat and other sensitive natural communities if they are present on the site. Construction-related activities, including ground disturbance, riparian vegetation removal, or disturbance of stream and river habitat would be a **significant** impact for all alternatives.

As noted above, between 18 and 379 acres of land conversion could result from the CLUO, depending on the alternative.

The County contains approximately 12,500 acres of riparian habitat (see Table 3.4-1). Riparian habitat within the County can be found adjacent to aquatic habitat such as streams and rivers. Four sensitive natural communities are also present: great valley cottonwood riparian forest, great valley mixed riparian forest, elderberry savanna, and valley oak woodland (Exhibit 3.4-3). See “Sensitive Natural Communities,” above, for detailed descriptions of communities. Streams supporting riparian and wetland vegetation are regulated by CDFW under Sections 1600–1616 of the California Fish and Game Code, which provides for the protection of fish, wildlife, and native plant resources.

Approximately 81,600 acres of oak woodland habitat occurs within the County. Oak woodlands are considered under the state Oak Woodlands Conservation Act and the Yolo County Oak Woodland Conservation and Enhancement Plan which requires the County to determine whether proposed development would result in conversion of oak woodlands that would have a significant adverse effect on the environment.

Relocation of existing cannabis cultivation sites and construction and operation of new cannabis uses could result in adverse effects to riparian habitat or other sensitive natural communities if present within or adjacent to the activity footprint through habitat removal and/or the spread of invasive plant species.

The CLUO includes the following performance standards that address impacts on sensitive natural communities:

- Section 8-2.1408(D) requires cannabis activities to avoid special-status species and habitats. Permittees must demonstrate compliance with an LSA Agreement pursuant to State Fish and Game Code 1602 if one is required. Permittees shall comply with the minimum 100-foot setback requirement set forth in Policy CO-2.22 of the General Plan as applicable. Permittees must demonstrate compliance with the Yolo HCP/NCCP, if applicable, and subsequent relevant adopted plans.
- Section 8-2.1408(OO) requires that cannabis site design shall comply with all applicable codes, standards, regulations, and guidelines, and shall demonstrate consideration of odor control, air quality, noise control, workflow, safety and security, lighting, aesthetics, protection of resources (e.g., biological, cultural, trees) and other appropriate impact mitigation.
- Section 8-2.1408(RR) prohibits the removal of native trees and tree clusters or stands, particularly oak woodlands, remnant valley oaks, and riparian woodlands.

The CLUO also includes the following requirement that would ensure control of invasive plant species on all cannabis uses:

- Section 8-2.1408(B) Agricultural Maintenance: Permittees on agricultural land must demonstrate to the satisfaction of the County Agricultural Commissioner that the majority of the parcel, excluding the area in cannabis cultivation, will be used for agricultural activities and/or will be properly maintained (e.g. weed abatement, pest management, etc.) when not in agricultural use to, among other things, avoid maintenance deficiencies that conflict with agriculture on other nearby properties.

In addition to the CLUO requirements, as discussed above in Section 3.4.2 “Regulatory Setting,” cannabis cultivation sites subject to compliance with Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2019-0001-DWQ that includes the following requirements (terms):

- Term 10: Prior to commencing any cannabis land development or site expansion activities the cannabis cultivator shall retain a qualified biologist to identify sensitive plant, wildlife species, or communities at the proposed development site. If sensitive plant, wildlife species, or communities are identified, the cannabis cultivator and Qualified Biologist shall consult with CDFW and CAL FIRE to designate a no-disturbance buffer to protect identified sensitive plant, wildlife species, and communities.
- Term 37: Cannabis cultivators shall comply with the minimum riparian setbacks described in Table 3.4-7 for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, petroleum powered pump locations, water storage areas, and chemical toilet placement).

CLUO performance standards that are based on General Plan policies identified in Section 3.4.2, “Regulatory Setting,” and SWRCB requirements would reduce the likelihood of adverse effects on most sensitive natural communities to a less-than-significant level. CLUO performance standards and General Plan and SWRCB requirements would also reduce impacts on riparian and oak woodland habitat by requiring riparian setbacks from aquatic habitat and prohibiting removal of trees (including riparian woodland). Section 1408(D) of the CLUO and Term 10 of Attachment A of SWRCB Order WQ 2019-0001-DWQ would further reduce impacts on sensitive natural communities by requiring identification of sensitive communities and special-status species habitat (e.g., elderberry shrubs within elderberry savanna habitat) within the activity footprint and avoidance of these habitats if found (e.g., by implementation of buffers).

Construction impacts as a result of adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO may include vegetation removal, grading and/or trenching, or conversion of natural habitats (see Appendix D). While CLUO and SWRCB requirements would help prevent adverse effects on riparian habitat associated with surface water features and sensitive natural communities that provide habitat for wildlife, adverse effects may not be fully prevented. The riparian setbacks described in Table 3.4-7 may not cover the full extent of riparian habitat adjacent to a waterway. In addition, if sensitive natural communities are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of these important habitats.

Operational impacts as a result of adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO are not expected to result in adverse effects on riparian habitat associated with surface water features or sensitive natural that provide habitat for wildlife because their operations would be retained within the activity footprint of the parcel and would be required to comply with the water quality control standards in CLUO Section 8-2.1408(J) and SWRCB Order WQ 2019-0001-DWQ.

Alternatives 1, 2, 3, and 5 assume that personal use outdoor cultivation may occur in any zoning district on a parcel with a legal residence. Personal use outdoor cultivation of up to six plants is assumed to occur within pots or garden areas on the grounds of the parcel. Alternative 4 would limit personal use cultivation to indoor only. These activities would likely involve no more than 100 square feet of land area and would be required to be outside of front yard and side yard setback areas. Given the minor extent of this potential

ground disturbance contained within existing developed parcels, no significant impacts to riparian habitat or sensitive communities are expected.

Alternative 1: Cultivation (Ancillary Nurseries and Processing Only) with Existing Limits (Existing Operations with CLUO) (CEQA Preferred Alternative)

Alternative 1 is assumed to result in the relocation of nine of the 78 existing and eligible cannabis cultivation. Of the total land assumed available for cultivation site relocation under this alternative, approximately 92 percent contains agricultural uses and approximately 2 percent contains urban/suburban development (Table 3.4-4; Exhibit 3.4-6). Relocation activities would include closure and restoration of the existing cultivation sites and construction of new cultivation sites that is assumed to convert approximately 18 acres of existing land cover.

While the land available for relocation of these nine cannabis cultivation sites contains predominately agricultural land, it also contains approximately 246 acres of riparian habitat and 120 acres of oak woodland habitat.

CLUO and SWRCB requirements would prevent impacts on oak woodland habitat and elderberry savanna habitat and would reduce the likelihood of adverse effects on riparian habitat, as described above. In addition, if sensitive natural communities are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of these important habitats. Additionally, specific avoidance measures to prevent disturbance or direct impacts on these habitats would be required in excess of CLUO performance standards and SWRCB requirements (e.g., buffers).

This impact would be **significant** under Alternative 1.

Alternative 2: All License Types with Moderate Limits

Alternative 2 assumes the relocation of 30 sites of the 78 existing and eligible cannabis cultivation sites and the additional 54 new cannabis cultivation and noncultivation uses that could disturb approximately 164 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-7). It is assumed that the available land area for this alternative contains approximately 51 percent consists of agricultural uses (Table 3.4-4, Exhibit 3.4-7).

Because approximately half of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 2 is assumed to contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to riparian and oak woodland habitat, which make up approximately 2,300 acres and 56,600 acres of the available land assumed under Alternative 2, respectively. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could result in direct or indirect impacts on these sensitive natural communities. Additionally, these activities could result in inadvertent introduction of invasive plant species on construction equipment.

CLUO and SWRCB requirements would prevent impacts on oak woodland habitat and elderberry savanna habitat and would reduce the likelihood of adverse effects on riparian habitat, as described above. If sensitive natural communities are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of these important habitats. Additionally, specific avoidance measures to prevent disturbance or direct impacts on these habitats would be required in excess of CLUO performance standards and SWRCB requirements (e.g., buffers).

This impact would be **significant** under Alternative 2.

Alternative 3: All License Types with High Limits

Alternative 3 assumed the relocation of nine sites of the 78 existing and eligible cannabis cultivation sites and the additional 186 new cannabis cultivation and noncultivation uses could disturb approximately 379 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-8). It assumed that the available land area for this alternative contains approximately 74 percent agricultural uses and 10 percent annual grassland (Table 3.4-4; Exhibit 3.4-8).

Because a majority of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 3 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to riparian and oak woodland habitat, which make up approximately 7,000 acres and 59,000 acres of the available land assumed under Alternative 3, respectively. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could result in direct or indirect impacts on these sensitive natural communities.

CLUO and SWRCB requirements would prevent impacts on oak woodland habitat and elderberry savanna habitat and would reduce the likelihood of adverse effects on riparian habitat, as described above. If sensitive natural communities are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of these important habitats. Additionally, specific avoidance measures to prevent disturbance or direct impacts on these habitats would be required in excess of CLUO performance standards and SWRCB requirements (e.g., buffers).

This impact would be **significant** under Alternative 3.

Alternative 4: Mixed-Light/Indoor License Types Only with Moderate Limits, No Hoop Houses or Outdoor Use Types

This alternative assumes the relocation of nine of the 78 existing and eligible cannabis cultivation sites due to CLUO zoning restrictions. It also assumes the conversion of 75 of the existing and eligible cannabis sites with outdoor cultivation to entirely indoor or mixed-light (greenhouse) cultivation. This alternative is also assumed to result in the construction of two new mixed-light or indoor cultivation sites and a total of 52 new noncultivation uses. Relocations of nine cultivation sites and the development of 54 new cannabis cultivation and noncultivation uses would disturb approximately 122 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-9). It assumed that the available land area for this alternative contains approximately 56 percent agricultural uses and 14 percent annual grassland (Table 3.4-4; Exhibit 3.4-9).

Because over half of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 4 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to riparian and oak woodland habitat, which make up approximately 4,500 acres and 59,900 acres of the available land assumed under Alternative 4, respectively. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could result in direct or indirect impacts on these sensitive natural communities.

CLUO and SWRCB requirements would prevent impacts on oak woodland habitat and elderberry savanna habitat and would reduce the likelihood of adverse effects on riparian habitat, as described above. If sensitive natural communities are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of these important habitats. Additionally, specific avoidance measures to prevent disturbance or direct impacts on these habitats would be required in excess of CLUO performance standards and SWRCB requirements (e.g., buffers).

This impact would be **significant** under Alternative 4.

Alternative 5: All License Types with Moderate Limits, within Agricultural Zones Only, No Retail

Alternative 5 assumes relocation of 30 sites of the 78 existing and eligible cannabis cultivation sites and the additional 52 new cannabis cultivation and noncultivation uses. Relocation and new cannabis uses assumed under this alternative could disturb approximately 163 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-10). It is assumed that the available land area for this alternative contains approximately 51 percent agricultural uses and 16 percent annual grassland (Table 3.4-4; Exhibit 3.4-10).

Because half of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 5 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to riparian and oak woodland habitat, which make up approximately 2,300 acres and 56,600 acres of the available land assumed under Alternative 5, respectively. As a result, relocation of existing and eligible cultivation sites or development of new cannabis operations could result in direct or indirect impacts on these sensitive natural communities.

CLUO and SWRCB requirements would prevent impacts on oak woodland habitat and elderberry savanna habitat and would reduce the likelihood of adverse effects on riparian habitat, as described above. If sensitive natural communities are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of these important habitats. Additionally, specific avoidance measures to prevent disturbance or direct impacts on these habitats would be required in excess of CLUO performance standards and SWRCB requirements (e.g., buffers).

This impact would be **significant** under Alternative 5.

Mitigation Measures

Mitigation Measure BIO-2: Implement Mitigation Measure BIO-1: Conduct Preapproval Biological Reconnaissance Surveys, Participate in the Yolo HCP/NCCP, Implement Avoidance and Minimization Measures, and Obtain Applicable Permits (Alternatives 1, 2, 3, 4, and 5)

Significance after Mitigation

Implementation of Mitigation Measure BIO-1 would reduce impacts on sensitive habitats and sensitive natural communities because applicants would be required to identify and avoid these habitats. After implementation of this Mitigation Measure, impacts would be **less than significant** for all alternatives.

Impact BIO-3: Adversely Affect State-Protected or Federally Protected Wetlands

Adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO could adversely affect state or federally protected wetlands (e.g., marsh, vernal pool). While CLUO and SWRCB requirements would reduce the likelihood of adverse effects on wetlands, there would still be potential for impact because presence of habitat may only be determined through site-specific habitat evaluations. This impact would be **significant** for all alternatives.

As identified in Table 2-5 and Section 3.0, "Approach to the Environmental Analysis," between 18 and 379 acres of land conversion could result from the CLUO, depending on the alternative.

The County contains approximately 40,000 acres of aquatic habitat, including major rivers and creeks (e.g., Sacramento River, Cache Creek, Putah Creek) and associated tributaries, lakes, wetlands, and vernal pools (Exhibit 3.4-1; Table 3.4-1). Relocation of existing and eligible cannabis cultivation sites and development of

new cannabis operations could result in adverse effects to state or federally protected wetlands if present within or adjacent to the activity footprint.

The CLUO includes the following performance standards that address impacts on state or federally protected wetlands:

- Section 8-2.1408(D) requires cannabis activities to avoid special-status species and habitats. Permittees must demonstrate compliance with an LSA Agreement pursuant to State Fish and Game Code 1602 if one is required. Permittees shall comply with the minimum 100-foot setback requirement set forth in Policy CO-2.22 of the General Plan as applicable. Permittees must demonstrate compliance with the Yolo HCP/NCCP, if applicable, and subsequent relevant adopted plans.
- Section 8-2.1408(OO) requires that cannabis site design shall comply with all applicable codes, standards, regulations, and guidelines, and shall demonstrate consideration of odor control, air quality, noise control, workflow, safety and security, lighting, aesthetics, protection of resources (e.g., biological, cultural, trees) and other appropriate impact mitigation.

In addition to these requirements, as discussed above in Section 3.4.2 “Regulatory Setting,” cannabis cultivation sites subject to compliance with Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2019-0001-DWQ that includes the following requirements (terms):

- Term 10: Prior to commencing any cannabis land development or site expansion activities, the cannabis cultivator shall retain a Qualified Biologist to identify sensitive plant, wildlife species, or communities at the proposed development site. If sensitive plant, wildlife species, or communities are identified, the cannabis cultivator and Qualified Biologist shall consult with CDFW and CAL FIRE to designate a nodisturbance buffer to protect identified sensitive plant, wildlife species, and communities. A copy of the report shall be submitted to the appropriate Regional Water Board.
- Term 37: Cannabis cultivators shall comply with the minimum riparian setbacks described below for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, petroleum powered pump locations, off-stream water storage areas, and chemical toilet placement) (see Table 3.4-7). The riparian setbacks shall be measured from the waterbody’s bankfull stage (high flow water levels that occur every 1.5 to 2 years) or from the top edge of the waterbody bank in incised channels, whichever is more conservative. Riparian setbacks for springheads shall be measured from the springhead in all directions (circular buffer). Riparian setbacks for wetlands shall be measured from the edge of wetland as delineated by a Qualified Professional with experience implementing the Corps of Engineers Wetlands Delineation Manual (with regional supplements). The Regional Water Board Executive Officer may require additional riparian setbacks or additional requirements, as needed, to meet the performance requirement of protecting surface water from discharges that threaten water quality. If the cannabis cultivation site cannot be managed to protect water quality, the Executive Officer of the applicable Regional Water Board may revoke authorization for cannabis cultivation activities at the cannabis cultivation site.

CLUO performance standards that are based on General Plan policies identified in Section 3.4.2, “Regulatory Setting,” and SWRCB requirements would reduce the likelihood of adverse effects on most state or federally protected wetlands to a less-than-significant level. CLUO performance standards and General Plan and SWRCB requirements require riparian setbacks from aquatic habitat. Section 1408(D) of the CLUO and Term 10 of Attachment A of SWRCB Order WQ 2019-0001-DWQ would further reduce impacts on wetlands by requiring identification of these features, which provide habitat for special-status species, within the activity footprint and avoidance of these habitats if found (e.g., by implementation of buffers).

Construction impacts as a result of adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO may include vegetation removal, grading and/or trenching, or conversion of natural habitats (see Appendix D). While CLUO and SWRCB requirements would help prevent adverse effects on wetlands, adverse effects may not be fully prevented. If wetlands are

not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss or degradation of wetlands through fill or other disturbances.

Alternatives 1, 2, 3, and 5 assume that personal use outdoor cultivation may occur in any zoning district on a parcel with a legal residence. Personal use outdoor cultivation of up to six plants is assumed to occur within pots or garden areas on the grounds of the parcel. Alternative 4 would limit personal use cultivation to indoor only. These activities would likely involve no more than 100 square feet of land area and would be required to be outside of front yard and side yard setback areas. Given the minor extent of this potential ground disturbance contained within existing developed parcels, no significant impacts to state and federal wetlands are expected.

Operation impacts as a result of adoption and implementation of the proposed CLUO are not expected to result in adverse effects on wetlands because their operations would be retained within the activity footprint of the parcel and would be required to comply with the water quality control standards in CLUO Section 8-2.1408(J) and SWRCB Order WQ 2019-0001-DWQ.

Alternative 1: Cultivation (Ancillary Nurseries and Processing Only) with Existing Limits (Existing Operations with CLUO) (CEQA Preferred Alternative)

Alternative 1 is assumed to result in the relocation of nine of the 78 existing and eligible cannabis cultivation sites. Of the total land assumed available for cultivation site relocation under this alternative, approximately 92 percent contains agricultural uses and approximately 2 percent contains urban/suburban development (Table 3.4-4; Exhibit 3.4-6). Relocation activities would include closure and restoration of the existing cultivation sites and construction of new cultivation sites that is assumed to convert approximately 18 acres of existing land cover (see Table 2-5).

CLUO, HCP/NCCP, SWRCB, and County requirements pursuant to the proposed CLUO would likely prevent most direct impacts on state or federally protected wetlands. However, if wetlands are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss or degradation of wetlands through fill or other disturbances.

This impact would be **significant** under Alternative 1.

Alternative 2: All License Types with Moderate Limits

Alternative 2 assumes the relocation of 30 sites of the 78 existing and eligible cannabis cultivation sites and the additional 54 new cannabis cultivation and noncultivation uses that could disturb approximately 164 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-7). It is assumed that the available land area for this alternative contains approximately 51 percent consists of agricultural uses (Table 3.4-4, Exhibit 3.4-7).

Because approximately half of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 2 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to wetland and other aquatic habitat, which makes up approximately 300 acres of the available land under Alternative 2. Additionally, agricultural habitat, primarily pastureland, can be associated with wetland habitat, including vernal pools. Some of these aquatic features throughout the County have been identified, but it is likely that many have not been.

CLUO and SWRCB requirements would likely prevent most direct impacts on state or federally protected wetlands. However, if wetlands are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss or degradation of wetlands through fill or other disturbances.

This impact would be **significant** under Alternative 2.

Alternative 3: All License Types with High Limits

Alternative 3 assumed the relocation of nine sites of the 78 existing and eligible cannabis cultivation sites and the additional 186 new cannabis cultivation and noncultivation uses could disturb approximately 379 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-8). It assumed that the available land area for this alternative contains approximately 74 percent agricultural uses and 10 percent annual grassland (Table 3.4-4; Exhibit 3.4-8).

Because a majority of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 3 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to wetland and other aquatic habitat, which makes up approximately 3,000 acres of the available land under Alternative 3. Additionally, agricultural habitat, primarily pastureland, can be associated with wetland habitat, including vernal pools. Some of these aquatic features throughout the County have been identified, but it is likely that many have not.

CLUO and SWRCB requirements would likely prevent most direct impacts on wetlands and other waters of the United States. However, if wetlands are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures are not implemented, these activities could result in the loss or degradation of wetlands through fill or other disturbances.

Thus, this impact would be **significant** under Alternative 3.

Alternative 4: Mixed-Light/Indoor License Types Only with Moderate Limits, No Hoop Houses or Outdoor Use Types

This alternative assumes the relocation of nine sites of the 78 existing and eligible cannabis cultivation sites, and the conversion of 75 of the existing and eligible cannabis sites with outdoor cultivation entirely to indoor or mixed-light (greenhouse) cultivation. This alternative is also assumed to result in the construction of two new mixed-light or indoor cultivation sites and a total of 52 new noncultivation uses. Relocations of nine cultivation sites and the development of 54 new cannabis cultivation and noncultivation uses would disturb approximately 122 acres located within a number of different habitat types (Exhibit 3.4-9). It assumed that the available land area for this alternative contains approximately 56 percent agricultural uses and 14 percent annual grassland (Table 3.4-4; Exhibit 3.4-9).

Because over half of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 4 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to wetland and other aquatic habitat, which makes up approximately 600 acres of the available land under Alternative 4. Additionally, agricultural habitat, primarily pastureland, can be associated with wetland habitat, including vernal pools. Some of these aquatic features throughout the County have been identified, but it is likely that many have not been.

CLUO and SWRCB requirements would likely prevent most direct impacts on wetlands and other waters of the United States. However, if wetlands are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of degradation of wetlands through fill or other disturbances.

This impact would be **significant** under Alternative 4.

Alternative 5: All License Types with Moderate Limits, within Agricultural Zones Only, No Retail

Alternative 5 assumes relocation of 30 sites of the 78 existing and eligible cannabis cultivation sites and the addition of 52 new cannabis cultivation and noncultivation uses. Relocation and new cannabis uses assumed under this alternative could disturb approximately 163 acres located within a number of different habitat types (Exhibit 3.4-10). It assumed that the available land area for this alternative contains approximately 51 percent agricultural uses and 16 percent annual grassland (Table 3.4-4; Exhibit 3.4-10).

Because half of the assumed land available for relocation or new development contains agricultural uses, assuming existing and eligible cultivation sites required to relocate would relocate near their current locations and development of new cannabis operations would be concentrated in areas where existing cultivation areas are located, it is assumed for analysis purposes that most of the land area affected under Alternative 5 would contain agricultural land cover types; likely either row crop/grain or orchard and vineyard. However, some of the available agricultural land in the County is located adjacent to wetland and other aquatic habitat, which makes up approximately 300 acres of the available land under Alternative 5. Additionally, agricultural habitat, primarily pastureland, can be associated with wetland habitat, including vernal pools. Some of these aquatic features throughout the County have been identified, but it is likely that many have not been.

CLUO and SWRCB requirements would likely prevent most direct impacts on wetlands and other waters of the United States. However, if wetlands are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures implemented, these activities could result in the loss of degradation of wetlands through fill or other disturbances.

This impact would be **significant** under Alternative 5.

Mitigation Measures

Mitigation Measure BIO-3: Implement Mitigation Measure BIO-1: Conduct Preapproval Biological Reconnaissance Surveys, Participate in the Yolo HCP/NCCP, Implement Avoidance and Minimization Measures, and Obtain Applicable Permits (Alternatives 1, 2, 3, 4, and 5)

Significance after Mitigation

Implementation of Mitigation Measure BIO-1 would reduce impacts on state or federally protected wetlands to a **less-than-significant** level for all alternatives because applicants would be required to identify and avoid these features. This mitigation measure also provides the option for federal wetland permitting coverage under Section 404 of the CWA should it become available in the future.

Impact BIO-4: Interfere Substantially with the Movement of Resident or Migratory Wildlife Species or with Wildlife Corridors or Impede the Use of Native Wildlife Nursery Sites

Adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO could adversely affect resident or migratory wildlife corridors through habitat fragmentation, or blockage of important wildlife migration paths. Cannabis uses could also result in conversion of areas that function as wildlife nurseries or affect a species' ability to access these nurseries. This impact would be **significant** for all alternatives.

As noted above, between 18 and 379 acres of land conversion could result from the CLUO, depending on the alternative.

Yolo County has designated approximately 545,000 acres as Agriculture under the General Plan. Agricultural lands typically do not provide high-quality natural habitat for wildlife nurseries or movement. Agricultural land uses also often contain associated infrastructure (e.g., roads, fencing) that may act as barriers to wildlife movement as well. There are also large areas of natural habitat, including grassland (approximately 81,000 acres), oak woodland (approximately 80,000 acres), and chamise and mixed chaparral (approximately 45,000 acres). This natural habitat is concentrated in relatively undeveloped areas within the Dunnigan Hills and the California Coast Range and provides wildlife habitat and connectivity with other natural habitats in the surrounding region (Exhibit 3.4-5). Aquatic wildlife movement corridors within the County include major rivers and creeks and associated tributaries. Several anadromous fish species, including chinook salmon and steelhead, occur within riverine habitat in Yolo County. Relocation of existing and eligible cannabis cultivation sites and development of new cannabis operations could result in adverse effects to migratory wildlife corridors or native wildlife nursery sites if present within or adjacent to the activity footprint.

The CLUO includes the following performance standards that address impacts on resident or migratory wildlife corridors or native wildlife nursery sites:

- Section 8-2.1408(D) requires cannabis activities to avoid special-status species and habitats. Permittees must demonstrate compliance with an LSA Agreement pursuant to State Fish and Game Code 1602 if one is required. Permittees shall comply with the minimum 100-foot setback requirement set forth in Policy CO-2.22 of the General Plan as applicable. Permittees must demonstrate compliance with the Yolo HCP/NCCP, if applicable, and subsequent relevant adopted plans.
- Section 8-2.1408(NN) requires that cannabis site design shall comply with all applicable codes, standards, regulations, and guidelines, and shall demonstrate consideration of odor control, air quality, noise control, workflow, safety and security, lighting, aesthetics, protection of resources (e.g., biological, cultural, trees) and other appropriate impact mitigation.

In addition to these requirements, as discussed above in Section 3.4.2 “Regulatory Setting,” cannabis cultivation sites subject to compliance with Attachment A (General Requirements and Prohibitions) of SWRCB Order WQ 2019-0001-DWQ that includes the following requirements (terms):

- Term 10: Prior to commencing any cannabis land development or site expansion activities, the cannabis cultivator shall retain a Qualified Biologist to identify sensitive plant, wildlife species, or communities at the proposed development site. If sensitive plant, wildlife species, or communities are identified, the cannabis cultivator and Qualified Biologist shall consult with CDFW and CAL FIRE to designate a nodisturbance buffer to protect identified sensitive plant, wildlife species, and communities. A copy of the report shall be submitted to the appropriate Regional Water Board.
- Term 37: Cannabis cultivators shall comply with the minimum riparian setbacks described below for all land disturbance, cannabis cultivation activities, and facilities (e.g., material or vehicle storage, petroleum powered pump locations, off-stream water storage areas, and chemical toilet placement) (see Table 3.4-7). The riparian setbacks shall be measured from the waterbody’s bankfull stage (high flow water levels that occur every 1.5 to 2 years) or from the top edge of the waterbody bank in incised channels, whichever is more conservative. Riparian setbacks for springheads shall be measured from the springhead in all directions (circular buffer). Riparian setbacks for wetlands shall be measured from the edge of wetland as delineated by a Qualified Professional with experience implementing the Corps of Engineers Wetlands Delineation Manual (with regional supplements). The Regional Water Board Executive Officer may require additional riparian setbacks or additional requirements, as needed, to meet the performance requirement of protecting surface water from discharges that threaten water quality. If the cannabis cultivation site cannot be managed to protect water quality, the Executive Officer of the applicable Regional Water Board may revoke authorization for cannabis cultivation activities at the cannabis cultivation site.

All licensed cannabis cultivation operations are required to comply with the numeric and narrative instream flow requirements for all diversions of surface water and groundwater as part of compliance with Attachment A (Section 3 – Numeric and Narrative Instream Flow Requirements) of SWRCB Order WQ 2019-0001-DWQ. These requirements include design requirements for fish screens, diversion structures, off-stream storage reservoirs, and storage bladders.

Diversion provisions of the standards are based on three types of requirements to ensure sufficient instream flows:

- dry season forbearance period and limitations on the wet season diversions,
- narrative instream flow requirements, and
- numeric instream flow requirements during the wet season.

Additionally, as a condition of project approval, all proposed cannabis operations are required to participate in the Yolo HCP/NCCP. The Yolo HCP/NCCP requires applicants to pay fees for land conversion activities, and in turn would use these fees to establish a preserve system to preserve natural habitats in the County.

CLUO performance standards that are based on General Plan policies identified in Section 3.4.2, “Regulatory Setting,” and SWRCB requirements would reduce the likelihood of adverse effects on most habitat that functions as wildlife corridors and native wildlife nursery sites to a less-than-significant level. CLUO performance standards and General Plan and SWRCB requirements require riparian setbacks from aquatic habitat. Section 8-2.1408(D) of the CLUO and Term 10 of Attachment A of SWRCB Order WQ 2019-0001-DWQ would further reduce impacts to wildlife movement corridors and wildlife nursery sites by requiring identification of features that provide habitat for special-status species within the activity footprint, and avoidance of these habitats if found (e.g., by implementation of buffers). Term 3 of the Attachment A of SWRCB Order WQ 2019-0001-DWQ would further reduce impacts to aquatic wildlife corridors by requiring that diversions of surface water and groundwater comply with instream flow requirements. Thus, no aquatic wildlife movement impacts are expected under any of the alternatives.

Construction impacts as a result of adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO may include vegetation removal, grading and/or trenching, or conversion of natural habitats (See Appendix D). While CLUO and SWRCB requirements would help prevent adverse effects on features used for wildlife movement, adverse effects may not be fully prevented. If these features are not identified before construction associated with cannabis operations and appropriate protective buffers or other measures are implemented, these activities could result in the loss of disruption of important wildlife movement corridors or nursery sites.

Alternatives 1, 2, 3, and 5 assume that personal use outdoor cultivation may occur in any zoning district on a parcel with a legal residence. Personal use outdoor cultivation of up to six plants is assumed to occur within pots or garden areas on the grounds of the parcel. Alternative 4 would limit personal use cultivation to indoor only. These activities would likely involve no more than 100 square feet of land area and would be required to be outside of front yard and side yard setback areas. Given the minor extent of this potential ground disturbance contained within existing developed parcels, no significant impacts to wildlife movement or nursery sites are expected.

Operation impacts as a result of adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO are not expected to result in adverse effects on wildlife movement corridors or wildlife nursery sites because their operations would be retained within the activity footprint of the parcel.

Alternative 1: Cultivation (Ancillary Nurseries and Processing Only) with Existing Limits (Existing Operations with CLUO) (CEQA Preferred Alternative)

Alternative 1 is assumed to result in the relocation of nine of the 78 existing and eligible cannabis cultivation sites. Of the total land assumed available for cultivation site relocation under this alternative, approximately 92 percent contains agricultural uses and approximately 2 percent contains urban/suburban development

(Table 3.4-4; Exhibit 3.4-6). Relocation activities would include closure and restoration of the existing cultivation sites and construction of new cultivation sites that is assumed to convert approximately 18 acres (see Table 2-5) of existing land cover. While relocations may occur within the habitat connectivity corridors shown in Exhibit 3.4-5, no new cannabis uses would occur.

Adverse effects to terrestrial wildlife corridors could include land conversion of natural habitats, construction of structures or other infrastructure (e.g., fencing, roads). CLUO, Yolo HCP/NCCP, SWRCB, and General Plan requirements would help prevent, but not fully prevent, adverse effects to wildlife nursery sites or wildlife movement corridors.

This impact would be **significant** under Alternative 1.

Alternative 2: All License Types with Moderate Limits

Alternative 2 assumes the relocation of 30 sites of the 78 existing and eligible cannabis cultivation sites and the additional 54 new cannabis cultivation and noncultivation uses that could disturb approximately 164 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-7). It assumed that the available land area for this alternative contains approximately 51 percent agricultural uses (Table 3.4-4, Exhibit 3.4-7). Alternative 2 would locate 14 new cannabis uses within the habitat connectivity corridors shown in Exhibit 3.4-5.

Adverse effects to terrestrial wildlife corridors could include land conversion of natural habitats, construction of structures or other infrastructure (e.g., fencing, roads). CLUO, Yolo HCP/NCCP, SWRCB, and General Plan requirements would help minimize, but not fully prevent, adverse effects to wildlife nursery sites or wildlife movement corridors.

This impact would be **significant** under Alternative 2.

Alternative 3: All License Types with High Limits

Alternative 3 assumed the relocation of nine sites of the 78 existing and eligible cannabis cultivation sites and the additional 186 new cannabis cultivation and noncultivation uses could disturb approximately 379 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-8). It assumed that the available land area for this alternative contains approximately 74 percent agricultural uses and 10 percent annual grassland (Table 3.4-4; Exhibit 3.4-8). Alternative 3 would locate 32 new cannabis uses within the habitat connectivity corridors shown in Exhibit 3.4-5.

Adverse effects to terrestrial wildlife corridors could include land conversion of natural habitats, construction of structures or other infrastructure (e.g., fencing, roads). CLUO, Yolo HCP/NCCP, SWRCB, and General Plan requirements would help prevent, but not fully prevent, adverse effects to wildlife nursery sites or wildlife movement corridors.

This impact would be **significant** under Alternative 3.

Alternative 4: Indoor License Types Only with Moderate Limits, No Hoop Houses or Outdoor Use Types

This alternative assumes the relocation of nine sites of the 78 existing and eligible cannabis cultivation sites, and the conversion of 75 of the existing and eligible cannabis sites with outdoor cultivation to indoor or mixed-light (greenhouse) cultivation. This alternative is also assumed to result in the construction of two new mixed-light or indoor cultivation sites and a total of 52 new noncultivation uses. Relocations of nine cultivation sites and the development of 54 new cannabis cultivation and noncultivation uses would disturb approximately 122 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-9). It assumed that the available land area for this alternative contains approximately 56 percent agricultural uses and 14 percent annual grassland (Table 3.4-4; Exhibit 3.4-9). Alternative 4 would locate 14 new cannabis uses within the habitat connectivity corridors shown in Exhibit 3.4-5.

Adverse effects to terrestrial wildlife corridors could include land conversion of natural habitats, construction of structures or other infrastructure (e.g., fencing, roads). CLUO, Yolo HCP/NCCP, SWRCB, and General Plan requirements would help prevent, but not fully prevent, adverse effects to wildlife nursery sites or wildlife movement corridors.

This impact would be **significant** under Alternative 4.

Alternative 5: All License Types with Moderate Limits, within Agricultural Zones Only, No Retail

Alternative 5 assumes relocation of 30 sites of the 78 existing and eligible cannabis cultivation sites and the addition of 52 new cannabis cultivation and noncultivation uses. Relocation and new cannabis uses assumed under this alternative could disturb approximately 163 acres (see Table 2-5) located within a number of different habitat types (Exhibit 3.4-10). It assumed that the available land area for this alternative contains approximately 51 percent agricultural uses and 16 percent annual grassland (Table 3.4-4; Exhibit 3.4-10). Alternative 5 would locate 15 new cannabis uses within the habitat connectivity corridors shown in Exhibit 3.4-5.

Adverse effects to terrestrial wildlife corridors could include land conversion of natural habitats, construction of structures or other infrastructure (e.g., fencing, roads). CLUO, Yolo HCP/NCCP, SWRCB, and General Plan requirements would help prevent, but not fully prevent, adverse effects to wildlife nursery sites or wildlife movement corridors.

This impact would be **significant** under Alternative 5.

Mitigation Measures

Mitigation Measure BIO-4: Implement Mitigation Measure BIO-1: Conduct Preapproval Biological Reconnaissance Surveys, Participate in the Yolo HCP/NCCP, Implement Avoidance and Minimization Measures, and Obtain Applicable Permits (Alternatives 1, 2, 3, 4, and 5)

Significance after Mitigation

Implementation of Mitigation Measure BIO-1 would require applicants to determine if there is potential presence of wetlands and sensitive habitats and avoid them, to participate in the Yolo HCP/NCCP, and to pay fees to compensate for conversion of habitat and protect the ability of wildlife species to move and nest in the County. This mitigation would reduce impacts on wildlife movement corridors and wildlife nursery sites to a **less-than-significant** level for all alternatives.

Impact BIO-5: Conflict with Any Local Policies or Ordinances Protecting Biological Resources

The CLUO incorporates County policies and standards that provide protection of biological resources. Therefore, there would be **no impact** under any of the alternatives.

The CLUO performance standards incorporate biological protection measures that are based on General Plan policies, Yolo HCP/NCCP, County Oak Woodland Conservation and Enhancement Plan, and the SWRCB Order WQ 20190-0001-DWQ. These include:

- Section 8-2.1408(D) (Biological Resources) requires preparation of a Biological Resource Assessment, avoidance or mitigation of special-status species and habitats, and compliance with the Yolo HCP/NCCP (General Plan policies CO-2.3, CO-2.4, CO-2.14, CO-2.22, CO-2.38, CO-2.41, and CC-4.11).
- Section 8-2.1408(J) (Drainage and Storm Water Discharge) requires compliance with the SWRCB Order WQ 20190-0001-DWQ.

- Section 8-2.1408(RR) (Tree Protection) encourages the protection of trees consistent with the General Plan and County Oak Woodland Conservation and Enhancement Plan. This section also prohibits the removal of tree clusters, oak woodlands, remnant valley oaks, and riparian woodlands (General Plan policies CO-2.3, CO-2.9, CO-2.14, and CO-2.16).
- Section 8-2.1410(C)(2) (Site Specific Information) requires the submittal of a Biological Resource Assessment (General Plan Policy CC-4.11).

The performance standards of the CLUO would apply equally to all five alternatives. As demonstrated above, adoption and implementation of the CLUO would implement County policy provisions for biological resources. **No impact** would occur under all the alternatives.

Mitigation Measures

No mitigation is required for any of the alternatives.

Impact BIO-6: Conflict with the Yolo HCP/NCCP

Section 8-2.1408(D) of the CLUO requires all development associated with cannabis operations from implementation of the CLUO to comply with the Yolo HCP/NCCP. Therefore, there would be **no impact** under any of the alternatives.

CLUO Section 8-2.1408(D) requires all permittees to demonstrate compliance with the Yolo HCP/NCCP. The CLUO would have **no impact** to the Yolo HCP/NCCP under any of the alternatives.

Mitigation Measures

No mitigation is required for any of the alternatives.

Impact BIO-7: Substantially Reduce the Habitat of a Fish or Wildlife Species; Cause a Fish or Wildlife Population to Drop below Self-Sustaining Levels; Threaten to Eliminate a Plant or Animal Community; or Substantially Reduce the Number or Restrict the Range of an Endangered, Rare, or Threatened Species

Adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO could result in land use conversion and development which could adversely affect common fish, wildlife, or plant species under each of the five alternatives. Implementation of the CLUO and SWRCB requirements would prevent most direct impacts on natural habitat, including wetlands, aquatic habitat, and riparian habitat. Additionally, because CLUO implementation would occur within relatively small proportions of the extensive ranges of common species, and suitable habitat would remain available to these species across the broader landscape within and surrounding the County, the magnitude of these potential losses is not expected to substantially reduce the overall abundance of any common species or substantially reduce the habitat for these species. This impact would be **less than significant** for all alternatives.

Suitable foraging, breeding, and sheltering habitat for common native bird, mammal, amphibian, reptile, and other animal species is ubiquitous throughout the County. These common species do not meet the criteria for special-status species as defined in this EIR; however, mandatory findings of significance pursuant to the CEQA Guidelines require consideration of whether a project would “substantially degrade the quality of the environment, reduce habitat of wildlife species, cause wildlife populations to drop below self-sustaining levels, or threaten to eliminate a plant or animal community.” Because of the numerous common wildlife species distributed throughout the County, adoption and implementation of the proposed CLUO, including subsequent Cannabis Use Permits pursuant to the adopted CLUO could disturb or otherwise affect many common native species. Additionally, some common wildlife species are subject to state or federal regulatory protections. For example, native nesting birds are protected under Sections 3503 and 3503.5 of the California Fish and Game Code and the MBTA.

CLUO and SWRCB requirements would prevent most direct impacts on common wildlife species. However, the effects on individual species as a result of construction and operation impacts described previously for Impact BIO-1 (for special-status species) and Impact BIO-4 (for wildlife movement and nursery sites of common species) would generally be the same for common wildlife species. Temporary disturbances to foraging patterns, local movements, and reproductive activities of common bird, mammal, reptile, and amphibian species resulting from construction and operation under the proposed CLUO would occur in some locations. However, common wildlife species are generally well-distributed, abundant, and adapted to varying levels of natural and anthropogenic disturbances. Temporary disturbances and displacement of animals associated with adoption and implementation of the proposed CLUO would occur locally (and, in some cases, over short periods of time in a given area) and are not expected to affect significant portions of an individual's foraging or breeding range, or the overall distribution of a common species. CLUO Section 8-2.1408(D) requires permittees to avoid or mitigate impacts to special-status species and habitats as well as participate in the Yolo HCP/NCCP.

In view of the relatively limited amount of disturbance and habitat loss in the context of the extensive range of common terrestrial species, there is no evidence that any of these criteria would be met, particularly in consideration of existing requirements and project actions that would avoid and minimize the potential impacts on common wildlife.

This impact would be **less than significant** for all alternatives.

Mitigation Measures

No mitigation is required for any of the alternatives.