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Memorandum

To	Earl Nelson and Tony Danna/CA Dept. of Water Resources Division of Flood Management	Page	1
CC	Debra Bishop/AECOM		
Subject	Biological Resources in the Lower Feather River Corridor		
From	Ellen Pimentel and Matt Wacker/AECOM		
Date	February 11, 2011		

INTRODUCTION

AECOM is providing technical support to California Department of Water Resources (DWR) for the Feather River Corridor Management Plan (project) on the Lower Feather River from the Yuba River to the Sutter Bypass (study area). The project will develop a vision and strategy for future management of the entire river corridor within the existing levees including levees, channels, and riparian and floodplain habitats. It will include recommended policies for compatible land uses, such as agriculture and recreation; it will address habitat restoration and flood facility maintenance; and, it will provide the foundation for securing programmatic approvals for ongoing maintenance activities and routine habitat restoration. The project has been split into three phases: (1) development of the project vision, goals, and objectives, initiation of stakeholder outreach, and development of a preliminary project work plan and schedule; (2) development of the Corridor Management Plan (CMP), programmatic permitting, and environmental compliance; and (3) permit issuance and plan adoption. Task 3 under Phase 1 involves reconnaissance-level biological resources surveys and preparation of a report describing the study area's biological conditions. This memorandum summarizes results of the reconnaissance surveys and describes the land uses and biological resources, including special-status species, within the study area.

ENVIRONMENTAL SETTING

Sources of Information

The status of terrestrial wildlife, plants, habitats, and fisheries within the project are provided in this section. The discussion is based on reconnaissance-level field surveys and a review of existing documentation, which is summarized in a previous technical memorandum prepared by AECOM (December 8, 2010). AECOM biologists conducted reconnaissance-level biological field surveys of the study area on November 4, 17, and 30, 2010, and January 4, 2011. The purpose of these surveys was to characterize general biological resources and to evaluate the potential for occurrence of sensitive biological resources in the study area.

Land Use

Land within the study area is owned and managed by public agencies, local governments, and private parties. Most of this land is either undeveloped and devoted to habitat protection or actively farmed for a variety of tree and field crops. Table 1 includes the acreage of each land use type, and the distribution of these land uses within the study area is shown on Exhibit 1.

Table 1 Land Use Acreage	
Land Use Type	Acreage
State Lands	5,869
Local Government Lands	1,133
Private and Agricultural Land	3,053
Unknown	97
Source: Yuba County 2010, Sutter County 2010; data compiled by AECOM in February 2011.	

State Lands

State lands in the study area include the Feather River Wildlife Area, the Bobelaine Audubon Ecological Reserve, land owned by Three Rivers Levee Improvement Authority (TRLIA), and land owned by the Sacramento/San Joaquin Drainage District. The Feather River Wildlife Area is owned and managed by California Department of Fish and Game (DFG) and includes 5 Units: Abbott Lake, Star Bend, O'Connor Lakes, Lake of the Woods, and Nelson Slough. Most of the state lands in the study area are managed for wildlife habitat.

Local Government Lands

Local government lands include those owned by Reclamation District (RD) 1001, RD 784, Levee District (LD) 1, Linda County Water District, Yuba City, the City of Marysville, and Sutter County. Yuba City maintains wastewater treatment ponds near Shanghai Bend, and Linda County Water District maintains wastewater ponds north of that area. The City of Marysville maintains wastewater treatment ponds just south of the city urban boundary. Sutter County, RD 1001, RD 784, and LD 1 own scattered parcels along the levees and maintain the levee roads.

Private and Agricultural Land

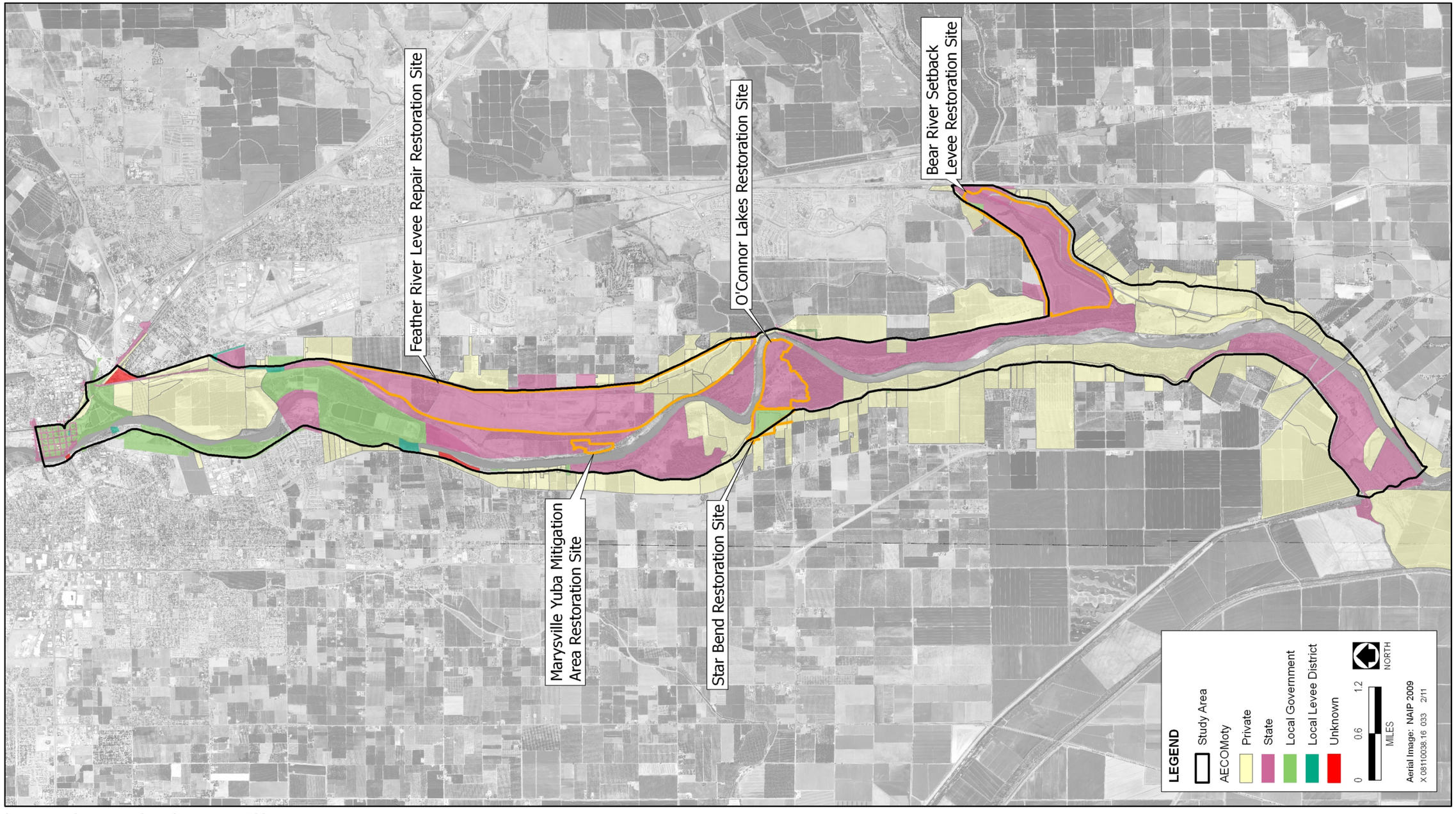
Some land within the study area is privately-owned, and most of that land is under agricultural production. Agricultural lands include orchard crops such as walnuts and persimmons, field crops, pasture, and fallow fields. Some agricultural facilities are also present on these parcels. There are also larger privately-owned parcels that are largely undeveloped and support native riparian habitat.

Restoration and Mitigation Efforts

Major restoration efforts have recently taken place or are planned for the near future on some of the public lands and local government lands described above. The location of these restoration sites are shown on Exhibit 1, and their targeted habitat types or vegetation communities are described briefly in the following section.

FEATHER RIVER LEVEE REPAIR PROJECT

TRLIA implemented the Feather River Levee Repair Project (FRLRP) to correct deficiencies in the left (east) bank levees of the Feather and lower Yuba Rivers thereby improving flood protection for the RD 784 area in Yuba County. The FRLRP included construction of a setback levee, removal of orchards, removal of the old levee, and extensive excavation for borrow material within the setback area, all of which provide significant opportunities for riparian habitat restoration. With the exception of a small elderberry mitigation area at the northern end of the FRLRP levee setback area, no other habitat restoration activities have occurred in the area to date, and other potential restoration projects have not advanced beyond the conceptual planning stage.



Source: Yuba County 2010, Sutter County 2010, AECOM 2011

Land Use and Restoration Sites in the Study Area

Exhibit 1

BEAR RIVER SETBACK LEVEE AND RIPARIAN RESTORATION PROJECT

TRLIA installed a setback levee on the lower Bear River to address deficiencies in the levee system in southwestern Yuba County and to reduce river stages by increasing Bear River floodway capacity. The levee setback also provided opportunities to enhance the ecological values of the project area through restoration of native vegetation within the levee setback area and the adjacent floodway. Orchards, field crops, and developed areas were removed from the levee setback area and replaced with native plant communities including riparian forest and scrub, grasslands, shaded riverine aquatic habitat, freshwater marsh, and swales.

STAR BEND SETBACK LEVEE AND HABITAT ENHANCEMENT PROJECT

LD1 constructed the Feather River Setback Levee and Habitat Enhancement Project at Star Bend (Star Bend project) to replace a portion of existing levee that posed a high risk of failure. Setting back the levee provided the potential for restoration of approximately 55 acres of floodplain habitat. Most of the material needed to build the new setback levee came from the existing levee embankment and from borrow areas in the O'Connor Lakes Unit of the Feather River Wildlife Area. Phase 1 of the Star Bend project included re-grading and planting the O'Connor Lakes borrow areas with herbaceous vegetation, transplanting elderberry shrubs from impact areas, and restoring 20 acres (inclusive of the elderberry shrub transplant area) to riparian scrub vegetation. Phase 2, which is optional and has not yet been scheduled, will consist of restoring the remaining 35 acres of the Star Bend project area to riparian forest and scrub and native grassland.

O'CONNOR LAKES UNIT RIPARIAN RESTORATION PLAN

A 228-acre area within the O'Connor Lakes Unit of the Feather Wildlife Area was included in a restoration project funded by the State of California Wildlife Conservation Board. DFG identified the site as a high priority for riparian restoration because it links two tracts of existing riparian habitat, thus creating a 2,142-acre block of contiguous habitat. The site formerly supported annual grassland and some riparian forest and scrub along the river and swales. The restoration area at O'Connor Lakes includes the borrow areas that were planted during the Star Bend project, described above. Other portions of the site were planted with riparian forest and scrub vegetation communities, and some existing riparian forest and scrub were enhanced with plantings of native herbaceous species.

MARYSVILLE-YUBA CITY AREA LEVEE RECONSTRUCTION PROJECT

The Marysville-Yuba City Area Levee Reconstruction Project (part of the Sacramento River Flood Control Project) involved approximately 25 miles of levee work at various sites along the Feather and Yuba Rivers. A compensatory mitigation site was installed in 1996 along the Lower Feather River in Yuba County to provide mitigation for project-related adverse effects to riparian forest, riparian scrub, and freshwater marsh habitats and habitat losses for VELB (elderberry shrubs and associated native riparian vegetation). The site now supports 34.8 acres of riparian and marsh vegetation.

Biological Resources

Biological resources found within the study area, including vegetation communities, fish and wildlife, and special-status species, are described in detail below.

Vegetation Communities

Habitat types present in the 11,726-acre study area (approximately 20 river miles) are based on reconnaissance surveys conducted by AECOM in 2010 and 2011 as well as recent vegetation maps prepared by California State University, Chico (Chico State, 2010) using 2009 National Aerial Imagery Program aerial images. Vegetation communities described here are primarily based on *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and are generalized

from the medium-scale mapping units described by Chico State. Table 2 lists the acreage of each vegetation community and the corresponding medium-scale vegetation map units. The distribution of these vegetation communities within the study area is shown on Exhibit 2.

Table 2
Vegetation Communities

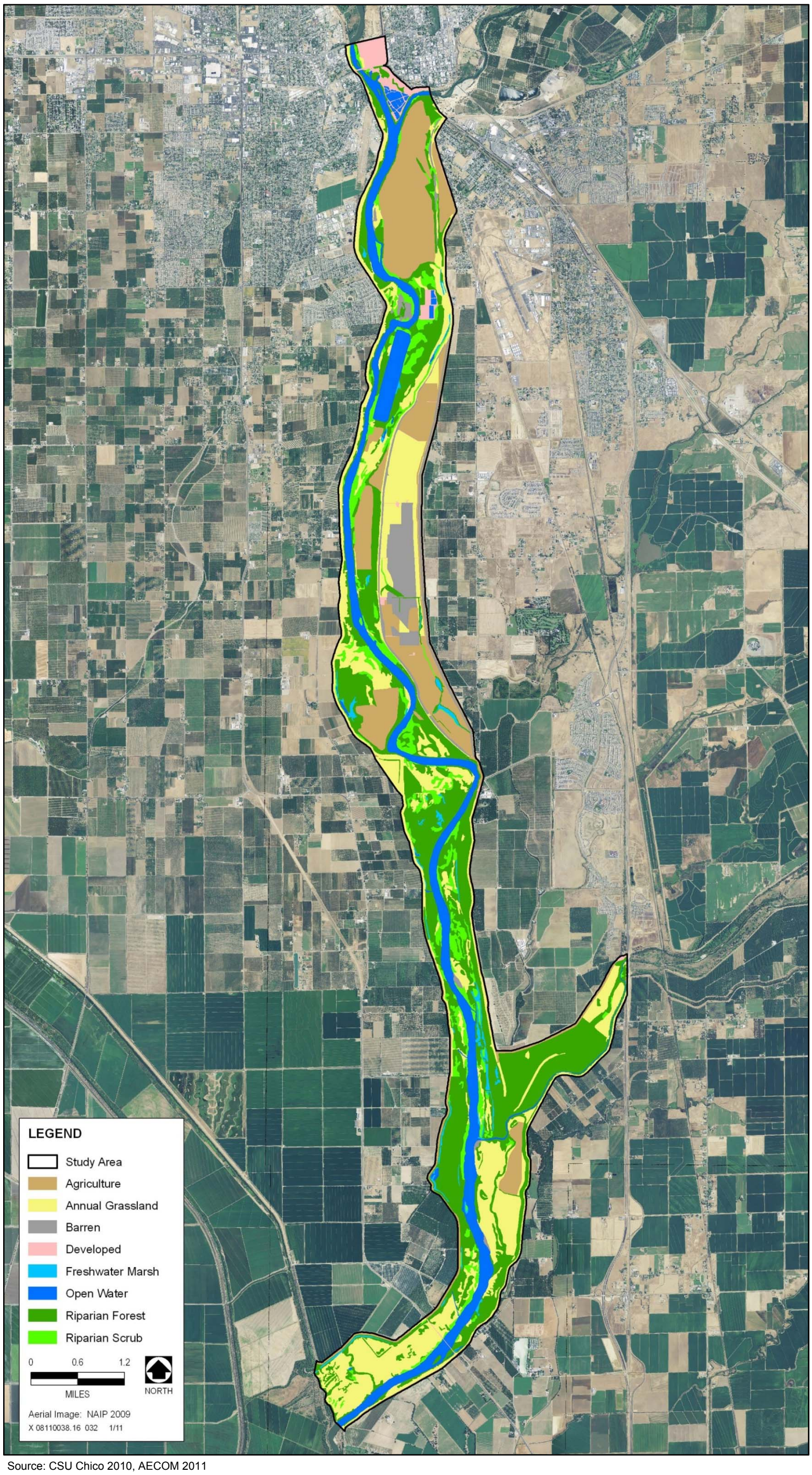
Vegetation Community	Medium-Scale Vegetation Map Unit(s)	Acreage
Riparian Forest	Introduced N American Mediterranean woodland and forest; SW N American riparian evergreen and deciduous woodland; California broadleaf forest and woodland	3,544.2
Riparian Scrub	Central and S coastal California seral scrub; SW N American riparian/wash scrub; SW N American introduced riparian scrub	781.9
Freshwater Marsh	Western N American freshwater aquatic vegetation; Arid West freshwater emergent marsh; Naturalized warm-temperate riparian and wetland; California warm-temperate marsh/seep	157.8
Annual Grassland	Mediterranean CA naturalized annual and perennial grassland; California annual forb/grass vegetation	2,701.5
Open Water	Water	1,620.1
Agriculture	Agriculture	2,146.5
Barren	Barren gravel and sand	536.2
Developed	Urban	237.7
Source: AECOM 2011; CSU Chico 2010.		

RIPARIAN FOREST

Riparian forest is present in a broad to narrow band of vegetation within the floodplains of the Feather, Yuba, and Bear Rivers, and along corridors of sloughs and drainage or irrigation canals. Riparian forest is a winter-deciduous broadleaved forest community that is typically characterized by complex vertical structure. It can be divided into the following sub-types based on dominant overstory species composition: Great Valley mixed riparian forest, Great Valley cottonwood riparian forest, and Great Valley valley oak riparian forest. These sub-types have been combined for mapping in Exhibit 1; however, each type is described separately below.

Great Valley mixed riparian forest has a moderately dense to dense tree canopy that includes several co-dominant species. The upper canopy of Great Valley mixed riparian forest is typically dominated by valley oak (*Quercus lobata*), Fremont cottonwood (*Populus fremontii*), boxelder (*Acer negundo*), Goodding's willow (*Salix gooddingii*), shining willow (*S. lucida* spp. *lasiandra*), red willow (*S. laevigata*), and Oregon ash (*Fraxinus latifolia*). White alder (*Alnus rhombifolia*) and western sycamore (*Platanus racemosa*) are occasionally found in the upper canopy. The lower shrub canopy is very dense and thicket-like. The herbaceous understory ranges from very developed to sparse depending on the amount of light filtering through the upper canopies. This riparian forest type is found away from the active river channel on higher floodplains where flooding and associated disturbances are infrequent.

Great Valley cottonwood riparian forest has a dense tree canopy that is dominated by Fremont cottonwood and Goodding's willow. The understory is dense and the herbaceous layer is sparse. This riparian forest type is found in areas lower on the floodplain that frequently experience spring flooding.



Source: CSU Chico 2010, AECOM 2011

Vegetation Communities in the Study Area **Exhibit 2**

Great Valley valley oak riparian forest has a closed to somewhat open canopy that is dominated by valley oak. The lower canopy includes scattered Oregon ash, western sycamore, and young valley oak. The shrub layer is sparse to dense and climbing vines are apparent in openings but may also be found scattered in the shady understory. The herbaceous layer is dense to sparse. This riparian forest type is found in the highest parts of the floodplain where there is less physical disturbance from flooding.

Dominant shrub species within the riparian forest include shrub-like forms of the willow species, saplings of overstory species, buttonbush (*Cephalanthus occidentalis*), California rose (*Rosa californica*), blue elderberry (*Sambucus mexicanus*), Himalayan blackberry (*Rubus discolor*), California blackberry (*Rubus ursinus*), and coyote brush (*Baccharis pilularis*). Lianas such as California grape (*Vitis californica*), California pipevine (*Aristolochia californica*), and virgin's bower (*Clematis ligusticifolia*) are also found in the shrub layer, as well as poison oak (*Toxicodendron diversilobum*).

Dominant species in the herbaceous layer include various grasses and grass-like plants such as creeping wild-rye (*Leymus triticoides*) and blue wildrye (*Elymus glaucus*), sedges (*Carex* spp.) such as Santa Barbara sedge (*Carex barbarae*), and rushes such as Baltic rush (*Juncus balticus*) and spreading rush (*J. patens*). Forbs commonly seen include mugwort (*Artemesia douglasiana*), goose grass (*Galium aparine*), and stinging nettle (*Urtica dioica*). Disturbed areas in riparian forest may include an herbaceous layer dominated by weedy species, such as Bermuda grass (*Cynodon dactylon*), carrot (*Daucus carota*), cocklebur (*Xanthium strumarium*), common velvet grass (*Holcus lanatus*), and horseweed (*Conyza canadensis*).

RIPARIAN SCRUB

Riparian scrub is a dense, shrub-dominated plant community that exists in patches along the main river channels and is also found along drainage and irrigation canals. Characteristic willow species in the project area are: Goodding's willow, Arroyo willow (*S. lasiolepis*), sandbar willow (*S. exigua*), and red willow. Buttonwillow, blue elderberry, coyote brush and Himalayan blackberry are also common. This community typically creates dense, impenetrable thickets, but remains fairly short in stature (i.e., generally 3 meters tall or lower).

FRESHWATER MARSH

Freshwater marsh can be found in patches within the Feather, Yuba, and Bear River floodways, and along drainage and irrigation ditches. Freshwater marshes are permanently flooded and dominated by emergent perennial grass-like plants, such as cattails (*Typha angustifolia*), sedges, rushes, and tule (*Schoenoplectus acutus*). Other characteristic herbaceous species are water primrose (*Ludwigia peploides*), smartweed (*Polygonum* sp.), South American vervain (*Verbena bonariensis*), and reed canarygrass (*Phalaris arundinacea*).

ANNUAL GRASSLAND

Annual grassland is an herbaceous community dominated by grasses and broad-leaf plants. There may be a few shrubs, such as blue elderberry, coyote brush, and riparian tree saplings scattered throughout annual grasslands, but herbaceous species dominate this community type. Annual grasslands are often found in ruderal areas, where the native vegetative cover has been removed and weedy species are dominant. Ruderal areas are common along the levees and in disturbed areas such as access roads and fallow agricultural fields. Common weedy grass species include Bermuda grass, common velvet grass, Italian ryegrass (*Lolium multiflorum*), wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), Johnson grass (*Sorghum halepense*), and medusahead (*Taeniatherum caput-medusae*). Common weedy forb species include black mustard (*Brassica nigra*), longbeak stork's bill (*Erodium botrys*), shortpod mustard (*Hirschfeldia incana*), common vetch (*Vicia sativa*), pricklylettuce (*Lactua serriola*), wild radish (*Raphanus sativus*), woolly mullein (*Verbascum thapsus*), perennial

pepperweed (*Lepidium latifolium*), Canada thistle (*Cirsium arvense*), and yellow star-thistle (*Centaurea solstitialis*). Occasionally, there may be smaller areas of annual grassland that contain native herbaceous species, including telegraph weed (*Heterotheca grandiflora*), mugwort, Santa Barbara sedge, gumplant (*Grindelia camporum*), creeping wildrye, Spanish clover (*Lotus purshianus*), dogbane (*Apocynum cannabinum*), evening primrose (*Oenothera elata*), lupine (*Lupinus* spp.), and California poppy (*Eschscholzia californica*).

OPEN WATER

Open water is generally not considered a vegetation community and is not characterized by significant plant cover, especially where water flows continuously (i.e., within river channels). However, there may be some areas of with slow-moving or standing open water that do support floating aquatic vegetation, such as duck weed (*Lemna* spp.) and water primrose (*Ludwigia peploides*). These include some ponds, sloughs, and drainage and irrigation ditches.

AGRICULTURE

Agricultural areas consist mostly of orchards where fruit and nut crops are grown, as well as some agricultural facilities. Orchards are intensively managed to reduce understory vegetation (e.g., through mowing and spraying) and pruned to encourage fruit production. Fallow fields are areas that were previously cultivated, harvested, and plowed, but have been abandoned or are no longer actively farmed. These lands are characterized primarily by annual grasses and weedy forbs (see description of Annual Grassland community), but they may also include seedlings of some native tree and shrub species, such as willows and cottonwoods. This community type differs from the ruderal classification in that it is not currently subject to ongoing disturbance. A smaller percentage of the study area consists of cultivated crops and uncultivated or fallow fields that support a mixture of ruderal annual grasses and forbs. Seasonally, the cultivated fields can support a variety of hay, grain, or row crops, and the uncultivated fields support the same ruderal grass and forb species listed above in the Annual Grassland community description.

BARREN

Barren areas are generally not considered a vegetation community, and generally do not support significant vegetation cover. These areas experience significant disturbance, such as frequent scouring flows (generally found along the main river channels), grading associated with access road maintenance, or ground-disturbing construction activities, such as grading activities.

DEVELOPED

Developed areas in the project vicinity consist of residential structures and other buildings, yards, roads, and parking areas. Developed areas are mainly found on the land side of the existing levees, though there are a few structures within the floodplain. Many of the developed areas are devoid of vegetation, but where vegetation exists, it ranges from sparse cover of weedy species to horticultural plantings.

Wildlife and Fisheries

Riparian forest, riparian scrub, and associated freshwater marsh within the study area provide important habitat values and support a high diversity of terrestrial wildlife species, including a wide range of breeding, migrant, and wintering birds, reptiles and amphibians, mammals, and invertebrates. These habitats also function as wildlife movement corridors and provide important cover, foraging, and nesting habitat. Annual grassland areas are interspersed with riparian and agricultural land and provide important foraging and ground-nesting habitat for a variety of bird species and foraging and breeding habitat for amphibians, reptiles, and mammals. Agricultural lands within the study area support a lower diversity of wildlife but can provide habitat for many of the same bird, reptile, and mammal species found in annual grassland habitat. Open water provides critical habitat for fish and several large mammal species.

Additionally, levee slopes and exposed banks along the Feather River provide habitat for some species and mammals and birds.

Riparian forest provides overstory and midstory vegetation used for nesting and roosting by numerous raptors, including: Cooper's hawk (*Accipiter cooperii*), great horned owl (*Bubo virgineanus*), red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*B. lineatus*), Swainson's hawk (*B. swainsoni*), white-tailed kite (*Elanus leucurus*), and barn owl (*Tyto alba*). With the addition of understory vegetation, this community also provides important nesting and foraging habitat for resident, migratory, and wintering birds, such as wood duck (*Aix sponsa*), lark sparrow (*Chondestes grammacus*), yellow-rumped warbler (*Dendroica coronate*), yellow warbler (*D. petechia*), willow flycatcher (*Empidonax traillii*), Bullock's oriole (*Icterus bullockii*), downy woodpecker (*Picoides pubescens*), western tanager (*Piranga ludoviciana*), and house wren (*Troglodytes aedon*). Several bat species such as hoary bat (*Lasiurus cinereus*), western red bat (*Lasiurus blossevillii*), and California myotis (*Myotis californicus*) also roost and nest in the riparian trees and tree hollows and forage nearby on insects over open areas or water. The understory vegetation provides cover for many other birds such as California quail (*Callipepla californica*), spotted towhee (*Pipilo maculatus*), black phoebe (*Sayornis nigricans*), and Wilson's warbler (*Wilsonia pusilla*). Mammals such as desert cottontail (*Sylvilagus audubonii*), ringtail (*Bassariscus astutus*), and raccoon (*Procyon lotor*) also make extensive use of these habitats.

Riparian scrub provides important food, shelter, and breeding habitat for many of the same wildlife found in riparian forest habitat; however, it typically lacks the overstory component that supports roosting and nesting by larger bird species. Blue elderberry shrubs occur in both riparian habitats and occasionally within annual grassland and are known to support the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).

Freshwater marsh vegetation in shallow backwater edges of the river supports a variety of songbird and other bird species typically associated with wetland habitat. Red-winged blackbird (*Agelaius phoeniceus*), mallard (*Anas platyrhynchos*), marsh wren (*Cistothorus palustris*), common yellowthroat (*Geothlypis trichas*), Virginia rail (*Rallus limicola*), and several other species of ducks, egrets, and herons are present in this habitat during the nesting season and in some cases throughout the year. Other wildlife found in freshwater marsh habitat include numerous common amphibian and reptile species including western pond turtle (*Emys marmorata*), pacific chorus frog (*Pseudacris regilla*), kingsnake (*Lampropeltis getulus*), and common garter snake (*Thamnophis sirtalis*); and mammals such as beaver (*Castor canadensis*), river otter (*Lontra canadensis*), and muskrat (*Ondatra zibethicus*). Depending on the season, several of these species are also associated with open water, riparian forest and scrub, and annual grassland habitats.

Open water within the study area provides habitat for a diverse assemblage of native and nonnative fish species as well as mammals such as the river otter. Anadromous and other migratory fish include: Central Valley fall/late fall-run chinook salmon (*Oncorhynchus tshawytscha*), Central Valley spring-run chinook salmon (*O. tshawytscha*), Central Valley steelhead (*Oncorhynchus mykiss*), white sturgeon (*Acipenser transmontanus*), green sturgeon (*Acipenser medirostris*), Pacific lamprey (*Lampetra tridentata*), striped bass (*Morone saxatilus*), and American shad (*Alosa sapidissima*). Other species documented in the study area include: Sacramento sucker (*Catostomus occidentalis*), riffle sculpin (*Cottus gulosus*), tule perch (*Hysterocarpus traski*), California roach (*Lavinia symmetricus*), hardhead (*Mylopharodon conocephalus*), rainbow trout (*O. mykiss*), Sacramento splittail (*Pogonichthys macrolepidotus*), Sacramento pikeminnow (*Ptychocheilus grandis*), speckled dace (*Rhinichthys osculus*), mosquitofish (*Gambusia affinis*), green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), redear sunfish (*Lepomis microlophus*), and smallmouth bass (*Micropterus dolomieui*).

Annual grassland vegetation is present in open areas along the river and interspersed with agricultural land. These communities support many of the same terrestrial mammal species and some of the freshwater marsh and riparian wildlife species due to the presence of irrigation ditches and scattered riparian trees and shrubs. Open areas of annual grassland and fallow fields support foraging and ground nesting habitat for most raptors listed above as well as bird species specific to these habitats such as American goldfinch (*Carduelis tristis*), northern harrier (*Circus cyaneus*), horned lark (*Eremophila alpestris*), Brewers's blackbird (*Euphagus cyanocephalus*), American kestrel (*Falco sparverius*), ring-necked pheasant (*Phasianus colchicus*), California towhee (*Pipilo crissalis*), and western bluebird (*Sialia mexicana*). California ground squirrel (*Spermophilus beecheyi*), black-tailed jackrabbit (*Lepus californicus*), and numerous small rodent and reptile species are often abundant in these communities and are prey for raptors and mammals such as coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and bobcat (*Lynx rufus*). Black-tailed deer (*Odocoileus hemionus*) are also observed in these habitats. Scavenger or opportunistic bird species commonly encountered in these habitats include turkey vulture (*Cathartes aura*), American crow (*Corvus brachyrhynchos*), common raven (*C. corax*), and yellow-billed magpie (*Pica nuttalli*).

Agricultural land within the study area provides habitat for many of the same wildlife species associated with annual grassland and, to some extent, those associated with riparian habitats. The overall habitat value of this agricultural land, however, is reduced due to the intensive and ongoing operations and management of these lands. Orchards make up the majority of agricultural land within the study area and provide cover, roosting, and limited foraging habitat for birds. The lack of understory vegetation cover limits ground nesting by birds, and orchards provide little to now foraging value because of reduced accessibility and relatively low prey populations. Small mammals such as California ground squirrel, Botta's pocket gopher (*Thomomys bottae*), western harvest mouse (*Reithrodontomys megalotis*), and California meadow vole (*Microtus californicus*) occur along the edges of orchards and ditches and within cultivated and fallow fields; these species are prey for many raptors and larger mammals. When left unmanaged over time, ruderal vegetation in fallow fields becomes tall and dense and provides protective cover, foraging, and breeding habitat for songbirds and other wildlife. Cultivated and fallow fields with low vegetative cover provide easy access to prey and provide extremely valuable foraging habitat for numerous raptor species including red-tailed hawk, Swainson's hawk, and white-tailed kite. Hay crops, particularly alfalfa, provide the highest value because of the low vegetation and large prey populations and because farming operations (weekly irrigation and regular mowing during the growing season) enhances prey accessibility. Fallow fields and pastures also maintain a fairly consistent prey base and vegetation structure throughout the breeding season of raptors and provide important foraging habitats. Most row and grain crops are planted in winter or spring and have foraging value while the vegetation remains low, but they become less suitable as vegetative cover and density increases. As these crops are harvested, vegetation cover is eliminated while prey populations are highest, significantly enhancing the foraging suitability during this period. Thus, the foraging value for most row and grain crops is also a function of the timing of planting and harvesting.

The river banks and levees along the river support fewer species, relative to the habitats described above. However, additional small mammals such as California ground squirrel and other rodent species as well as burrowing owl (*Athene cunicularia*) may make use of the levee slopes. Exposed high banks along the Feather River may also support colonies of bank swallow (*Riparia riparia*) as well as species with similar habitat requirements such as cliff swallow (*Petrochelidon pyrrhonota*), northern rough-winged swallow (*Stelgidopteryx serripennis*), and black phoebe (*Sayornis nigricans*).

Sensitive Biological Resources

Special-status species are plants, wildlife, and fish that are legally protected or otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. In this document, special-status species are defined as:

- species listed, proposed, or considered as candidates for listing as threatened, rare, or endangered under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA);
- plant species ranked by DFG to be "rare, threatened, or endangered in California."
- species identified by DFG or National Marine Fisheries Service (NMFS) as Species of Special Concern;
- animal species fully protected under the California Fish and Game Code;

Federal "species of concern" are no longer designated or recognized by USFWS; therefore, species previously designated as such are not addressed.

DFG recognizes five rare plant rank categories:

- List 1A—plants presumed to be extinct in California;
- List 1B—plants that are rare, threatened, or endangered in California and elsewhere;
- List 2—plants that are rare, threatened, or endangered in California but more common elsewhere;
- List 3—plants about which more information is needed (a review list); and
- List 4—plants of limited distribution (a watch list).

DFG recommends, and local governments may require, that plants on List 1A, 1B, and 2 be addressed during environmental review of proposed projects.

The term California species of special concern is applied by DFG to animals not listed under the ESA or the CESA, but that nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. Those species would be defined as "rare" under CEQA Section 15380.

DFG's fully protected status was California's first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as threatened or endangered under the CESA; however, some species remain listed as fully protected but do not have simultaneous listing under the CESA. Fully protected species may not be taken or possessed at any time, and no take permits can be issued for these species except for scientific research purposes or for relocation to protect livestock.

Tables 3 and 4 provide lists of special-status species known to occur or with the potential to occur on the project site. These lists were developed through review of the CNDDB and CNPS Inventory of Rare and Endangered Plants for specific information on previously documented occurrences of special-status species in the Nicolaus, Olivehurst, Yuba City, and the 12 surrounding U.S. Geological Survey (USGS) quadrangles (CNDDB 2011, CNPS 2011). The USFWS Endangered Species List also was reviewed for federally endangered and threatened species that could be affected by projects in those USGS quadrangles (USFWS 2011a). Exhibit 3 shows all of the CNDDB occurrences within a 5-mile radius of the project site.

SPECIAL-STATUS PLANT SPECIES

The lists reviewed for special-status plant species with the potential to occur in the study area (CNDDB 2011, CNPS 2011, USFWS 2011) include 15 special-status plant species. Each species is listed in Table 3, along with its status, habitat requirements, blooming periods, and potential for occurrence in the study area. Three of these species have some potential to occur in the project area: brown fox sedge (*Carex vulpindoidea*), woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*), and Sanford's arrowhead (*Sagitarria sanfordii*). The remaining species are not expected to occur because they are restricted to habitats that are not present in the project area, such as vernal pools, mesic grasslands, meadows and seeps, chaparral, cismontane woodlands, and lower montane coniferous forest.

Table 3
Special-Status Plant Species Known to Occur or with Potential to Occur in the Study Area

Species	Status[1]		Habitat and Blooming Period	Potential for Occurrence[2]
	USFWS	DFG		
Ferris' milk-vetch *Astragalus tener* var. *ferrisiae*	–	1B.1	Vernally mesic meadows and seeps, subalkaline flats in valley and foothill grassland; 2 to 75 meters elevation; blooms April to May.	Unlikely to occur; no suitable habitat present.
Brown fox sedge *Carex vulpinoidea*	_	2.2	Freshwater marshes and swamps, riparian woodland; 25 to 1,200 meters elevation; blooms May to June.	Could occur; suitable habitat present, but nearest CNDDB occurrence over 8 miles from the study area.
Dwarf downingia *Downingia pusilla*	_	2.2	Vernal pools, mesic sites in valley and foothill grassland, in clay soils; 1 to 445 meters elevation; blooms March to May.	Unlikely to occur; no suitable habitat present.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	_	E, 1B.2	Lake margins, vernal pools, in clay soils; 10 to 2,375 meters elevation; blooms April to August.	Unlikely to occur; no suitable habitat present.
Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	_	1B.2	Freshwater marshes and swamps; 0 to 120 meters elevation; blooms June to September.	Could occur; suitable habitat present and recorded by CNDDB within the Sutter Bypass, approximately 2 miles from the study area.
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	_	1B.2	Vernal pool margins, grassland swales, gopher mounds; 30 to 229 meters elevation; blooms March to May.	Unlikely to occur; no suitable habitat present.
Red Bluff dwarf rush *Juncus leiospermus* var. *leiospermus*	_	1B.1	Vernal pool margins, wet places in chaparral, woodland; 35 to 1,020 meters elevation; blooms March to May.	Unlikely to occur; no suitable habitat present.
Legenere *Legenere limosa*	_	1B.1	Vernal pools; 1 to 880 meters elevation; blooms April to June.	Unlikely to occur; no suitable habitat present.
Veiny monardella *Monardella douglasii* ssp. *venosa*	_	1B.1	Cismontane woodland, valley and foothill grassland, in heavy clay soils; 60 to 410 meters elevation; blooms May to July.	Unlikely to occur; some grassland habitat present, but poor quality due to non-native and weedy plant species.

Table 3
Special-Status Plant Species Known to Occur or with Potential to Occur in the Study Area

Species	Status[1]		Habitat and Blooming Period	Potential for Occurrence[2]
	USFWS	DFG		
Baker's navarretia *Navarretia leucocephala* ssp. *bakeri*	_	1B.1	Cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools, in mesic areas; 5 to 1,740 meters elevation; blooms April to July.	Unlikely to occur; some grassland habitat present, but poor quality due to non-native and weedy plant species.
Ahart's paronychia *Paronychia ahartii*	_	1B.1	Cismontane woodland, valley and foothill grassland, vernal pools; 30 to 510 meters elevation; blooms March to June.	Unlikely to occur; some grassland habitat present, but poor quality due to non-native and weedy plant species.
Hartweg's golden sunburst *Pseudobahia bahifolia*	E	E, 1B.1	Cismontane woodland, valley and foothill grassland, in clay and often acidic soils; 15 to 150 meters elevation; blooms March to April.	Unlikely to occur; some grassland habitat present, but poor quality due to non-native and weedy plant species; CNDDB record in study area believed to be extirpated.
Sanford's arrowhead *Sagitarria sanfordii*	_	1B.2	Shallow freshwater marshes and swamps; 0 to 650 meters elevation; blooms May to October.	Could occur; suitable habitat present, however nearest CNDDB occurrence more than 16 miles from the study area.
Wright's trichocoronis *Trichocoronis wrightii* var. *wrightii*	_	2.1	Meadows and seeps, marshes and swamps, riparian forest, vernal pools, in alkaline soils; 5 to 435 meters elevation; blooms May to September.	Unlikely to occur; suitable habitat present; however believed by CNPS to be extirpated from the Central Valley.

Notes: USFWS = U.S. Fish and Wildlife Service; DFG = California Department of Fish and Game

[1] Legal Status Definitions

U.S. Fish and Wildlife Service:
E Endangered (legally protected)
T Threatened (legally protected)

California Department of Fish and Game:
E Endangered (legally protected)
T Threatened (legally protected)
R Rare (legally protected)

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

CNPS Rare Plant Rank Extensions:
.1 Seriously endangered in California (>80% of occurrences are threatened and/or high degree and immediacy of threat)
.2 Fairly endangered in California (20 to 80% of occurrences are threatened)

[2] Potential for Occurrence Definitions

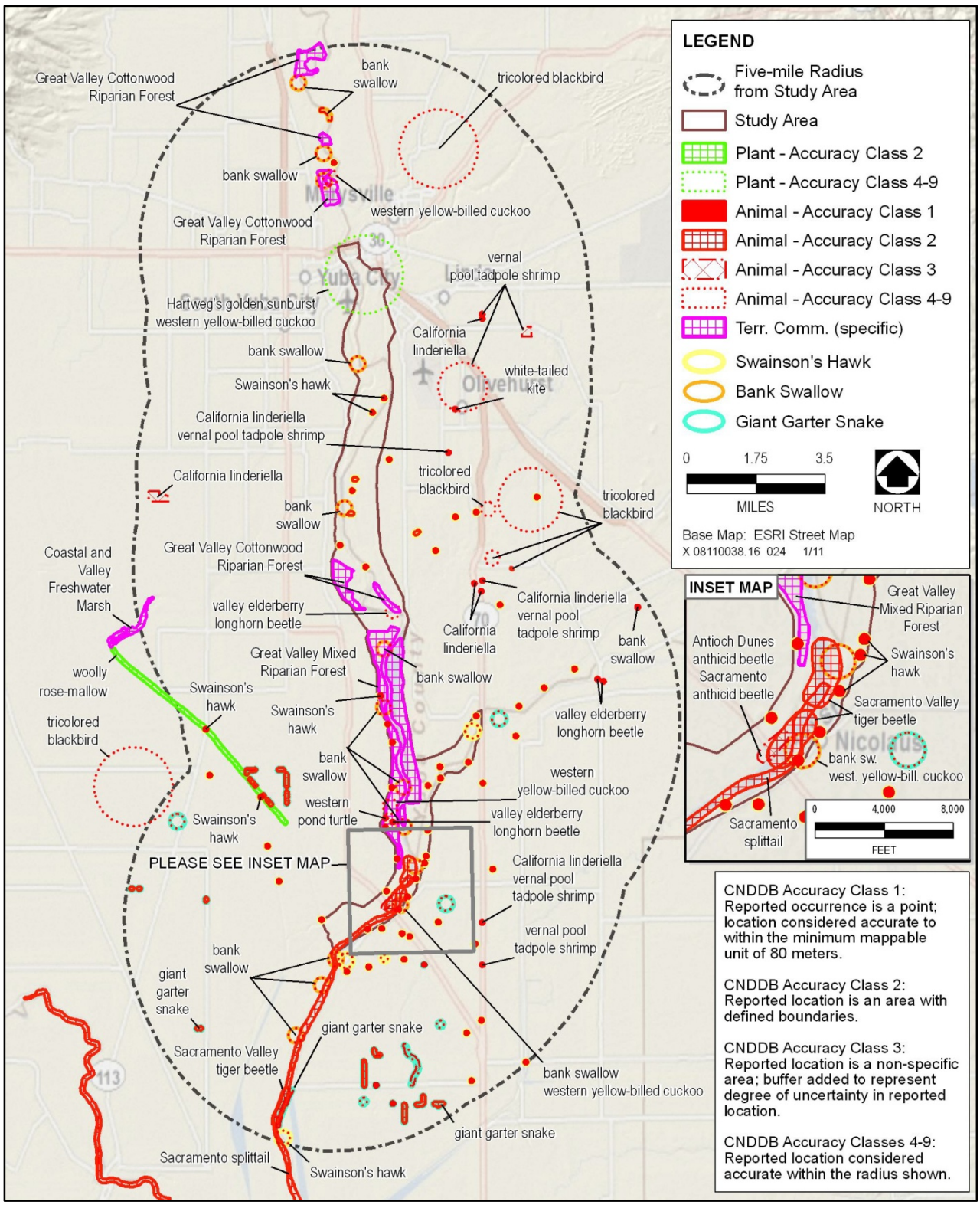
Unlikely to occur: Species is unlikely to be present on the project site due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

Could occur: Suitable habitat is available at the project site; however, there are little to no other indicators that the species might be present.

Likely to occur: Habitat conditions, known occurrences in the project vicinity, or other factors indicate a relatively high likelihood that the species would occur at the project site.

Known to occur: The species, or evidence of its presence, was observed at the project site during reconnaissance surveys, or was reported by others.

Sources: CNDDB 2011; CNPS 2011; USFWS 2011a; Hickman 1993; data compiled by AECOM in 2010.



Source: CNDDB 2011, AECOM 2010

CNDDB 5-Mile Radius Search Results **Exhibit 3**

SPECIAL-STATUS WILDLIFE AND FISH SPECIES

The lists reviewed for special-status wildlife and fish species with the potential to occur in the study area (CNDDB 2011, USFWS 2011) include 30 special-status species. Each species is listed in Table 4, along with its status, habitat requirements, and potential for occurrence in the study area. Fifteen of these species are known to occur in the study area, and nine have some potential to occur in the project area. The remaining six species are not expected to occur because they are restricted to habitats that are not present in the project area, such as vernal pools and foothill habitats.

Table 4
Special-Status Wildlife and Fish Species with Potential to Occur in the Study Area

Species	Status[1]		Habitat	Potential for Occurrence[2]
	USFWS/ NMFS	DFG		
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	E	—	Vernal pools.	Unlikely to occur; no suitable habitat present in study area.
Vernal pool fairy shrimp *Branchinecta lynchi*	T	—	Vernal pools.	Unlikely to occur; no suitable habitat present in study area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T	—	Elderberry shrubs, typically within riparian habitat.	Known to occur in two locations within the study area; suitable habitat present throughout the study area.
Vernal pool tadpole shrimp *Lepidurus packardi*	E	—	Vernal pools.	Unlikely to occur; no suitable habitat present in study area.
Reptiles				
Western pond turtle *Actinemys marmorata*	FSC	CSC	Ponds, marshes, sloughs, ditches, and other slow-water habitat, preferably with basking sites; nests in nearby uplands with low, sparse vegetation.	Known to occur; suitable habitat present within the study area; one CNDDB occurrence recorded in the southern half of study area; observed during 2010 AECOM reconnaissance surveys.
Giant garter snake *Thamnophis gigas*	T	T	Ponds, marshes, sloughs, slow-moving streams, rice fields, and ditches with emergent vegetation for cover; requires upland refugia not subject to flooding in inactive season.	Could occur intermittently during later spring and summer months; suitable habitat present in marsh, slough, and areas of slow water; main river and riparian floodplain corridor is unsuitable due to high flows and predatory fish; little to no suitable over-wintering refugia within the study area; three CNDDB occurrences recorded 3 to 5 miles south of the study area.
Amphibians				
California tiger salamander *Ambystoma californiense*	T	T	Vernal pools and other seasonal water sources for breeding, and underground refuges, especially ground squirrel burrows.	Unlikely to occur; no suitable habitat present in the study area; no occurrences recorded in Yuba or Sutter counties.
California red-legged frog *Rana draytonii*	T	CSC	Foothill and central coast streams with dense shrubby or emergent riparian vegetation, minimum 11–20 weeks of water for larval development, and upland refugia for aestivation.	Unlikely to occur; species has been extirpated from most of the central valley floor; no suitable habitat in the study area (outside coastal range and does not include foothill habitats).

Table 4
Special-Status Wildlife and Fish Species with Potential to Occur in the Study Area

Species	Status[1]		Habitat	Potential for Occurrence[2]
	USFWS/ NMFS	DFG		
Western spadefoot *Spea hammondii*	—	CSC	Vernal pools and surrounding grasslands, can also be found in valley foothill hardwood wodlands.	Unlikely to occur; no suitable habitat present within the study area.
Birds				
Tricolored blackbird *Agelaius tricolor*	FSC	CSC	Forages in grasslands and agricultural fields; nests in freshwater marsh with dense cattails and tules, riparian scrub, and other dense shrubs and herbs.	Likely to occur; suitable habitat present within the study area; several recent CNDDB occurrences recorded within 3 to 5 miles of the study area.
Burrowing owl *Athene cunicularia*	—	CSC	Forages and nests in grasslands, scrub, and agricultural areas with low vegetation cover, especially where ground squirrel burrows are present.	Could occur; suitable habitat present throughout the study area; nearest CNDDB occurrence is more than 5 miles from the study area.
Swainson's hawk *Buteo swainsoni*	—	T	Forages in grasslands and agricultural fields; nests in open woodland or scattered trees.	Known to occur; suitable habitat present and numerous CNDDB occurrences are recorded within the study area.
Mountain plover *Charadrius montanus*	C	CSC	Forages in short grasslands and plowed agricultural fields where vegetation is sparse and trees are absent.	Could occur; suitable habitat present within the study area; nearest CNDDB occurrence recorded over 11 miles southwest of the study area.
Northern harrier *Circus cyaneus*	—	CSC	Nests and forages in open grassland, marsh, and agricultural fields.	Known to occur; suitable habitat present throughout the study area; observed by AECOM during 2010 reconnaissance surveys.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	C	E	Occurs in valley, foothill, and desert riparian forest with dense deciduous trees and shrubs, especially willows; other associated vegetation includes cottonwood trees, blackberry, nettle, and wild grape.	Known to occur; suitable habitat present in several locations within the study area; two CNDDB occurrences recorded within the southern end of the study area and two within 1 to 2 miles of the northern end of the study area.
White-tailed kite *Elanus leucurus*	—	FP	Forages in marshes, sloughs, agricultural fields, ditches, and slow-moving streams; nests in nearby uplands with scattered tall trees, and low vegetation.	Known to occur; suitable habitat present in several locations within the study area; observed during 2010 AECOM reconnaissance surveys.
Greater sandhill crane *Grus canadensis tabida*	—	T	Winters in the Central Valley, in relatively treeless plains, pastures, flooded grain fields, wet meadow, shallow lacustrine, and fresh emergent and seasonal wetlands habitats.	Could occur; suitable habitat present with the study area; nearest CNDDB occurrence recorded more than 15 miles north of the study area.

Table 4
Special-Status Wildlife and Fish Species with Potential to Occur in the Study Area

Species	Status[1]		Habitat	Potential for Occurrence[2]
	USFWS/ NMFS	DFG		
Bald eagle *Haliaeetus leucocephalus*	—	E	Forages primarily in large inland fish-bearing waters with adjacent large trees and occasionally in uplands with abundant rabbits, small mammals, or carrion. Often roosts communally in winter.	Could occur; suitable habitat present within the study area; nearest CNDDB occurrence recorded more than 13 miles north of the study area along the Feather River.
California black rail *Laterallus jamaicensis coturniculus*	—	T	Nests and forages in saline, freshwater, or brackish emergent marshes with gently grading slopes and vegetative cover above the high-water line.	Could occur; suitable habitat present within the study area; nearest CNDDB occurrence is recorded approximately 6 miles west of the study area.
Bank swallow *Riparia riparia*	—	T	Forages in a variety of habitats; nests in vertical banks or bluffs, typically adjacent to water, devoid of vegetation, and with friable, eroding soils.	Known to occur; suitable habitat present in several locations and numerous CNDDB and other occurrences recorded within the study area.
Mammals				
Western red bat *Lasiurus blossevillii*	—	CSC	Roosts primarily in riparian trees and snags, especially in sycamore and cottonwood, prefers habitat edges, dense overstory and open understory; typically forages in grassland, shrubland, and open woodland habitats.	Could occur; suitable habitat present within the study area; nearest CNDDB occurrence is recorded more than 8 miles southwest of the study area.
Fish				
Green sturgeon *Acipenser medirostris*	T	—	Requires cold, freshwater streams with suitable gravel for spawning; rears seasonally inundated floodplains, rivers, tributaries, and Delta.	Known to occur; suitable habitat is present in and species is known to occasionally occur in the lower Feather River.
Pacific lamprey *Lampetra tridentada*	—	CSC	Requires cool, freshwater streams with suitable gravel for spawning	Known to occur; suitable habitat is present in and species is known to occur in the lower Feather River.
California roach *Lavinia symmetricus*	—	CSC	Spawning occurs in pools and side pools of rivers and creeks; juveniles rear in pools of rivers and creeks.	Known to occur; suitable habitat is present in and species is known to occur in the lower Feather River.
Hardhead *Mylopharodon conocephalus*	—	CSC	Spawning occurs in pools and side pools of rivers and creeks; juveniles rear in pools of rivers and creeks, and in shallow to deeper water of lakes and reservoirs.	Known to occur; suitable habitat is present in and species is known to occur in the lower Feather River.
Central Valley steelhead ESU *Oncorhynchus mykiss*	T	—	Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.	Known to occur; suitable habitat is present in and species is known to occur in the lower Feather River.

Table 4
Special-Status Wildlife and Fish Species with Potential to Occur in the Study Area

Species	Status[1]		Habitat	Potential for Occurrence[2]
	USFWS/ NMFS	DFG		
Sacramento River winter-run chinook salmon ESU *Oncorhynchus tshawytscha*	E	E	Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.	Likely to occur; known from the Sacramento River and tributaries; adults and juveniles may occasionally stray into the Feather River.
Central Valley spring-run chinook salmon ESU *Oncorhynchus tshawytscha*	T	T	Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.	Known to occur; suitable habitat is present in and species is known to occur in the lower Feather River.
Central Valley fall/late fall–run chinook salmon *Oncorhynchus tshawytscha*	—	CSC	Requires cold, freshwater streams with suitable gravel for spawning; rears in seasonally inundated floodplains, rivers, and tributaries, and in the Delta.	Known to occur; suitable habitat is present in and species is known to occur in the lower Feather River.
Sacramento splittail *Pogonichthys macrolepidotus*	DT	CSC	Spawning and juvenile rearing from winter to early summer in shallow weedy areas inundated during seasonal flooding in the lower reaches and flood bypasses of the Sacramento River, including the Yolo Bypass.	Known to occur; suitable habitat is present in and species is known to occur in the lower Feather River.

Notes: USFWS = U.S. Fish and Wildlife Service; DFG = California Department of Fish and Game; ESU = Evolutionarily Significant Unit; NMFS = National Marine Fisheries Service

[1] Legal Status Definitions

U.S. Fish and Wildlife Service and National Marine Fisheries Service Federal Listing Categories:

E Endangered (legally protected)

T Threatened (legally protected)

DT Recently delisted from threatened status

C Candidate for listing

FSC Federal Species of Concern

California Department of Fish and Game State Listing Categories:

T Threatened (legally protected)

E Endangered (legally protected)

FP Fully protected

CSC California Species of Special Concern

[2] Potential for Occurrence Definitions

Unlikely to occur: Species is unlikely to be present on the project site due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

Could occur: Suitable habitat is available at the project site; however, there are little to no other indicators that the species might be present.

Likely to occur: Habitat conditions, known occurrences in the project vicinity, or other factors indicate a relatively high likelihood that the species would occur at the project site.

Known to occur: The species, or evidence of its presence, was observed at the project site during reconnaissance surveys, or was reported by others.

Source: CNDDB 2011, USFWS 2011a, DWR 2010, TRLIA 2006; data compiled by AECOM in 2010.

Sensitive Habitats

Sensitive habitat types include those that are of special concern to resource agencies or are afforded specific consideration through CEQA, Section 1602 of the California Fish and Game Code, Section 404 of the CWA, and the Porter-Cologne Act. Sensitive habitats may be of special concern to these 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.

SPECIAL-STATUS NATURAL COMMUNITIES

Special-status natural communities are those considered by DFG to be of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects (DFG 2009). Special-status natural communities are denoted by an asterisk in the *Natural Communities List* (DFG 2010) and are tracked in the CNDDB. The natural communities tracked in the CNDDB are mostly older records and are based on *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986). DFG is in the process of reviewing and reclassifying the CNDDB records to match those included in the updated 2010 list. In the meantime, they are still considered special-status by DFG. Special-status natural communities should be considered under CEQA.

Simply meeting the species composition requirements of a special-status natural community does not necessarily mean it should be considered a high-quality occurrence of that community type. The judgment of whether a stand is high-quality or not involves a flexible set of criteria such as the range of existing sustainable occurrences of the natural community based on site quality, defensibility, size, and surrounding landscapes (DFG 2011). Generally, small areas of special-status natural communities are not considered high-quality.

Five sensitive natural plant communities were identified in the vicinity of the study area by the CNDDB search: Coastal and Valley Freshwater Marsh, Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, Great Valley Valley Oak Riparian Forest, and Northern Hardpan Vernal Pool (Exhibit 2). There is no vernal pool habitat within the study area. Great Valley Cottonwood Riparian Forest and Great Valley Mixed Riparian Forest have been mapped within the study area and include most of the wider swathes of riparian forest in the study area.

Coastal and Valley Freshwater Marsh is described as areas that are dominated by perennial, emergent herbaceous vegetation, such as cattail and tule, and are permanently flooded by slow-moving fresh water (Holland 1986). Most areas mapped as freshwater marsh within the study area on Exhibit 1 match this description; these areas are relatively small, however, and would likely not be considered high-quality by DFG. The same is true for the Great Valley valley oak riparian forest, which is generally scattered in narrow bands along levees throughout the study area.

The *Preliminary Evaluation for Feather River Vegetation Management Plan* (DWR 2006) indicates that Great Valley Willow Scrub and Vernal Marsh are also present in the study area. Great Valley Willow Scrub is described as a community that is open to dense, dominated by willow species, with little herbaceous understory (Holland 1986). The riparian scrub mapped in the study area on Exhibit 1 is composed of a mix of shrub species, and is not dominated by willows. Vernal Marsh is similar to Coastal and Valley Freshwater Marsh, but has standing water only in the winter and becomes dry or nearly so by summer (Holland 1986). Some areas mapped on Exhibit 1 could likely be considered Vernal Marsh, but these areas are relatively small and would not likely be considered high-quality by DFG.

RIPARIAN HABITAT

Riparian forest and scrub is found throughout the study area, and is described in more detail under “Vegetation Communities,” above. Riparian habitats are typically subject to DFG jurisdiction under

Section 1602 of the California Fish and Game Code, and some areas may also qualify as jurisdictional wetlands of the United States under Section 404 of the CWA.

WETLANDS AND OTHER WATERS OF THE UNITED STATES

The U.S. Fish and Wildlife Service National Wetlands Inventory (USWFS 2011b) includes many wetland types within the study area, including riverine, forested and shrub wetlands, freshwater emergent wetlands, and freshwater ponds. On Exhibit 1, areas mapped as freshwater marsh and open water as well as some areas mapped as riparian forest and riparian scrub may be considered wetlands or other waters of the United States. These habitats likely would be subject to USACE jurisdiction under Section 404 of the CWA and jurisdiction of the RWQCB as waters of the state under the Porter-Cologne Act.

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