

4.4 BIOLOGICAL RESOURCES

This section contains a description of the existing biological resources in the planning area, and an evaluation of how implementation of the Draft General Plan would affect biological resources. Mitigation measures are provided for all significant and potentially significant direct, indirect and cumulative impacts.

4.4.1 REGULATORY SETTING

FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) have jurisdiction over projects that may result in a “take” of species listed as threatened or endangered under the federal Endangered Species Act (ESA). NMFS has jurisdiction over a limited number of anadromous species. In the below ESA discussion; “UWFWS” is meant to include both USFWS and NMFS.

Under the ESA (16 U.S. Code [USC] 153 et seq.), 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.

For projects where federal action is not involved and take of a listed species may occur, a project proponent may seek an incidental take permit under Section 10(a) of the ESA. Section 10(a) of ESA allows USFWS to permit the incidental take of listed species if such take is accompanied by a habitat conservation plan that ensures minimizing and mitigation of impacts associated with the take.

Section 7 of the ESA outlines procedures for federal interagency cooperation to protect and conserve federally listed species and designated critical habitat. Critical habitat identifies specific areas that have the physical and biological features essential to the conservation of a listed species and that may require special management considerations or protection. Section 7(a)(2) requires federal agencies to consult with USFWS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. An incidental-take statement typically requires various types of mitigation to compensate for or minimize the take.

An endangered species is one that is considered in danger of becoming extinct throughout all or a significant portion of its range. A threatened species is one that is likely to become endangered in the foreseeable future. USFWS also maintains a list of species proposed for listing as endangered or threatened. Proposed species are those for which a proposed rule to list as endangered or threatened has been published in the Federal Register (FR). When a species is listed, USFWS is required to prepare a recovery plan for the conservation and survival of the species.

In addition to endangered, threatened, and proposed species, USFWS maintains a list of candidate species. Candidate species are those for which USFWS has sufficient information on file to support issuing a proposed listing rule.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (16 USC 703–711) prohibits the killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the U.S. Secretary of the Interior. Most native bird species fall under the jurisdiction of this act.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC 668) protects the bald eagle (the national emblem) and the golden eagle by prohibiting the taking, possession, and commerce of such birds, except under certain specified conditions. The Secretary of the Interior may permit the taking, possession, and transportation of bald and golden eagles and nests for scientific or religious purposes, or for the protection of wildlife, agricultural, or other interests, if such actions are compatible with eagle preservation. The Secretary of the Interior may authorize the take of golden eagle nests that interfere with resource development or recovery operations. Bald eagles may not be taken for any purpose unless the secretary issues a permit before the taking.

Clean Water Act

Section 404 of the Clean Water Act (CWA) (33 USC 1252–1376) requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries.

Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fills of less than one-half acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE’s nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fills that do not qualify for a NWP require a letter of permission or an individual permit. Project applicants are required to obtain this permit prior to project initiation. A wetland mitigation plan that satisfies USACE requirements is included as part of the permit application.

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 RWQCB (in this case, the Central Valley RWQCB), indicating that the proposed project would uphold state water quality standards.

STATE PLANS, POLICIES, AND PROGRAMS

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance endangered or threatened species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of endangered or threatened species if reasonable and prudent alternatives are available that would avoid jeopardy. Definitions of endangered and threatened species in the CESA parallel those defined in the ESA. Take authorizations (Section 2081 permits) from California Department of Fish and Wildlife (CDFW) are required for any unavoidable impact on state-listed species resulting from proposed projects.

Before considering a species for protected status, CDFW designates the species as a species of special concern. Species of special concern are those species for which CDFW has information to indicate that the species is declining.

Native Plant Protection Act

California’s Native Plant Protection Act (Fish and Game Code Sections 1900–1913) requires all state agencies to establish criteria for determining whether a species, subspecies, or variety of native plant is endangered or rare. Provisions of this act prohibit the taking of listed plants from the wild and require that CDFW be notified at least

10 days in advance about any change in land use that would adversely affect listed plants. This requirement allows CDFW to salvage listed plant species that would otherwise be destroyed.

Lake and Streambed Alteration

CDFW, through provisions included in Sections 1600–1603 of the California Fish and Game Code, is empowered to issue streambed alteration agreements for projects that would “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” (Fish and Game Code Section 1602[a]). Streams and rivers are defined by the presence of a channel bed and banks, and intermittent flow. The limits of CDFW jurisdiction are also based on riparian habitat and may include wetland areas that do not meet USACE criteria for soils and/or hydrology (e.g., where riparian woodland canopy extends beyond the banks of a stream away from frequently saturated soils).

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Water Quality Control Act, waters of the state fall under jurisdiction of the applicable regional water quality control board (RWQCB). Under the act, the RWQCB must prepare and periodically update water quality control basin plans. Each basin plan sets forth water quality standards for surface water and groundwater, as well as actions to control nonpoint and point sources of pollution to achieve and maintain these standards.

Protection of Bird Nests and Raptors

Section 3503 of the California 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 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests or eggs. Typical violations of these codes include destruction of active nests resulting from removal of vegetation in which the nests are located. Violation of Section 3503.5 could also include failure of active raptor nests resulting from disturbance of nesting pairs by nearby project construction.

Oak Woodland Conservation

The incremental loss of oak woodland through habitat conversion to agricultural, commercial, and residential uses, combined with other concerns such as the lack of natural regeneration, has led to an increased concern about the future of oak woodlands and its associated wildlife throughout California. In 2001, the California Oak Woodland Conservation Act was passed by the California Legislature, establishing a fund through the Wildlife Conservation Board (WCB) (CDFW’s acquisition branch) to financially support counties’ oak woodland conservation efforts. The act authorizes the WCB to purchase oak woodland conservation easements and provide grants for land improvements and restoration efforts. Grants resulting in the purchase of oak woodland conservation easements are given priority; however, funds may also be used for grants designed to provide technical assistance and to develop and implement oak conservation elements in local general plans. The WCB also funds the development of outreach efforts and education related to preservation of oak woodlands.

In 2005, Senate Bill (SB) 1334 was passed by the California Legislature, mandating that counties require feasible and proportional habitat mitigation for impacts on oak woodlands as part of the CEQA process. Under Public Resources Code (PRC) Section 21083.4, a county is required to determine whether projects “may result in a conversion of oak woodlands that will have a significant effect on the environment.” The law applies to all oak woodlands except those dominated by black oak. When it is determined that a project may have a significant effect on oak woodlands, mitigation is required. PRC Section 21083.4 institutes a cap on planting oaks for habitat mitigation (cannot fulfill more than 50 per cent of the required mitigation) and prescribes four mitigation options:

- ▶ conserving oak woodland through the use of conservation easements,

- ▶ contributing funds to the Oak Woodlands Conservation Fund to purchase oak woodlands conservation easements,
- ▶ replanting trees, or
- ▶ implementing other mitigation actions as outlined or developed by the county.

REGIONAL AND LOCAL PLANS, POLICIES, REGULATIONS, AND ORDINANCES

Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon

The recovery plan for vernal pool ecosystems (USFWS 2005) was developed to recover, conserve, and protect self-sustaining populations of plant and animal species occurring within vernal pool ecosystems in California and southern Oregon. The objectives of the recovery plan are to reduce or eliminate threats affecting conservation of sensitive species and to conserve vernal pools and their habitat to promote natural ecosystem processes and functions.

The recovery plan employs an ecosystem-level strategy for recovery that emphasizes habitat protection and management based upon five elements:

- ▶ habitat protection,
- ▶ adaptive management,
- ▶ rangewide species monitoring,
- ▶ continued research, and
- ▶ participation and outreach.

The recovery plan is implemented through establishment of core areas. A western portion of Amador County between State Route (SR) 104 and SR 16 includes portions of the Cosumnes/Rancho Seco core area, which overlaps with the Vernal Pool Ecosystem Critical Habitat area depicted in Exhibit 4.4-1. Vernal pools in that core area are designated critical habitat for vernal pool tadpole shrimp and Sacramento orcutt grass, a species federally listed as endangered, and vernal pool fairy shrimp, a species federally listed as threatened.

It should be noted that the recovery plan is a voluntary guidance document, not a regulatory document. It delineates, justifies, and schedules the research and management actions necessary to support the recovery of a species. It does not commit staffing or funds for implementation, but rather is used in setting USFWS funding priorities and providing direction to local, regional, and state planning efforts (USFWS 2005, p. i). USFWS has the statutory responsibility for implementing the recovery plan, and only federal agencies are mandated to take part in the effort, but the plan recommends participation of other stakeholders in recovery plan implementation (USFWS 2005, p. xii.).

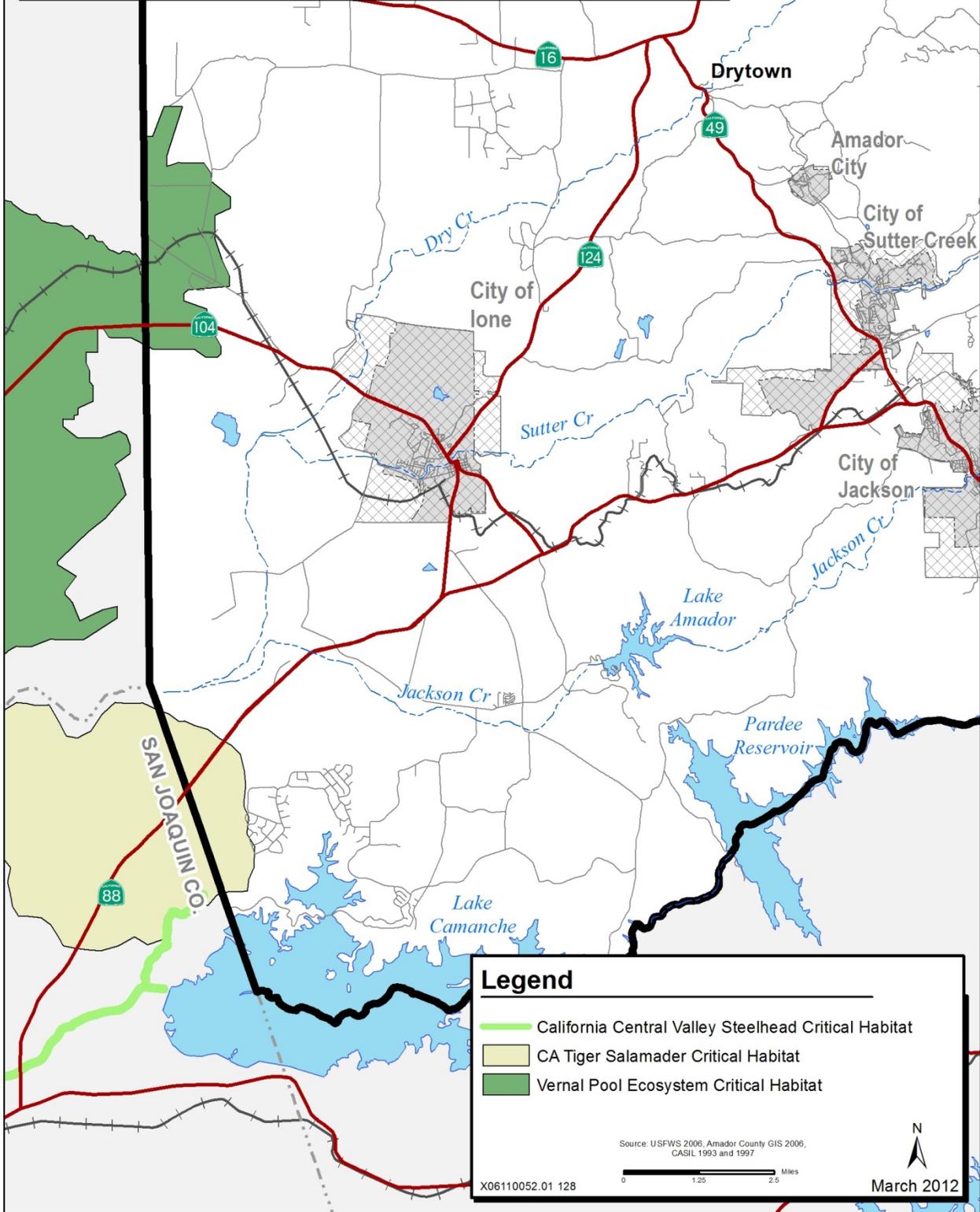
4.4.2 ENVIRONMENTAL SETTING

VEGETATION AND WILDLIFE

Overview

The distribution of habitats in Amador County was defined using land-cover data developed as part of a cooperative effort between the California Department of Forestry and Fire Protection (CAL FIRE), Fire and Resource Assessment Program (FRAP) and USFS (CAL FIRE and USFS 2005). FRAP is mandated to assess the amount, extent, and condition of California's forestlands and rangelands. In response to this mandate, FRAP combined habitat distribution data from numerous sources, including remotely sensed satellite imagery, into a format compatible for use within a geographic information system (GIS). These data were then used to produce a single multisource vegetation layer. Using the dominant vegetation/land-cover data, FRAP converted each data

AMADOR COUNTY GENERAL PLAN
Exhibit 4.4-1: Critical Habitat



source into the California Wildlife Habitat Relationship (CWHR) System to create a statewide habitat layer. The resulting single GIS data layer provides the most accurate and comprehensive source of habitat information currently available for Amador County. While small acreages of habitat may have been converted to other types between 2005 and the baseline year of 2009, these changes are very small and the FRAP data provides the best available baseline for vegetation and habitat in the County.

The value of an area to wildlife depends on physical and biological factors: the location relative to other land uses, the quality of habitat within and adjacent to the area, and the uniqueness of the habitat within a regional context. Amador County supports habitat ranging from very disturbed areas to high-quality native plant communities. Many areas within the County have experienced decreases in habitat value when compared to historic conditions, because they are located adjacent to urban development and agricultural uses.

Table 4.4-1 shows the acreage of all habitat types occurring in Amador County. The major habitats have been grouped into five categories: coniferous forest habitats, woodland habitats, shrub-dominated habitats, herbaceous-dominated habitats, and other habitats.

Category	Habitat Type	Total Acres
Coniferous forest habitats	Sierran Mixed Conifer	38,603
	Ponderosa Pine	19,875
	Douglas-fir	6,685
	Jeffrey Pine	317
	White Fir	3,228
	Red Fir	30,251
	Lodgepole Pine	980
	Subalpine Conifer	1,094
	Closed-Cone Pine-Cypress	157
Woodland habitats	Montane Hardwood-Conifer	15,294
	Montane Hardwood	69,037
	Blue Oak Woodland	44,774
	Blue Oak-Foothill Pine	8,694
	Valley Oak Woodland*	1,522
	Montane Riparian*	500
Shrub-dominated habitats	Chamise Chaparral	5,300
	Mixed Chaparral	12,616
	Montane Chaparral	8,435
	Sagebrush	8
Herbaceous dominated habitats	Annual Grassland	72,463
	Perennial Grassland	176
	Wet meadow*	607
Other habitats	Urban, Barren, Agriculture, Open Water	30,574
Not yet mapped		16,239
Total		387,429
Sensitive habitats are marked with * and are described in more detail below under "Sensitive Biological Resources."		
Sources: CAL FIRE and USFS 2005, data compiled by AECOM in 2006		

Coniferous Forest Habitats

Coniferous forest habitats are the dominant vegetation type above 2,500 feet elevation. Coniferous forest habitats cover approximately 101,190 acres, or about one-third of the 387,429 acres in the county. The eight major coniferous forest habitats in Amador County are Sierran mixed conifer, ponderosa pine, Douglas-fir, Jeffrey pine, lodgepole pine, red fir, white fir, and subalpine conifer.

Sierran mixed conifer covers 38,603 acres and is the most common coniferous forest habitat type in Amador County. Generally occurring at elevations of 2,500–6,000 feet, this habitat comprises both hardwood and conifer species. Trees commonly occurring in Sierran mixed conifer include Douglas-fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*), incense cedar (*Calocedrus decurrens*), white fir (*Abies concolor*), and black oak (*Quercus kelloggii*). Historically, burning and logging have caused wide variability in stand structure, resulting in both even-aged and uneven-aged stands. Forested stands form closed, multilayered canopies with nearly 100 percent overlapping cover. Virgin old-growth stands where fire has been excluded are often two-storied, with the overstory composed of mixed conifer and the understory white fir and incense cedar. Shrubs are common below openings in the canopy. Common shrub species are deer brush (*Ceanothus integerimus*), manzanita (*Arctostaphylos manzanita*), bush chinquapin (*Chrysolepis sempervirens*), squawcarpet (*Ceanothus prostratus*), mountain whitethorn (*Ceanothus cordulatus*), gooseberry (*Ribes* spp.), and mountain misery (*Chamaebatia foliolosa*).

Ponderosa pine covers 19,875 acres and usually occurs above montane hardwood-conifer (discussed under “Woodland Habitats” below) and below Sierran mixed conifer at elevations of 4,000–7,000 feet. This habitat ranges in composition from open to dense forest, and may exist in pure stands or be associated with other species such as white fir, Douglas-fir, or sugar pine.

Douglas-fir covers 6,685 acres and is found primarily at middle and higher elevations where it frequently replaces ponderosa pine on north-facing slopes. Plant diversity and density in the shrub and herbaceous understory of Douglas-fir forest vary considerably depending upon topographic and environmental factors such as elevation, aspect, and age of the stand.

Jeffrey pine covers 317 acres and is found generally at elevations of 6,000–7,000 feet. Jeffrey pine replaces ponderosa pine as the dominant species of pine at higher elevations and in drainages with colder temperatures. On the west slope of the Sierra Nevada, Jeffrey pine typically occurs in mixed stands, although pure stands may be present on glaciated soils or granite outcrops.

White fir covers 3,228 acres and is found between Sierran mixed conifer and red fir habitats, usually at elevations of 5,000–7,500 feet. This habitat consists of nearly pure stands of white fir with a sparse understory restricted to canopy openings. White fir forests are found generally on coarse, well-drained soils on cool north- and east-facing slopes. The understory may consist of white fir seedlings and saplings as well as sparsely scattered grasses, forbs, and shrubs.

Red fir covers 30,250 acres at elevations of 6,000–8,000 feet. Few other tree species grow in mature red fir forests because of the shading and thick layer of needles on the forest floor. At lower elevations on drier sites, red-fir habitat intergrades with mixed conifer stands dominated by white fir. At lower elevations on moist sites, red-fir habitat intergrades with stands of lodgepole pine.

Lodgepole pine covers 980 acres and is found generally at elevations of 7,000–9,000 feet. Lodgepole pine dominates the zone commonly found immediately above red-fir habitat and is characterized by open forest with sparse litter accumulation and little shrub or herbaceous understory. It intergrades with red fir or Sierran mixed conifer below the subalpine forests and is frequently found in extensive even-aged stands around meadows.

Subalpine conifer covers 1,094 acres and is generally found at elevations above 8,500 feet on dry, thin, well-drained soils that contain a large percentage of sand, gravel, volcanic debris, and rocks. This habitat intergrades

with lodgepole pine, Jeffrey pine, and red-fir habitats at lower elevations. Subalpine conifer is often dominated by lodgepole pine, mountain hemlock (*Tsuga mertensiana*), and/or red fir. These trees are usually low to medium in stature because of the poor soils, heavy snow, and strong winds that characterize the climatic conditions of the high Sierra Nevada.

Closed-cone pine-cypress covers 157 acres scattered in small patches throughout the county at elevations of 1,000-3,000 feet. The habitat type is dominated by a single species of one of the closed-cone pines (pine species whose cones require fire to open and release seed) or species of cypress. The height and canopy closure of these forests are variable and depend upon site characteristics, soil type, the age of the stand, and the floristic composition. In Amador County most of these stands are dominated by knobcone pine (*Pinus attenuata*). This pine grows in small dense patches with chamise, ceanothus (*Ceanothus* spp.), leather oak (*Quercus durata*), and manzanita occurring between patches or in openings in the tree canopy.

Woodland Habitats

Woodland habitats are located primarily at middle and lower elevations in the western half of Amador County. The four major woodland habitats are montane hardwood-conifer, montane hardwood, blue oak–foothill pine, and blue oak woodland. These habitats combined cover 139,821 acres in Amador County. Woodland habitats range in structure from open savanna to dense forest. Sensitive woodland habitats in the County include valley-foothill riparian, oak woodland, and montane riparian. These habitats are discussed under “Sensitive Biological Resources” below.

Montane hardwood-conifer, which covers 15,294 acres, includes vegetation associated with both coniferous and hardwood habitats and is a transitional habitat between the montane hardwood, mixed chaparral, and woodlands of low elevations and the coniferous forests of high elevations. Habitat composition is generally defined as including a minimum of one-third coniferous trees and one-third broad-leaved trees. Typically, conifers dominate the upper canopy, ranging up to 200 feet in height, and broad-leaved trees form a subcanopy at 30–75 feet. Common tree species associated within this habitat type include black oak, ponderosa pine, Douglas-fir, white fir, and incense cedar. In Amador County, montane hardwood-conifer is generally found at elevations of 1,000–4,000 feet.

Montane hardwood covers 69,037 acres in Amador County. This habitat usually occurs at lower elevations than montane hardwood-conifer and is often associated with major river canyons. Montane hardwood is composed of a mixture of trees that occur on rocky, poorly developed and well-drained soils. The structure ranges from dense to open tree cover with a poorly developed shrub understory. At low elevations, common species include canyon live oak (*Quercus chrysolepis*), foothill pine (*Pinus sabiniana*), madrone (*Arbutus menziesii*), and California bay (*Umbellularia californica*). Black oak and Douglas-fir may occur at higher elevations. Common shrubs in montane hardwood habitat include wood rose (*Rosa gymnocarpa*), snowberry, manzanita, and poison-oak (*Toxicodendron diversilobum*).

Blue oak woodland covers 44,774 acres and, together with blue oak–foothill pine woodland, is the predominant vegetation type at elevations below 3,000 feet across much of Amador County. Blue oak woodland is usually characterized by a dense understory of annual grasses or a poorly developed shrubby understory featuring species such as poison-oak, California coffeeberry, and buckbrush. Interior live oaks and canyon live oaks are often found in blue oak woodland. These species can also be the dominant tree species where they may be considered as distinct habitats. Interior live oaks are often associated with river floodplains, low foothills, and upland slopes. In low-elevation foothill woodlands, interior live oaks occur as widely spaced trees or clumps that may be concentrated around rock outcrops. Interior live oak becomes a more significant part of the blue oak woodland canopy with increasing elevation, particularly on north-facing slopes. Canyon live oaks are found on low foothills, mountain canyons, upland slopes, and exposed ridges.

Blue oak–foothill pine covers 8,694 acres and is characterized by a mixture of hardwoods, foothill pine (*Pinus sabiniana*), and shrubs. This habitat is found generally in the foothills where it intergrades with blue oak woodland and annual grassland at lower elevations, extending up to about 3,000 feet elevation, where it frequently intergrades with mixed chaparral. The understory is commonly characterized by clusters of mixed shrubs with interspersed openings dominated by annual grasses. Blue oaks are dominant at lower elevations but are usually outnumbered by foothill pines at higher elevations. Associated tree species include interior live oak, canyon live oak, and California buckeye (*Aesculus californica*).

Shrub-Dominated Habitats

Shrub-dominated habitats exist at scattered locations throughout the County and include sagebrush, alpine dwarf-shrub, montane chaparral, chamise chaparral, and mixed chaparral. These five habitats cover a total of 26,359 acres. Ione chaparral is a sensitive shrub-dominated habitat that is not mapped in the FRAP data. This habitat is discussed in more detail below under “Sensitive Biological Resources.”

Chamise chaparral covers 5,300 acres and is usually found at elevations below 4,000 feet. This shrub type often consists of nearly pure stands of chamise occurring primarily on xeric (dry), south-facing slopes with fine-textured soils. Toyon (*Heteromeles arbutifolia*), poison-oak, and species of Ceanothus are often found with chamise in drainages and on other relatively moist sites.

Mixed chaparral covers 12,616 acres and generally occurs at higher elevations than chamise chaparral on more mesic (moderately moist) or north-facing slopes. The structure of mixed chaparral is generally more complex than that of chamise chaparral and includes more woody, broader leaved species with higher canopy coverage. Vegetation typically consists of a nearly impenetrable mass of shrubs, vines, and herbs. Fire plays an important role in the composition and makeup of mixed chaparral, and the vegetation is naturally prone to wildfire. After fire removes the mature woody vegetation, a greater abundance and diversity of herbaceous plant species emerge.

Montane chaparral covers 8,435 acres at higher elevations in the County, intergrading with coniferous forest habitats. Montane chaparral is characterized by scattered shrubs in forests or in dense thickets where forests have been disturbed by landslide or avalanche, fire, or logging activities. Common plants found within this habitat include mountain whitethorn, greenleaf manzanita, huckleberry oak (*Quercus vacciniifolia*), and deerbrush.

Sagebrush habitat is mapped on 8 acres at higher elevations of Amador County. This habitat type is dominated by an open cover of mountain sagebrush (*Artemisia tridentata*).

Herbaceous-Dominated Habitats

Annual grassland covers 72,463 acres and is the primary herbaceous-dominated habitat in Amador County. Annual grassland is common at low elevations (i.e., at elevations below 2,500 feet) in the western region of the County. This habitat comprises mostly nonnative annuals, primarily of Mediterranean origin, but can also include a variety of native herbaceous species. Nonnative grasslands have replaced most native perennial grasslands in Amador County and throughout most of California.

Perennial grassland covers 176 acres in scattered locations throughout low to mid elevations in the county. Areas mapped as perennial grassland are remnants of what was once a more extensive habitat type in the foothills of the Sierra Nevada. These herbaceous habitats are dominated one or more native perennial bunchgrasses such as purple needlegrass (*Nasella pulchra*), deer grass (*Muhlenbergia rigens*), and/or fescues (*Festuca* sp.).

Other Habitats

Amador County contains a total of 101,600 acres that are not categorized as major habitat types. This acreage includes urban, agricultural, barren, and open water areas. However, the true extent of urban and other development in Amador County is greater than what was calculated using the FRAP data. Except for high-density

developments, urban and low-density developed areas can be difficult to detect using remote-sensing satellite imagery because development is often obscured by tree canopy cover. Because of this limitation, low-density urbanized areas could be categorized as one of the nonurban habitats. In addition, urbanization has increased since the satellite imagery used by FRAP was developed. Therefore, it is assumed that more land in Amador County is urbanized than the FRAP data would suggest or what is shown in Exhibit 4.4-2.

Open water covers 6,599 acres in Amador County. The CWHR definition of open water includes lakes, ponds, rivers, and streams, provided that greater than 98 percent of the surface is not vegetated. Open water exists throughout the County.

Barren land covers 11,896 acres in Amador County. The CWHR defines “barren” as lands absent of vegetation measured by canopy closure. Tree and shrub habitats are considered barren if they support less than 10 percent crown closure. Most of the land in the County categorized as barren is the rocky substrates found at the highest elevations in the County.

WILDLIFE AND FISHERIES

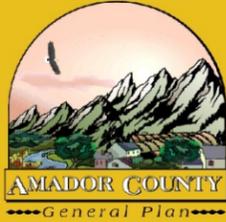
Wildlife

The complex array of habitats in Amador County supports an abundant and diverse fauna because large tracts of land are covered by habitats known to have outstanding value for wildlife, such as mixed coniferous forests and oak woodlands. Sierran mixed conifer habitat, the most common habitat in the County, alone supports 355 species of animals (Verner and Boss 1980). Oak woodlands provide habitat for more than 100 species of birds, 60 species of mammals, 80 species of amphibians and reptiles, and 5,000 species of insects (Verner and Boss 1980, Pavlik et al. 1991). Blue oak–foothill pine, another major habitat type in Amador County, provides suitable breeding habitat for 29 species of amphibians and reptiles, 79 species of birds, and 22 species of mammals (Verner and Boss 1980).

Coniferous forest and other high-elevation habitats provide important habitat for many wildlife species, both resident and migratory. Common resident birds found at higher elevations in the County include Clark’s nutcracker (*Nucifraga columbiana*), mountain chickadee (*Poecile gambelii*), red-breasted nuthatch (*Sitta canadensis*), brown creeper (*Certhia americana*), and Williamson’s sapsucker (*Sphyrapicus thyroideus*). Common migratory birds found in coniferous forest habitats at high elevations include white-crowned sparrow (*Zonotrichia leucophrys*), Hammond’s flycatcher (*Empidonax hammondi*), and Lincoln’s sparrow (*Melospiza lincolni*). Mammals in the upper montane and subalpine regions include golden-mantled ground squirrel (*Spermophilus lateralis*), Belding’s ground squirrel (*Spermophilus beldingi*), alpine chipmunk (*Neotamias alpinus*), and yellow-bellied marmot (*Marmota flaviventris*).

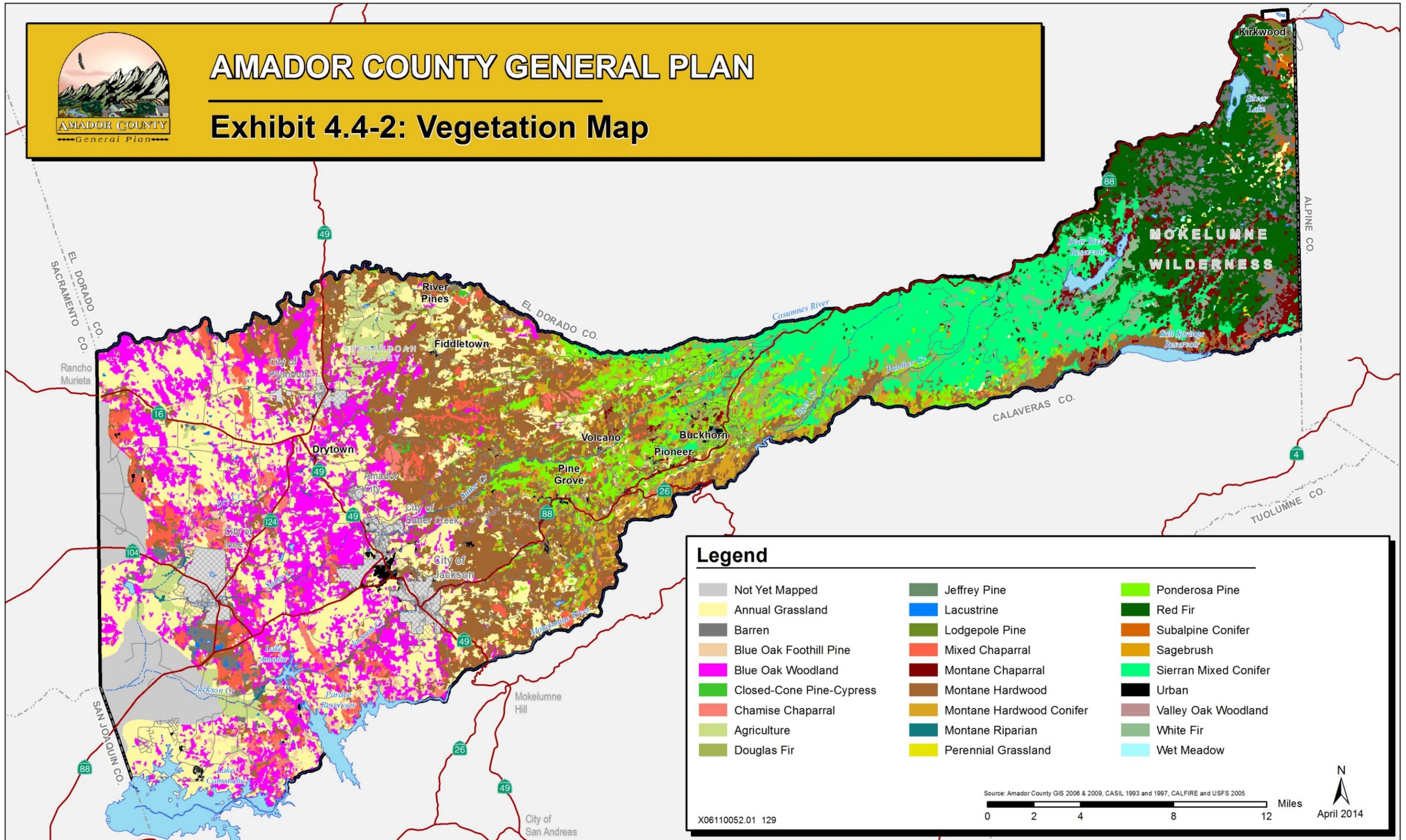
Wildlife diversity is generally high in the lower montane coniferous forest types. Amphibians and reptiles found in lower montane forest and woodlands include Pacific treefrog (*Hyla regilla*) and rubber boa (*Charina bottae*). Common resident birds in these forests include Stellar’s jay (*Cyanocitta stelleri*) and hairy woodpecker. Migratory species that use these forests for breeding during summer months include western tanager (*Piranga ludoviciana*), Nashville warbler (*Vermivora ruficapilla*), and black-headed grosbeak (*Pheucticus melanocephalus*). Common mammals in lower montane coniferous forests include mule deer (*Odocoileus hemionus*) and Douglas’ squirrel (*Tamiasciurus douglasii*).

Oak and other hardwood habitats at middle elevations are important for a large percentage of the wildlife species found in Amador County. Reptiles and amphibians found in oak woodlands include California slender salamander (*Batrachoseps attenuatus*), western fence lizard (*Sceloporus occidentalis*), and common kingsnake (*Lampropeltis getula*). Common birds in oak woodland include acorn woodpecker, western scrub-jay, and oak titmouse (*Baeolophus inornatus*). Mammals that characterize oak woodland habitat include mule deer, western gray squirrel, gray fox (*Urocyon cinereoargenteus*), and bobcat (*Lynx rufus*).



AMADOR COUNTY GENERAL PLAN

Exhibit 4.4-2: Vegetation Map



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Chaparral generally has lower wildlife diversity than most forest and woodland habitats. However, chaparral does provide habitat for many wildlife species, including some that are considered rare elsewhere. Reptiles found in chaparral include western rattlesnake (*Crotalus viridis*), western fence lizard, and western whiptail (*Aspidoscelis tigris*). Common birds in chaparral at low elevations include wrentit (*Chamaea fasciata*), Bewick's wren (*Thryomanes bewickii*), California towhee (*Pipilo crissalis*), and California quail (*Callipepla californica*). At higher elevations chaparral can provide habitat for mountain quail (*Oreortyx pictus*), fox sparrow (*Passerella iliaca*), and green-tailed towhee (*Pipilo chlorurus*). Mammals such as coyote, gray fox, bobcat, mule deer, and mountain lion use this habitat through established wildlife trails and areas disturbed by fire and brush removal.

Annual grasslands generally support lower wildlife diversity than woodland and shrub-dominated habitats but are invaluable to the grassland-dependent species found in the County. A great diversity and abundance of insects rely on grasslands. Reptiles found in annual grasslands include western fence lizard and gopher snake (*Pituophis catenifer*). Birds that are common in this habitat include western meadowlark (*Sturnella neglecta*), Say's phoebe (*Sayornis saya*), and savanna sparrow (*Passerculus sandwichensis*). Mammals known to use this habitat include California ground squirrel (*Spermophilus beecheyi*), black-tailed jackrabbit (*Lepus californicus*), pocket gopher (*Thomomys mazama*), and coyote (*Canis latrans*).

Agricultural land and lands dominated by urban development support many wildlife species, most of which are highly adapted to these disturbed environments. Agricultural land is not generally considered important wildlife habitat but is used by many species, particularly as foraging habitat. Wildlife found in agricultural areas varies by crop type and time of year. Common wildlife expected in most agricultural regions of Amador County include Brewers blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), house finch (*Carpodacus mexicanus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and opossum (*Didelphis virginiana*). Wildlife found in urban areas is often dependent upon surrounding land uses and the presence or absence of nearby natural vegetation. In the more urbanized areas, a large percentage of the wildlife can be made up of exotic species such as rock dove (*Columba livia*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), house mouse (*Mus musculus*), and brown rat (*Rattus norvegicus*). Urban areas provide habitat for species also found in agricultural areas, such as mourning dove, American robin (*Turdus migratorius*), and western gray squirrel.

Fisheries Resources

Primary aquatic habitats in Amador County include the South Fork Cosumnes River, the North Fork Mokelumne River, Dry Creek, Sutter Creek, Jackson Creek, Lake Camanche, Pardee Reservoir, and Lake Amador. These water bodies provide vital fish spawning, rearing, and/or migratory habitat for a diverse assemblage of native and nonnative fish species. Native species can be separated into anadromous (i.e., species that spawn in freshwater after migrating as adults from marine habitat) and resident species.

Native anadromous species that have the potential to occur in Amador County rivers and streams include two runs of chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*), green and white sturgeon (*Acipenser medirostris* and *A. transmontanus*), and Pacific lamprey (*Lampetra tridentata*).

Native resident species include Sacramento pikeminnow (*Ptychocheilus grandis*), Sacramento splittail (*Pogonichthys macrolepidotus*), Sacramento sucker (*Catostomus occidentalis*), hardhead (*Mylopharodon conocephalus*), Sacramento–San Joaquin roach (*Lavinia symmetricus* ssp. *symmetricus*), and rainbow trout (*Oncorhynchus mykiss*).

Nonnative resident species include largemouth bass (*Micropterus salmoides*), smallmouth bass (*M. dolomieu*), redeye bass (*M. coosae*), white and black crappie (*Pomoxis annularis* and *P. nigromaculatus*), channel catfish (*Ictalurus punctatus*), white catfish (*Ameiurus catus*), brown bullhead (*Ictalurus nebulosus*), bluegill (*Lepomis macrochirus*), green sunfish (*Lepomis cyanellus*), golden shiner (*Notemigonus crysoleucas*), brown trout (*Salmo trutta*), and brook trout (*Salvelinus fontinalis*).

In Amador County and throughout the Central Valley, the use of different portions of water bodies by various fish species is influenced by variations in habitat conditions and by the habitat requirements, life history, and daily and seasonal movements and behavior of each species. The distribution of common native fishes in Amador County streams reflects the historical distribution of common native fishes in the larger Central Valley drainage.

Central Valley streams have headwaters in mountain areas and flow through steep canyons and deep pools in the foothills before flowing into slow-moving rivers or lakes on the valley floor. The habitats found in mountains, foothills, and the valley floor contained distinct assemblages of fish that had wide or narrow zones of overlap, depending on the gradient of the stream and other environmental conditions. The overlap among regions with distinct assemblages (often called zones) is fairly broad. Four assemblages can usually be recognized in Central Valley streams (Moyle 2002):

- ▶ the rainbow trout assemblage,
- ▶ the pikeminnow-hardhead-sucker assemblage,
- ▶ the California roach assemblage, and
- ▶ the deep-bodied fishes assemblage.

Streams in Amador County are occupied primarily by the pikeminnow-hardhead and California roach assemblages.

Pikeminnow-Hardhead-Sucker Assemblage

The foothill areas of the Central Valley support the pikeminnow-hardhead-sucker assemblage, which occurred at elevations of approximately 250–1,800 feet (Moyle 2002). The pikeminnow-hardhead-sucker fish assemblage zone is characterized by streams that have average summer flows greater than 10 cubic feet per second (cfs); deep, rocky pools; and wide, shallow riffles. Water quality is usually very good (high clarity, low conductivity, high dissolved oxygen, summer temperatures between 19° and 22°C (66.2° to 71.6°F), with complex habitat created by stream meanders and riparian vegetation. However, some streams may become intermittent in the summer, or have such reduced flows that fish are confined to pools. Summer water temperatures in such streams may exceed 25°C (77°F) and may track air temperatures closely.

Sacramento pikeminnow and Sacramento sucker are usually the most abundant native fishes of this assemblage. Other fishes part of this assemblage include hardhead, speckled dace, California roach, riffle sculpin, and rainbow trout. Anadromous fishes (mainly chinook salmon, steelhead rainbow trout, and Pacific lamprey) had spawning grounds in the same zone (Moyle 2002).

California Roach Assemblage

The California roach assemblage occurs in small, warm tributaries to larger streams that flow through open foothill woodlands of oak and foothill pine (Moyle 2002). Streams that support the California roach assemblage are located in the foothills in much of the same region that contains the pikeminnow-hardhead-sucker assemblage. During summer the streams are usually intermittent, so fish are often confined to stagnant pools that may exceed 30°C (86°F) during the day. The streams are swift and subject to flooding during the winter and spring.

The primary permanent resident in this zone is the California roach. Because of its small size and tolerance of low oxygen levels and high temperatures, roach survives where most other fish cannot. During winter and spring, Sacramento sucker, pikeminnow, and other native minnows may use the streams for spawning and juveniles for rearing (Moyle 2002).

SENSITIVE BIOLOGICAL RESOURCES

Overview

Sensitive biological resources are those that are of special concern to resource agencies or are afforded specific consideration through CEQA, California Fish and Game Code, CESA, ESA, CWA, Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and those given recognition in local or regional plans, policies, and regulations.

Information about sensitive biological resources previously reported in Amador County was collected from a variety of sources, including electronic databases and published reports. The California Natural Diversity Database (CNDDDB) (2012) was used as the primary source to identify previously reported occurrences of special-status species and sensitive habitats. The CNDDDB is a statewide inventory, managed by CDFW that is continually updated with the locations and condition of the state's rare and declining species and habitats. Although the CNDDDB is the most current and reliable tool for tracking occurrences of special-status species, it contains only those records that have been submitted to CDFW and is not always completely up-to-date. Thus, additional special-status species are likely present in Amador County that have not been discovered or reported, and additional occurrences that have already been reported may have not yet been entered into the database.

Additional sources of information used to identify special-status species which could occur in Amador County include the California Rare Plant Ranks (CRPRs) available in the California Native Plant Society (CNPS) *Electronic Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2012), along with the Sacramento USFWS database of federally listed species (USFWS 2012). Appendix C includes summaries of these three database searches.

It should be noted that Sacramento orcutt grass was identified in the USFWS database searches as special-status plant species potentially occurring in Amador County. However, no records of this species having actually been identified in Amador County could be located as part of the background research conducted in preparation of the biological resource background report compiled in support of the General Plan Update.

Special-Status Species

Special-status species include plants and animals in the following categories:

- ▶ species listed or proposed for listing as threatened or endangered under the ESA or CESA;
- ▶ species considered as candidates for listing as threatened or endangered under the ESA or CESA;
- ▶ wildlife species identified by CDFW as species of special concern;
- ▶ plants listed as endangered or rare under the California Native Plant Protection Act;

Special-Status Plants

Overview

Twelve special-status plant species have been documented in Amador County (**Table 4.4-2**). Of these, four are federally listed and/or state listed as endangered, threatened, or rare: Ione manzanita (*Arctostaphylos manzanita*), Ione buckwheat (*Eriogonum apricum* var. *apricum*), Irish Hill buckwheat (*Eriogonum apricum* var. *prostratum*), and Sacramento orcutt grass (*Orcuttia viscida*). The remaining eight special-status plants are CRPR 1B or CRPR 2B. Species on both CRPR 1B and CRPR 2B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing.

**Table 4.4-2
Special-Status Plant Species Known to Occur or Potentially Occurring in Amador County**

Species	Status ¹			Habitat	Flowering period
	USFWS	CDFW	CRPR		
Ione manzanita <i>Arctostaphylos manzanita</i>	T		1B	Occurs on acidic, clay soils on the Ione formation at elevations of 180–1,900 feet. Forms the dominant species of the Ione chaparral community type.	November–February
Pleasant Valley mariposa lily <i>Calochortus clavatus</i> var. <i>avius</i>	--	--	1B	Occurs on Josephine silt loams and volcanically derived soils in lower montane coniferous forest, often in rocky areas at elevations of 1,000–6,200 feet.	May–July
Red Hills soaproot <i>Chlorogalum grandiflorum</i>	--	--	1B	Found on serpentine or gabbro soils in lower montane coniferous forests and woodland at elevations of 700–3,400 feet.	May and June
Dwarf downingia <i>Downingia pusilla</i>	--	--	2B	Found in vernal pools, valley and foothill grasslands below 1,000 feet elevation.	March–May
Male fern <i>Dryopteris filix-mas</i>	--	--	2B	Found in upper montane coniferous forest at elevations of 7,400 to 10,000 feet.	July–September
Ione buckwheat <i>Eriogonum apricum</i> var. <i>apricum</i>	E	E	1B	Found in openings in chaparral and woodlands on Ione soils in Amador County.	July–October
Irish Hill buckwheat <i>Eriogonum apricum</i> var. <i>prostratum</i>	E	E	1B	Found in openings in chaparral and woodlands on Ione soils in Amador County.	June and July
Tuolumne button-celery <i>Eryngium pinnatisectum</i>	--	--	1B	Occurs in vernal pools and other ephemerally mesic sites in cismontane woodland and lower montane coniferous forest at elevations of 300–3,000 feet.	June–August
Parry’s Horkelia <i>Horkelia parryi</i>	--	--	1B	Found in chaparral and cismontane woodland, usually on Ione soils, at elevations of 250–3,300 feet.	April–June
Pincushion navarretia <i>Navarretia myersii</i> ssp. <i>myersii</i>	--	--	1B	Vernal pools in valley and foothill grassland; elevations of 60–1,100 feet.	May
Sacramento orcutt grass <i>Orcuttia viscida</i>	E, X	E	1B	Known only from vernal pools in Sacramento County (including some near the border of Amador County).	May and June
Prairie wedge grass <i>Sphenopholis obtusata</i>	--	--	2B	Found in meadows, seeps, and mesic sites in cismontane woodland at elevations of 1,000–6,500 feet.	April–July

Notes: CRPR = California Rare Plant Rank, CDFW = California Department of Fish and Wildlife, USFWS = U.S. Fish and Wildlife Service

1 Legal Status Definitions

Federal Listing Categories (USFWS)

E Endangered
T Threatened (legally protected)
X Critical Habitat is designated for this species by USFWS

CRPR Categories (CDFW)

1B Plant species considered rare or endangered in California and elsewhere (but not legally protected under the ESA or CESA)
2B Plant species considered rare or endangered in California but more common elsewhere (but not legally protected under the ESA or CESA)

State Listing Categories (CDFW)

E Endangered
T Threatened (legally protected)

Locations of previously documented special-status plant occurrences in the County are shown in Exhibit 4.4-3. Ione manzanita and the two subspecies of Ione buckwheat are restricted to the Ione soil formation in the western portion of the County. These plants are of particular concern to federal and state agencies responsible for protection of natural resources because of the rarity of the plants and their limited range, and because of the high development pressure in the area encompassing the Ione soils. Additional information about the Ione soil formation and efforts to conserve the special-status plants that occur on these formations is provided below.

Ione Chaparral Plants

One of Amador County's most unique biological resources is the Ione chaparral, a plant community restricted to western and northern Amador County and found only on the Ione formation, an ecologically unique substrate that has been called "one of California's Galapagos Islands" (Hartwell 2006). This substrate is composed of a sand/clay mix with little or no soil development. The soils that have developed on this formation create a particularly harsh growing environment for most plants because of their extreme acidity, low macronutrients (e.g., nitrogen, calcium, and magnesium) and high amounts of elements that most plants find toxic, such as aluminum. It is because of these unique ecological characteristics and this restrictive nature that Ione chaparral supports a high number of adapted rare plants (Table 4.4-2).

Ione Chaparral Plants

One of Amador County's most unique biological resources is the Ione chaparral, a plant community restricted to western and northern Amador County and found only on the Ione formation, an ecologically unique substrate that has been called "one of California's Galapagos Islands" (Hartwell 2006). This substrate is composed of a sand/clay mix with little or no soil development. The soils that have developed on this formation create a particularly harsh growing environment for most plants because of their extreme acidity, low macronutrients (e.g., nitrogen, calcium, and magnesium) and high amounts of elements that most plants find toxic, such as aluminum. It is because of these unique ecological characteristics and this restrictive nature that Ione chaparral supports a high number of adapted rare plants (Table 4.4-2).

Ione chaparral is characterized by low heath-like shrubs interspersed with naturally barren areas. Ione manzanita (*Arctostaphylos myrtifolia*), a species federally listed as threatened, is the dominant species, forming monospecific stands in some areas. Two other plants federally listed as endangered, Ione buckwheat (*Eriogonum apricum* var. *apricum*) and Irish Hill buckwheat (*Eriogonum apricum* var. *prostratum*), are also found only on Ione chaparral. Bisbee Peak rush-rose (*Helianthemum suffrutescens*) and Parry's horkelia (*Horkelia parryi*) are two additional CRPR 1B plants that are found in this plant community. Species characteristic of the mixed chaparral described previously occur sporadically in this plant community, especially where the two community types intergrade.

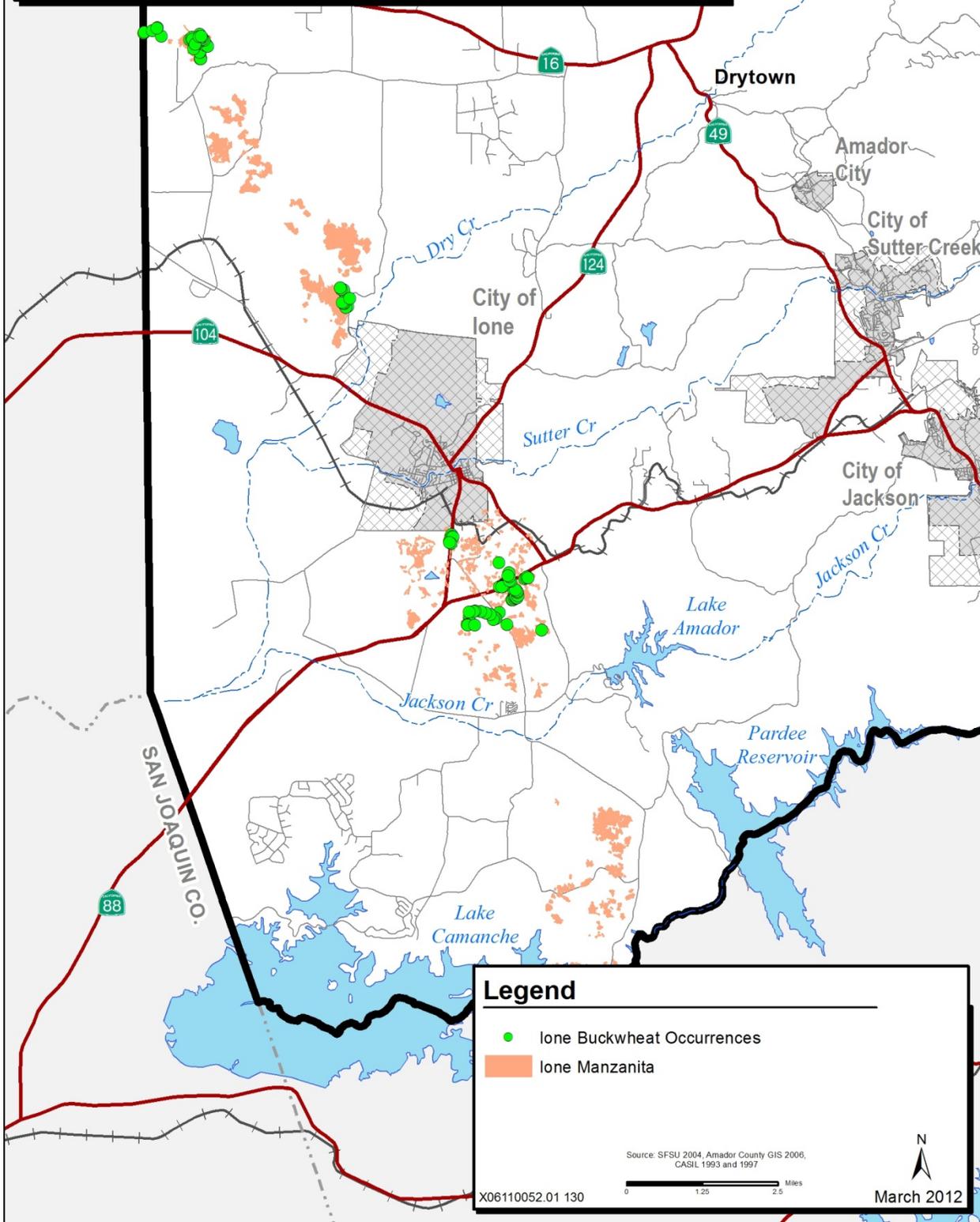
The Ione chaparral has been the subject of numerous studies in recent years (Hartwell 2006, The Nature Conservancy of California 2003, Swiecki and Bernhardt 2003, Holzman and Meyer 2004). A 2004 report for CDFW carried out by researchers at San Francisco State University mapped the extent of Ione manzanita and Ione buckwheat populations, assessed the health of these populations, and made management recommendations for recovery of the populations (Holzman and Meyer 2004). Exhibit 4.4-3 shows locations of Ione manzanita, Ione buckwheat, and Irish hill buckwheat populations mapped for this report. Ione chaparral is mapped on 1,196 acres of Amador County.

Approximately 860 acres within the range of Ione chaparral are in public ownership. Of these, 217 acres are owned by the U.S. Bureau of Land Management (BLM) and CDFW, including CDFW's 37-acre Apricum Hill Ecological Preserve and the BLM 120-acre Ione Manzanita Area of Critical Environmental Concern. These two properties are managed for the long term conservation of these plants and the habitat they occur in. Activities on these conservation lands include habitat restoration and research on management requirements for the long-term survival of the rare species occurring there. The remaining occurrences of Ione chaparral are under private ownership. The clay component of the Ione soils has high economic value and has been actively mined since the 1860s.



AMADOR COUNTY GENERAL PLAN

Exhibit 4.4-3: Lone Chaparral



Another major threat to the survival of Ione manzanita is disease. Two fungal pathogens, a branch-canker disease (caused by a species of *Fusicoccum*) and a root and crown rot disease (caused by the fungal species *Phytophthora cinnamomi*), have been recently isolated from Ione manzanita and are significantly affecting the health of Ione manzanita stands (Swiecki and Bernhardt 2003). The latter of these two diseases poses a serious threat to the survival of Ione manzanita because its resistant spores can persist in the soil for long periods of time in the absence of a host, preventing reestablishment of Ione manzanita. The spread of the disease is exacerbated by the movement of soil associated with mining activities and erosion. Management of the disease is critical to the conservation of Ione chaparral species.

A draft recovery plan for Ione manzanita, Ione buckwheat, Irish Hill buckwheat, Parry's horkelia, and Bisbee Peak rush-rose is presently under review by USFWS. Recovery plans are a required element of listing under the ESA. The recovery plan will not be a regulatory or legal document, but it will provide guidance for cooperation between federal and state agencies and private entities in the conservation of the threatened and endangered species occurring on Ione soils. The 2003 Ione chaparral focus plan, a precursor to the recovery plan, was written by a consortium of agency biologists, representatives of conservation organizations working to preserve Ione chaparral, and university researchers. The plan analyzes the status of conservation efforts at the time and makes recommendations for strategic land acquisitions and relevant research still needed to address the long-term management needs of this vulnerable biological resource.

Special-Status Wildlife

Overview

Thirty-seven special-status wildlife species are known or have potential to occur in Amador County (Table 4.4-3). Of these, six are federally listed as threatened or endangered:

- ▶ vernal pool fairy shrimp (*Branchinecta lynchi*),
- ▶ valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*),
- ▶ vernal pool tadpole shrimp (*Lepidurus packardii*),
- ▶ Central Valley steelhead (*Oncorhynchus mykiss*),
- ▶ California tiger salamander (*Ambystoma californiense*), and
- ▶ California red-legged frog (*Rana aurora draytonii*).

The remaining 29 species are considered federal candidate species for listing by USFWS and/or California species of special concern by CDFW. Locations of documented occurrences of special-status wildlife species in Amador County are shown in Exhibit 4.4-4. The critical habitat designation for vernal pool fairy shrimp and vernal pool tadpole shrimp is shown in Exhibit 4.4-1 and is explained in the description of the recovery plan for vernal pool ecosystems described below under "Sensitive Natural Communities." The critical habitat designation for California tiger salamander is described below.

California Tiger Salamander

The California tiger salamander is a large terrestrial salamander restricted to California grassland and oak savanna environments with seasonal or perennial ponds or vernal pools for breeding. California tiger salamanders spend most of the year in mammal burrows or other underground refuges, where they remain active or enter a state of dormancy. Migration to breeding locations begins with the first rain events of the fall and winter. California tiger salamanders are known to migrate up to 1.24 miles (2 kilometers) from upland refuges to breeding sites (USFWS and CDFW 2003), usually moving during rain events at night. Vernal pools are particularly important breeding habitats for California tiger salamander because the pools dry completely in the late summer and fall and do not support breeding populations of nonnative predators that require permanent water, such as fish or bullfrogs.

**Table 4.4-3
Special-Status Wildlife Species Known to Occur or Potentially Occurring in Amador County**

Species	Status ¹		Habitat
	USFWS	CDFW	
Invertebrates			
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T, X	–	Inhabits pools with clear to tea-colored water, most commonly in grass or mud-bottomed swales, or basalt flow depression pools in unplowed grasslands, but sometimes in sandstone rock outcrops and alkaline vernal pools. Found in the Central Valley and coast ranges of California. This species has not been documented in Amador County, but occurs near the Amador County line in Sacramento County.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	–	Closely associated with blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>), which is an obligate host for beetle larvae. Adult valley elderberry longhorn beetles are usually found upon or flying between elderberry plants.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E	–	Inhabits seasonal, vernal pools or swales in the Central Valley and San Francisco Bay area, that form in slight depressions after being inundated following fall and winter rains. The pools contain clear to highly turbid water and have an impervious hardpan, claypan, or basalt layer beneath the soil surface that retains the water for a few months at a time. This species has not been documented in Amador County, but occurs near the Amador County line in Sacramento County.
Fish			
Central Valley steelhead Distinct Population Segment (DPS) <i>Oncorhynchus mykiss</i>	T	–	Inhabits riparian, emergent, palustrine habitat in the Sacramento and San Joaquin Rivers and their tributaries. Spawning and rearing habitat is usually characterized by perennial streams with clear, cool to cold, fast-flowing water with a high dissolved oxygen content and abundant gravels and riffles. The Mokelumne River downstream of Camanche Dam in San Joaquin County is designated critical habitat for this species; but it is unlikely to be present above Camanche Dam. Only vestigial resident populations (i.e., rainbow trout) are present above Camanche Dam. Breeding habitat present in Amador County; concerns about water quality, passage, and riparian habitat protection.
Chinook salmon, Central Valley fall/late fall–run ESU <i>Oncorhynchus tshawytscha</i>	C	–	Tends to spawn in the main stems of rivers (or larger tributaries) in areas of gravel and cobble substrate.
Sacramento–San Joaquin roach <i>Pogonichthys macrolepidotus</i>	–	CSC	Generally found in small, warm streams throughout the Sacramento–San Joaquin River drainages. Roach is tolerant of relatively high water temperatures (86° to 95°F) and low oxygen levels.
Sacramento splittail <i>Pogonichthys macrolepidotus</i>	–	CSC	Splittail is endemic to California and occurs in sloughs, lakes, and rivers of the Central Valley, including portions of the Cosumnes River in Amador County.
Hardhead <i>Mylopharodon conocephalus</i>	–	CSC	Widely distributed in undisturbed areas of larger middle- and low-elevation streams of the Sacramento River drainage; prefers clear, deep (>1 meter) pools with sand-gravel-boulder substrates and slow water velocities for spawning.

**Table 4.4-3
Special-Status Wildlife Species Known to Occur or Potentially Occurring in Amador County**

Species	Status ¹		Habitat
	USFWS	CDFW	
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	T, X	<u>-ST</u>	Vernal pools, seasonal wetlands, ponds and other aquatic habitats with a minimum 10-week inundation period and surrounding uplands, primarily grasslands; with underground refuges, especially ground-squirrel burrows; critical habitat is designated for this species in the County and it has been documented in vernal pools and stock ponds in the County.
California red-legged frog <i>Rana aurora draytonii</i>	T	-	Found in a variety of aquatic, riparian, and upland habitats, including ephemeral ponds, intermittent streams, seasonal wetlands, springs, seeps, permanent ponds, perennial creeks, manmade aquatic features, marshes, dune ponds, lagoons, riparian corridors, blackberry thickets, nonnative annual grasslands, and oak savannas. There are no known populations of this species in Amador County, but it is known to occur in adjacent Calaveras County.
Mountain -Sierra yellow-legged frog <i>Rana museosasierrae</i>	<u>CSE</u>	CSC	Utilizes ponds, lakes, and streams at moderate to high elevations.
Foothill yellow-legged frog <i>Rana boylei</i>	-	CSC	Found in middle to low elevations in perennial creeks and streams, usually with cobble bottoms.
Yosemite toad <i>Bufo canorus</i>	C	CSC	Endemic to high-elevation, relatively open montane meadows, although forest cover around meadows is also used; suitable breeding sites are generally found at the edges of meadows or slow, flowing runoff streams.
Western spadefoot <i>Spea hammondi</i>	-	CSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands; rain pools or vernal pools that do not contain bullfrogs, fish, or crayfish are necessary for breeding. This species has not been documented in Amador County, but is known to occur near the Amador County line in Sacramento County.
Reptiles			
Western pond turtle <i>Emys marmorata</i>	-	CSC	Uses permanent or nearly permanent water bodies in a variety of habitat types. Can be found in ponds, marshes, rivers, streams, and irrigation ditches within grasslands, woodlands, and open forests.
Birds			
Northern goshawk <i>Accipiter gentilis</i>	-	<u>CSC</u>	<u>Generally requires mature conifer forests with large trees, snags, downed logs, dense canopy cover, and open understories for nesting; aspen stands also are used for nesting. Foraging habitat includes forests with dense to moderately open overstories and open understories interspersed with meadows, brush patches, riparian areas, or other natural or artificial openings.</u>
Tricolored blackbird <i>Agelaius tricolor</i>	-	<u>CSC</u>	Nests in dense cattails and tules, riparian scrub, and other low dense vegetation; forages in grasslands and agricultural fields.
Golden eagle <i>Aquila chrysaetos</i>	-	CSC, FPS	Prefers open terrain for hunting, such as grasslands, deserts, savannas, and early successional stages of forest and shrub habitats. Nests in rugged, open habitats with canyons and escarpments, typically on cliffs and rock outcroppings; however, it will also nest in large trees including oaks, sycamores, redwoods, pines, and eucalyptus.

**Table 4.4-3
Special-Status Wildlife Species Known to Occur or Potentially Occurring in Amador County**

Species	Status ¹		Habitat
	USFWS	CDFW	
Grasshopper sparrow <i>Ammodramus savannarum</i>	–	CSC	<u>Nests and forages in dense grasslands; favors a mix of native grasses, forbs, and scattered shrubs. Nests are built on the ground at the base of grass clumps.</u>
Burrowing owl <i>Athene cunicularia</i>	–	CSC	Nests in burrows in areas of low-growing vegetation in grasslands and agricultural fields.
Swainson’s hawk <i>Buteo swainsoni</i>	–	T	Nests in riparian forest and scattered trees; forages in grasslands and agricultural fields.
Vaux’s swift <i>Chaetura vauxi</i>	–	CSC	<u>Nests in cavities in a variety of trees and less frequently in artificial structures in coniferous forests.</u>
Northern harrier <i>Circus cyaneus</i>	–	CSC	Habitat types include brackish and freshwater marshes, alpine meadows, grasslands, prairies, and agricultural lands. Wintering habitat includes freshwater and saltwater wetlands, coastal dunes, grasslands, deserts, meadows, and croplands. Breeding habitat includes freshwater wetlands, coastal brackish wetlands, open wet meadows and grasslands, shrub-steppe, desert sinks, areas along rivers and lakes, and crop fields.
Olive-sided flycatcher <i>Contopus cooperi</i>	–	CSC	<u>Nests primarily in late-succession conifer forest with open canopy. Prefers to forage near forest openings or edges.</u>
Yellow warbler <i>Dendroica petechial brewsteri</i>	–	CSC	<u>Nests in dense riparian vegetation such as willows and alders.</u>
White-tailed kite <i>Elanus leucurus</i>	–	FPS	Trees and shrubs in grasslands and savannas.
Willow flycatcher <i>Epidonax trailii</i>	–	E	<u>In the Sierra Nevada, suitable habitat typically consists of montane meadows that support riparian deciduous shrubs (particularly willows) and remain wet through the nesting season (i.e., midsummer). Important characteristics of suitable meadows include a high water table that results in standing or slow-moving water, or saturated soils (e.g., “swampy” conditions) during the breeding season; abundant riparian deciduous shrub cover (particularly willow); and riparian shrub structure with moderate to high foliar density that is uniform from the ground to the shrub canopy. Most breeding occurrences are in meadows larger than 19 acres, but the average size of occupied meadows is approximately 80 acres. Although less common in the Sierra Nevada, riparian habitat along streams also can function as suitable habitat for willow flycatcher. However, those areas must support the hydrologic and vegetation characteristics described for suitable meadows (e.g., standing or slow-moving water, and abundant and dense riparian vegetation).</u>
Yellow-breasted chat <i>Icteria virens</i>	–	CSC	<u>Forages and nests in riparian thickets of willow, blackberry, and wild grape within 10 feet of the ground.</u>
Loggerhead shrike <i>Lanius ludovicianus</i>	–	CSC	Open country for foraging; dense shrubs for nesting.
Peregrine falcon <i>Falco peregrinus anatum</i>	D	D, FPS	Nesting sites are typically on ledges of large cliff faces. Nesting and wintering habitats are varied, including wetlands, woodlands, other forested habitats, cities, agricultural areas, and coastal habitats.
Bald eagle <i>Haliaeetus leucocephalus</i>	D	E, FPS	Found near aquatic habitats (rivers, lakes, reservoirs) with forested shorelines; nests in large trees that are open and accessible (mostly conifers).

**Table 4.4-3
Special-Status Wildlife Species Known to Occur or Potentially Occurring in Amador County**

Species	Status ¹		Habitat
	USFWS	CDFW	
Bank swallow <i>Riparia riparia</i>	–	T	Nests in colonies and creates nests by burrowing into vertical banks consisting of fine-texture soils; breeds in California from April to August and spends the winter months in South America.
<u>California spotted owl</u> <i>Strix occidentalis occidentalis</i>	–	<u>CSC</u>	<u>Occurs in several forest vegetation types including mixed conifer, ponderosa pine, red fir, and montane hardwood. Nesting habitat is generally characterized by dense canopy closure (i.e., greater than 70 percent) with medium to large trees and multistoried stands (i.e., at least two canopy layers). Foraging habitat can include intermediate to late-successional forest with greater than 40 percent canopy cover.</u>
<u>Yellow-headed blackbird</u> <i>Xanthocephalus xanthocephalus</i>	–	<u>CSC</u>	<u>Breeds in marshes with tall emergent vegetation, such as cattails or tules, generally in open areas over relatively deep water.</u>
Mammals			
Pallid bat <i>Antrozous pallidus</i>	–	CSC	A wide variety of habitats at lower elevations including grasslands, shrublands, woodlands, and forests. Uses caves, crevices, bridges, buildings, and other human-made structures for roosting and breeding.
Sierra Nevada mountain beaver <i>Aplodontia rufa californica</i>	–	CSC	Rivers, lakes, ponds, and streams with nearby dense understory of small deciduous trees and shrubs.
Wolverine <i>Gulo gulo</i>	–	T	Inhabits upper montane and alpine habitats of the Sierra Nevada, Cascades, Klamath, and north Coast Ranges. Needs water source and denning sites. Rarely seen. Sensitive to human disturbance.
Pacific fisher <i>Martes pennanti</i>	C	–	Found in intermediate to large-tree stages of coniferous forests and deciduous riparian areas with high percentage of canopy closure. Uses cavities, snags, logs, and rocky areas for cover and denning. Needs large areas of mature, dense forest.
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	–	ST	Various habitats including forested areas and wet meadows.
Notes: CDFW = California Department of Fish and Wildlife, USFWS = U.S. Fish and Wildlife Service			
¹ Legal Status Definitions		State Listing Categories (CDFW)	
Federal Listing Categories (USFWS)		E Endangered	
E Endangered		T Threatened	
T Threatened		<u>C Candidate</u>	
C Candidate		D Delisted	
D Delisted		CSC Species of Special Concern	
X Critical Habitat is designated for this species by USFWS		FPS Fully Protected Species	

Threats to the California tiger salamander include habitat alteration or loss from human development, introduction of nonnative predators, rodent control and loss of nonbreeding habitat, and hybridization with nonnative tiger salamanders.

The California tiger salamander is listed as threatened under the ESA throughout its range, except in Sonoma and Santa Barbara Counties, where it is listed as endangered. The California tiger salamander is known to occur in vernal pool landscapes in western Amador County. Final critical habitat for this species was designated by USFWS in 2005 (70 FR 49379–49458, August 23, 2005). Portions of Unit 4 of the Central Valley region of critical habitat designation fall in western Amador County. The extent of this area is shown in Exhibit 4.4-1.

Deer Migration Corridors

Amador County's deer include both resident and migratory populations. Although mule deer is not recognized as a special-status species, CDFW is concerned about preserving deer migration corridors in many foothill and mountainous regions of California currently experiencing expansion of urbanized areas. Important habitat and deer migration patterns for the Salt Springs deer herd have been mapped by CDFW in El Dorado County (El Dorado County 2003), but no established migration corridors have been identified in Amador County. The U.S. Forest Service has identified deer range in eastern Amador County (USFWS 2005) and deer may move through any suitable open space habitat areas between their summer and winter ranges.

Important habitat identified and mapped by CDFW is seen as essential to the long-term productivity of this herd and includes critical winter range, critical summer range, and fawning areas. Based on areas defined in El Dorado County as important habitat, critical winter range in Amador County would be located primarily at elevations of 2,000–4,000 feet. Critical summer range and critical fawning areas would be located at elevations of 4,000–9,000 feet in the eastern half of the county and would largely occur on National Forest lands managed by USFS. The summer range of regional deer herds is characterized by mixed conifer forest while winter range consists primarily of oak woodlands and chaparral. Habitats and plant species important to deer in the central Sierra Nevada include riparian and meadow habitats and oak, aspen, willow, ceanothus, and willow species (BLM, DFG, USFS 1998).

Sensitive Natural Communities

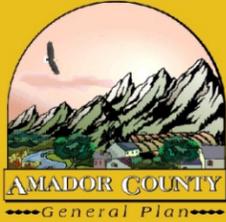
Overview

Sensitive natural communities are those protected by or of special concern to federal, state, or local resource conservation agencies and organizations. Sensitive natural communities include wetlands protected under the federal CWA, and riparian area subject to regulation under CDFW code. CDFW and CNPS both have programs that identify and track rare and/or diminishing native plant communities within California. Although some of these communities represent important biological resources and may be unique to California, they may have no legal or protected status. Regardless, substantial losses of these plant communities may be considered significant under CEQA. In Amador County, sensitive natural communities include the Ione chaparral, northern hardpan vernal pools and other wetlands, valley-foothill riparian, valley oak woodland, montane riparian, and wet meadow communities.

Sensitive natural communities discussed in more detail below include valley-foothill riparian habitat, valley oak woodland, and northern hardpan vernal pools. Montane riparian and wet meadow habitats are found primarily on National Forest lands in higher elevations of the County that are not subject to County planning. Ione chaparral, a sensitive habitat tracked in the CNDDDB, was described in the preceding discussion of special-status plants restricted to Ione soils. The extent of montane riparian, valley oak woodland, and wet meadow habitat in the County was calculated using the FRAP land cover data (Table 4.4-1). The amount of valley-foothill riparian habitat has not been quantified and is not shown in Exhibit 4.4-2 because stands of this type are usually long and narrow and smaller than the minimum mapping unit for this scale. No acreage total is given for vernal pools, and they are not included in the figures because their seasonal nature makes them difficult to quantify and map at this scale. The extent of some of the wetland and riparian features can be derived from the data in the National Wetlands Inventory (Exhibit 4.4-5). On this map, some of the features identified as freshwater forested/shrub wetland would be considered valley-foothill and montane habitats and some of the features identified as freshwater emergent wetland are northern hardpan vernal pools.

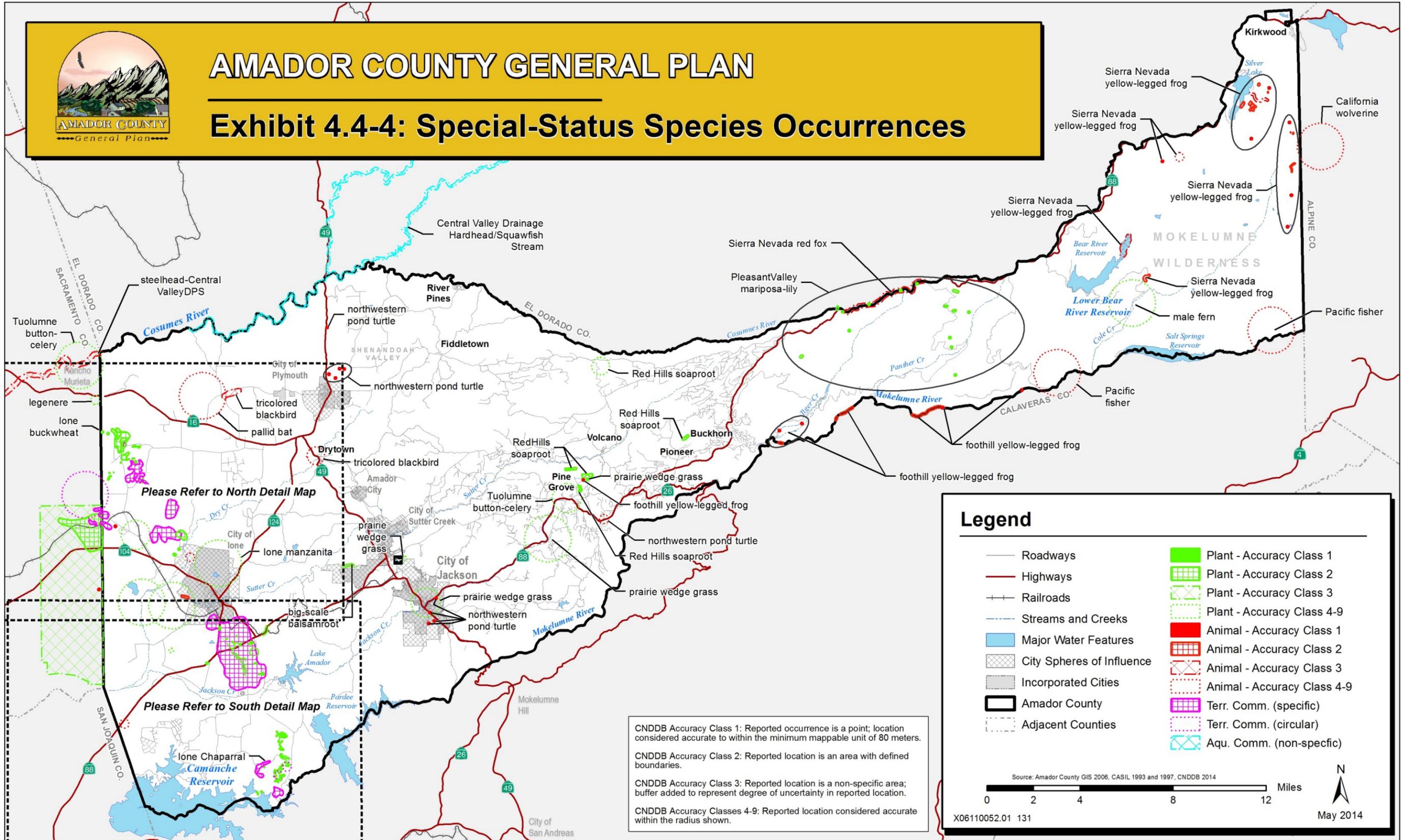
Valley-Foothill Riparian

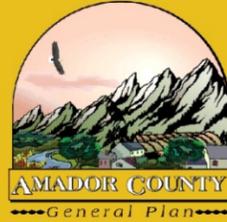
This habitat type is typically found at elevations below 3,000 feet in western Amador County along many of the rivers and streams that flow through the valleys and rolling foothills. Plant diversity within valley-foothill riparian habitat varies considerably depending on hydrological factors, soils, and other environmental conditions.



AMADOR COUNTY GENERAL PLAN

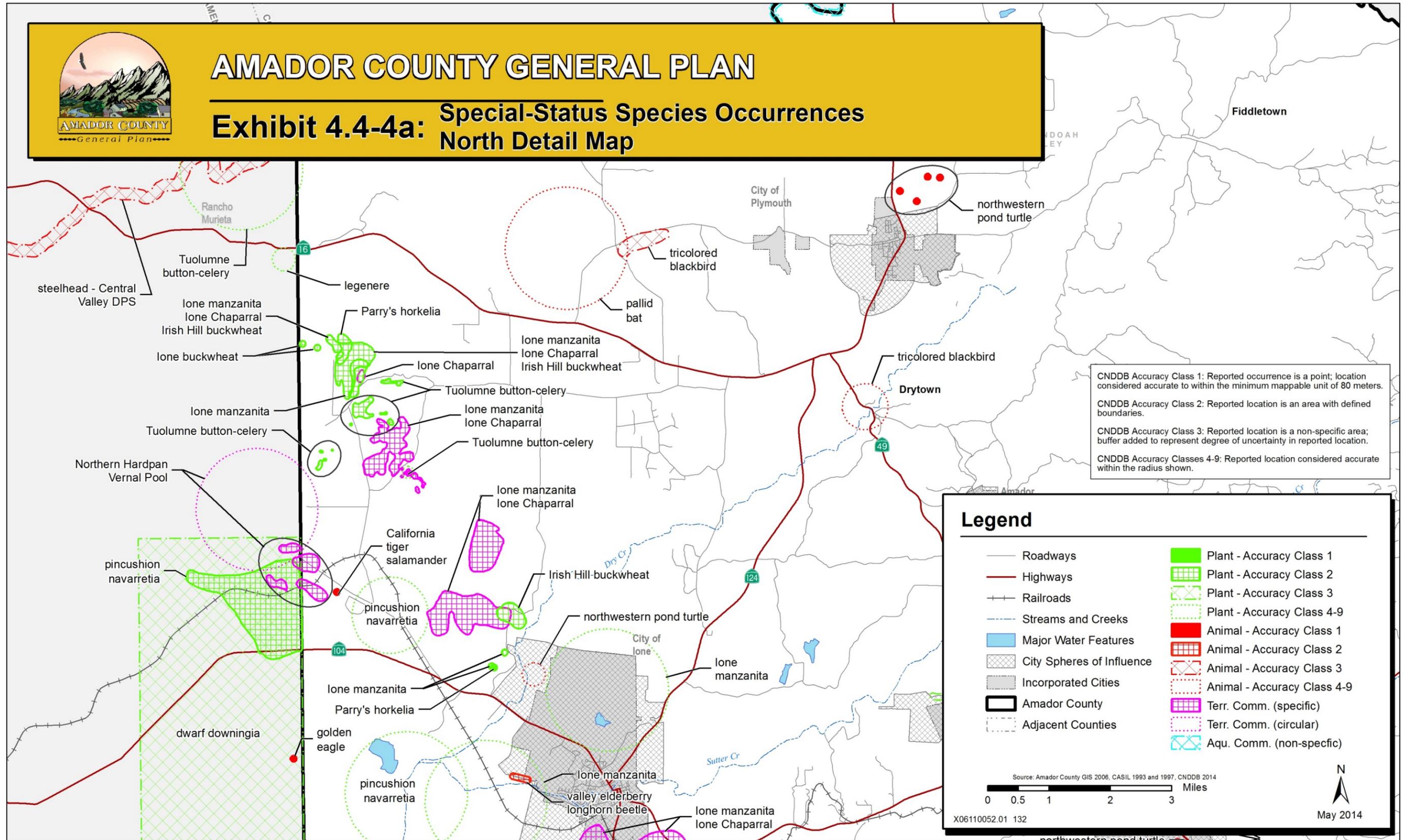
Exhibit 4.4-4: Special-Status Species Occurrences

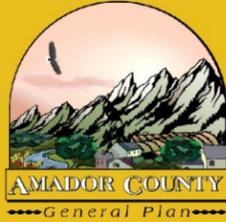




AMADOR COUNTY GENERAL PLAN

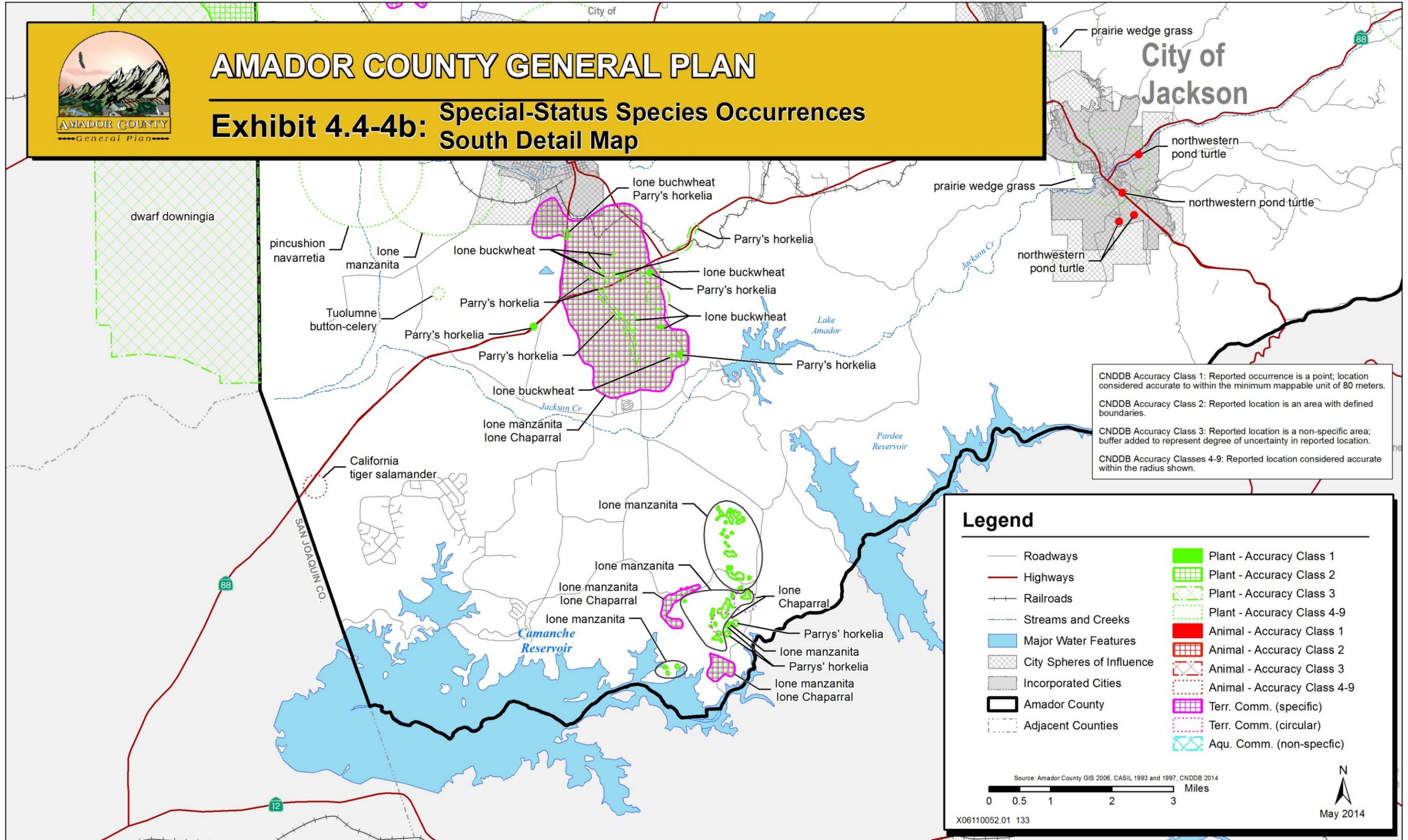
Exhibit 4.4-4a: Special-Status Species Occurrences North Detail Map





AMADOR COUNTY GENERAL PLAN

Exhibit 4.4-4b: Special-Status Species Occurrences South Detail Map

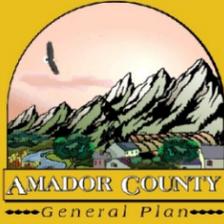


CNDDB Accuracy Class 1: Reported occurrence is a point; location considered accurate to within the minimum mappable unit of 80 meters.
 CNDDB Accuracy Class 2: Reported location is an area with defined boundaries.
 CNDDB Accuracy Class 3: Reported location is a non-specific area; buffer added to represent degree of uncertainty in reported location.
 CNDDB Accuracy Classes 4-9: Reported location considered accurate within the radius shown.

Legend

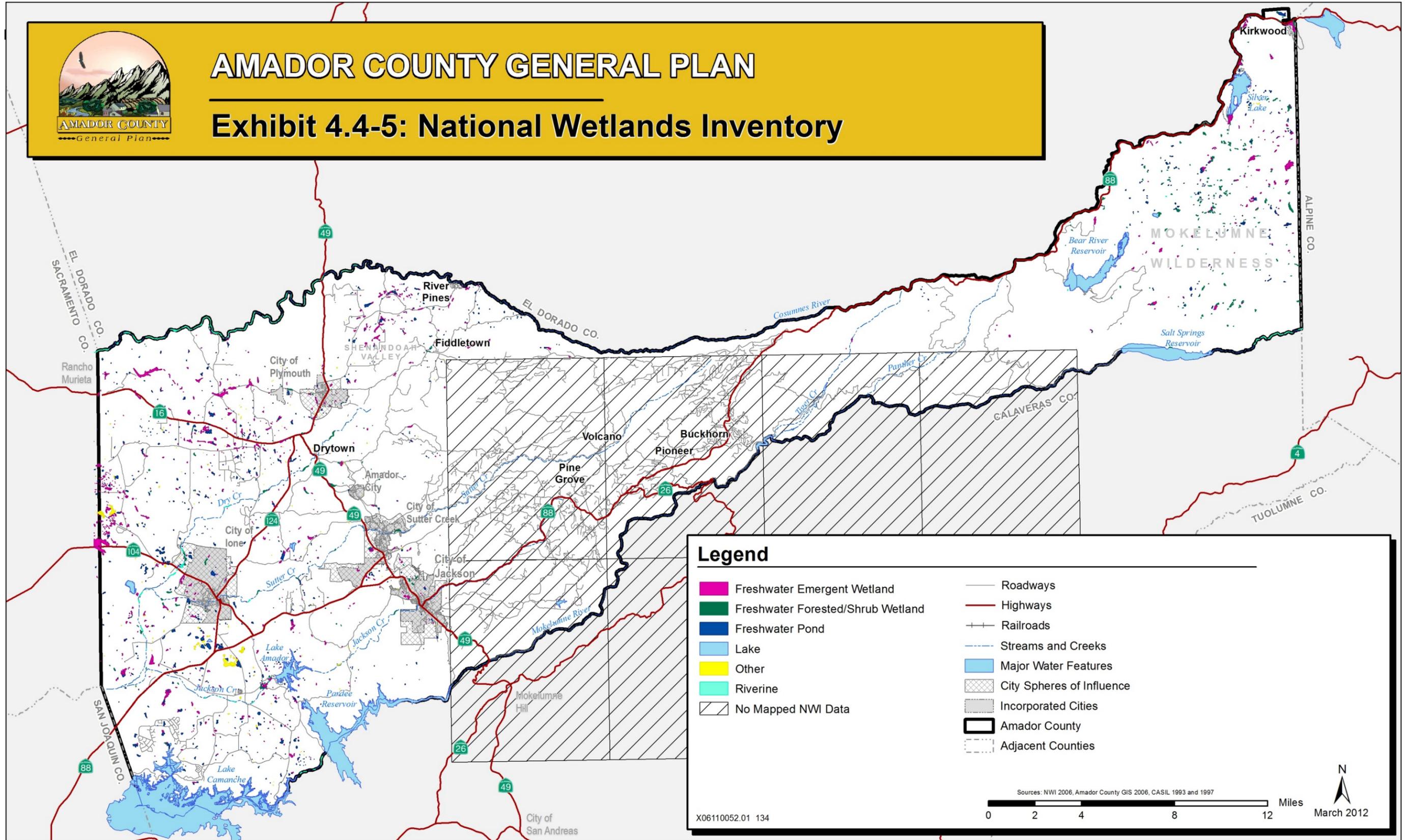
— Roadways	■ Plant - Accuracy Class 1
— Highways	■ Plant - Accuracy Class 2
— Railroads	■ Plant - Accuracy Class 3
— Streams and Creeks	■ Plant - Accuracy Class 4-9
■ Major Water Features	■ Animal - Accuracy Class 1
■ City Spheres of Influence	■ Animal - Accuracy Class 2
■ Incorporated Cities	■ Animal - Accuracy Class 3
■ Amador County	■ Animal - Accuracy Class 4-9
■ Adjacent Counties	■ Terr. Comm. (specific)
	■ Terr. Comm. (circular)
	■ Aqu. Comm. (non-specific)

Source: Amador County GIS 2006, CASIL 1993 and 1997, CNDDB 2014
 0 0.5 1 2 3 Miles
 X06110052.01 133
 May 2014



AMADOR COUNTY GENERAL PLAN

Exhibit 4.4-5: National Wetlands Inventory



Dominant tree species may include Fremont cottonwood (*Populus fremontii*), willows, and valley oak. The understory typically consists of a shrub and herbaceous layer. Common shrubs and vines include wild rose, blackberry, blue elderberry, poison-oak, wild grape, California coffeeberry, and willows. Common wildlife associated with valley-foothill riparian habitat includes black-headed grosbeak, bushtit, striped skunk, raccoon, and gray fox. Special-status wildlife species that depend on valley-foothill riparian habitat include the northwestern pond turtle, Cooper's hawk, and foothill yellow-legged frog.

In Amador County the most established riparian vegetation occurs along the largest rivers, the South Fork Cosumnes and the North Fork Mokelumne. Important riparian corridors also occur along Dry Creek, Sutter Creek, Jackson Creek, and other tributaries to the South Fork Cosumnes and the North Fork Mokelumne. Agricultural, residential, and industrial water use, and land development have substantially reduced the extent of riparian habitats in the County. The biological importance of riparian vegetation and the dependence of many declining animal species on riparian habitat have made this habitat type a focus of many conservation efforts.

Valley Oak Woodland

This habitat type covers 1,522 acres at elevations below 3,000 feet in Amador County. Dominated by valley oaks, it varies from savanna-like to forest-like stands with partially closed canopies. Valley oak woodland is composed mostly of winter-deciduous, broad-leaved species. Denser stands typically grow in valley soils along natural drainages. In the foothills, valley oak woodland often intergrades with blue oak woodland or blue oak-foothill pine habitats. Trees frequently associated with this habitat type include western sycamore (*Platanus racemosa*), box elder (*Acer negundo*), Northern California black walnut (*Juglans californica* var. *hindsii*), blue oak, and interior live oak. Valley oak woodland, like most oak woodland habitats, supports numerous wildlife species. It is particularly important for species that feed on acorns, are cavity-nesters, or are otherwise dependent on valley oaks for food and/or breeding habitat. Wildlife commonly found in valley oak woodland includes gopher snake, acorn woodpecker, oak titmouse, white-breasted nuthatch, California quail, and western gray squirrel. Valley oak woodland is classified by both the CNDDDB and CWHR, and is listed as a high-priority community for inventory by the CNDDDB.

Northern Hardpan Vernal Pools

Northern hardpan vernal pools are found on the eastern margins of the Central Valley and characterized by a silicate-cement hardpan, i.e., a soil layer near the ground surface that restricts the percolation of water. Vernal pools in general are small, ephemeral (seasonal) wetlands that form in shallow depressions underlain by some type of hardpan. These depressions fill with rainwater and runoff from adjacent areas during the winter and may remain inundated during the spring to early summer. Rising spring temperatures cause the water to evaporate, promoting the growth of concentric bands of many plant species, especially native wildflowers, along the shrinking edge of the pool. The vernal pool vegetation in California is characterized by a high percentage of native species, several of which are restricted to vernal pools. Many of these plant species, as well as a number of animal species, are listed under ESA and CESA as endangered, threatened, or rare. In Amador County, the most extensive complexes of vernal pools are found in the western portion of the County, where they occur in mosaics with annual grassland on low mounding hill topography.

4.4.3 IMPACTS AND MITIGATION MEASURES

The analysis of potential impacts to biological resources resulting from the adoption and implementation of the Draft General Plan, is based on the information collected for the Biological Resources working paper prepared in 2006 in support of the planning effort. Information on special-status species was updated using recent CNDDDB data (CNDDDB 2012).

The potential effects of growth and associated land use conversion anticipated with implementation of the Draft General Plan were determined by comparing the Land Use Diagram (Exhibit 3-2 in Chapter 3, "Project

Description”) with the countywide vegetation map (Exhibit 4.4-2) and identifying habitats that could be converted due to construction of new residential dwellings, nonresidential facilities, and other improvements which would occur under the Draft General Plan. Some habitat types were not mapped in detail in the vegetation baseline map due to minimal mapping unit restrictions, and impacts are described qualitatively for those habitats. The analysis of impacts on special-status species was based on the distribution of known occurrences of special-status species in the County and the availability of suitable habitat that may support additional previously undocumented occurrences. Draft General Plan development capacity (Table 3-1 in Chapter 3, “Project Description”) was also considered relative to existing conditions.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, mandatory findings of significance under CEQA, and oak woodland requirements established under Section 21083.4 of the Public Resources Code, an impact to biological resources is considered significant if implementation of the Draft General Plan would do any of the following:

- ▶ have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- ▶ have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- ▶ have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means;
- ▶ result in a conversion of oak woodland that would have a significant effect on the environment;
- ▶ interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- ▶ conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance;
- ▶ conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan; or,
- ▶ 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.

ISSUES NOT DISCUSSED FURTHER

~~**Wildlife nursery sites or migratory routes:** No native wildlife nursery sites or established migratory routes have been identified in Amador County. Implementation of the Draft General Plan would not interfere substantially with the movement of any native resident or migratory wildlife species because it would not eliminate important connections between any areas of natural habitat that would otherwise be isolated. Most of the developed land uses under the Draft General Plan are located around existing population centers and industrial areas and would occur on a relative small fraction of the existing land within the County. Most of the County would continue to be designated for agricultural uses, providing ample open space for wildlife movement. Therefore, implementation of the Draft General Plan would not have a significant impact on wildlife movement or nursery sites.~~

Conflict with Local Policies or Ordinances: Implementation of the Draft General Plan would not conflict with local policies or ordinances protecting biological resources in the County because no specific policies (other than General Plan policies that will be superseded by this General Plan Update) or ordinances exist.

Habitat conservation plan: No habitat conservation plans or natural community conservation plans have been adopted for Amador County or any areas within Amador County. Therefore, implementation of the Draft General Plan would not conflict with the provisions of an adopted habitat conservation plan.

IMPACT ANALYSIS

IMPACT 4.4-1 *Adverse effect on special-status species.* Implementation of the Draft General Plan would include new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. These new uses would occur in existing developed communities and undeveloped areas of the County. This would result in direct impacts to special-status species inhabiting future growth areas or in indirect impacts resulting from loss or modification of suitable habitat. This impact would be **significant**.

Twelve special-status plant species and ~~34~~ 40 special-status wildlife species are known to occur or potentially occur in Amador County. In addition, the planning area includes designated critical habitat for vernal pool species in the western portion of the County (Exhibit 4.4-1) near the Sacramento County line, and for California tiger salamander in the southwestern portion of the County, northwest of Lake Camanche.

The greatest amount of habitat conversion resulting from the implementation of the Draft General Plan would occur in the western portion of the County characterized primarily by oak woodland, montane hardwood, annual grassland, and chaparral communities. Therefore, special-status species most likely to be adversely affected by implementation of the Draft General Plan are species associated with these communities, such as California tiger salamander, western spadefoot, burrowing owl, and Swainson's hawk.

The western portion of the County also supports a relatively high concentration of aquatic habitats (e.g., vernal pools, ponds, streams) that are known to support California tiger salamander, western pond turtle, Tuolumne button celery, and pincushion navarretia. Therefore, these species have high potential to be adversely affected by implementation of the Draft General Plan. Vernal pools in the western portion of the County could also support federally listed vernal pool branchiopods and western spadefoot, though they have not been previously documented within the County.

Vernal pool grasslands would be subject to loss primarily from proposed industrial and mining land uses along the western county line immediately north of SR 104 and from mixed-use development in the Camanche Village SPA, including within an area designated as critical habitat for California tiger salamander and an area designated as vernal pool ecosystem critical habitat, and identified in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005) as the Cosumnes/Rancho Seco core area. California tiger salamander has been documented in both of these areas designated for development under the Draft General Plan. Because implementation of the Draft General Plan would result in industrial development and mining in high quality vernal pool habitat, vernal pool species such as vernal pool fairy shrimp, vernal pool tadpole shrimp, California tiger salamander, Tuolumne button celery, and pincushion navarretia that are at moderate to high risk of extinction due to a restricted range, low numbers of existing populations statewide, and widespread habitat declines, would be especially vulnerable to the threats of habitat loss that would result from implementation of the Draft General Plan.

The designated vernal pool ecosystem critical habitat in northwestern Amador County is identified as the Cosumnes/Rancho Seco core area in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (USFWS 2005). Core areas are the specific sites that USFWS has deemed necessary for recovery of those vernal pool species that are federally listed as endangered or threatened. The Cosumnes/Rancho Seco core area is ranked as Zone 1, or highest priority for recovery. Zone 1 areas are highest priority for conservation because

USFWS biologists believe that within each Zone 1 core area, species occurrences and suitable vernal pool habitat must be protected to prevent extinction or irreversible decline of at least one species covered in the recovery plan. The Cosumnes/Rancho Seco core area is considered vital to the preservation and recovery of Sacramento orcutt grass, vernal pool tadpole shrimp, and vernal pool fairy shrimp (USFWS 2005). These three species have not been documented in Amador County, but are known to occur near the County border in adjacent Sacramento County and potentially suitable habitat is present for them in Amador County.

The Ione chaparral is also concentrated in the western portion of the County and special-status plant species associated with this habitat (i.e., Ione manzanita, Ione buckwheat, Irish Hill buckwheat, and Parry's horkelia) have high potential to be adversely affected by loss of habitat as a result of implementation of the Draft General Plan, primarily from mining expansion and industrial development to the south and northwest of Ione. These plant species are imperiled due to their very restricted range, low number of existing populations, and steep declines related to pathogens that affect the viability of the plants, which makes them vulnerable to extinction. Impacts on Ione chaparral are discussed further under Impact 4.4-3.

Special-status species could be affected through take or loss, or modification of their habitat. Impacts could result from land use changes, agricultural activities, mineral mining, development activities, infrastructure improvements, increased traffic, and similar activities. Special-status wildlife species are not evenly distributed throughout potential habitat locations; however, any special-status wildlife species that use these habitats could be directly affected by changes in land use. Special-status species could also be affected indirectly through modification of suitable habitat caused by pollutants transported by urban runoff and other means; changes in vegetation as a result of changes in land use and management practices; altered hydrology from the construction of adjacent residential development and roadways; and, habitat fragmentation. In addition, special-status wildlife species could be adversely affected by land-use changes and land conversion adjacent to occupied habitat. Special-status fish species could be affected by water diversions and activities affecting water quality and rearing habitat.

In addition to more intensive development in Town Center and Regional Service Center areas, land conversion could include rural development which would consist of a mix of roads, infrastructure, and larger residential lots with open space intermixed. This type of development, which is already prevalent in the planning area, would not usually result in total habitat conversion; however, the increased human presence and disturbance from roads, houses, domesticated pets, and infrastructure would decrease the suitability of these habitats for special-status wildlife species.

Therefore, implementation of the Draft General Plan would result in **significant** adverse effects on special-status species resulting from land uses that would be allowed under the Draft General Plan in the long-term. This potential for substantial reduction in habitat in the County could result in loss of occurrences of species that are already vulnerable or imperiled statewide, and loss of high quality and designated critical habitat for these species. Loss of individuals and habitat could threaten to substantially reduce the number or restrict the range of endangered and threatened species.

Mitigation Measure 4.4-1a: Implement Program D-4, Biological Resources

When considering discretionary development proposals, it is the County's objective to avoid or substantially reduce impacts to special-status species, riparian habitat, Ione chaparral, oak woodlands, and wetlands (including vernal pools and non-jurisdictional wetlands) through project design and modification to the extent feasible.

Responsible Agencies/Departments: Planning Department

Working With: US Fish and Wildlife Service, ~~US Army Corps of Engineers~~, National Marine Fisheries Service, California Department of Fish and Wildlife

Time Frame: Ongoing

Mitigation Measure 4.4-1b: Special-Status Species Protection

When considering discretionary development proposals implementing the Draft General Plan, the County, through CEQA reviews, will require assessments of potential habitat for special-status species on proposed projects sites, and avoidance or substantial reduction of impacts to that habitat through feasible alternatives or mitigation measures, including compensatory mitigation where unavoidable losses of occupied habitat would occur.

Mitigation measures will be developed consistent with applicable state and federal requirements. For those species for which published mitigation guidance exists (such as VELB, burrowing owl, and Swainson's hawk), developed mitigation measures will follow the guidance provided in these publications or provide a similar level of protection.

If previous published guidance does not exist, mitigation will be developed in consultation with the appropriate agencies (USFWS for federally listed plant, wildlife and fish species; NMFS for listed anadromous fish species; CCDFW for state listed species, species of special concern and CRPR-ranked species). The County will require project applicants to obtain any required take permits prior to project implementation.

Responsible Agencies/Departments: Planning Department

Working With: US Fish and Wildlife Service, ~~US Army Corps of Engineers~~, National Marine Fisheries Service, California Department of Fish and Wildlife

Time Frame: Ongoing

Significance after Mitigation

Implementation of Mitigation Measures 4.4-1a and 4.4-1b would reduce impacts on special-status species resulting from implementation of the Draft General Plan by requiring the consideration of special-status species habitat in site selection, and by implementing mitigation in accordance with regulatory guidance and the best available science. Complete avoidance of all impacts would not be possible because special-status species ~~are expected to~~ would occur on land which would transition to developed land uses under the Draft General Plan. Similarly, although these mitigation measures would lessen reduction in wildlife habitat and help prevent substantial reductions in the number or restrictions to the range of endangered and threatened species, substantial reductions in habitat could still occur. This impact would be **significant and unavoidable**. No additional feasible mitigation measures are available to reduce this impact to a less-than-significant level.

IMPACT 4.4-2 ***Substantial adverse effect on riparian habitat, a sensitive natural community.** Implementation of the Draft General Plan would include new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. These new uses would occur in existing, developed communities and undeveloped areas of the County. This could result in direct impacts to riparian areas through habitat conversion, encroachment, routine maintenance, or other activities in the immediate vicinity of rivers and other water bodies that currently support or could support riparian habitat. Indirect impacts to riparian habitat could result from changes in hydrology. This impact would be **significant**.*

This discussion focuses on riparian habitat. Ione chaparral, vernal pools, and oak woodland are also considered sensitive natural communities. Potential impacts to Ione chaparral are discussed in Impact 4.4-3. Potential impacts to vernal pools and other wetlands are discussed under Impact 4.4-5. Impacts to oak woodland are discussed under Impact 4.4-4.

Valley foothill riparian habitat is present in western Amador County along many of the rivers and streams that flow through the valley and rolling foothills. The most extensive riparian habitat occurs along the County's largest rivers, the South Fork of the Cosumnes River and the North Fork of the Mokelumne River. Since changes in land use and new development along these rivers is not proposed under the Draft General Plan, except within the River Pines Town Center, substantial impacts to riparian habitat along these rivers would not be expected as a result of implementing the Draft General Plan.

Riparian habitat is also present along Dry Creek, Sutter Creek, Jackson Creek, their tributaries, and other drainages in the County. The primary threats to riparian habitat along these creeks would result from commercial and rural residential development in the Drytown Area along Dry Creek and development of a Town Center in the Pine Grove Area in the upper reaches of Jackson Creek or its tributaries. A variety of other projects and activities allowed under the Draft General Plan could also result in impacts to riparian habitat, including infrastructure and road improvements, development of roads, water diversions, mining activities, and other projects.

Overall, riparian habitat losses resulting from implementation of the Draft General Plan are expected to be relatively small because major land use changes and development are not proposed in river and stream corridors. Nonetheless, riparian habitats generally support rich avian and mammalian communities, provide important resting, feeding, and breeding habitat for neotropical migrant birds (i.e. bird species that breed in North America during summer then migrate to Central or South America in winter), and contribute disproportionately to species diversity at the landscape level. Riparian habitats also provide valuable movement corridors for a variety of wildlife species. Riparian habitats are limited throughout the region and state and have suffered widespread and ongoing declines such that even relatively small losses of this habitat type can have a significant effect on local wildlife populations. The Draft General Plan contains policies that encourage preservation of riparian habitat (Policies OS-3.2, 3.4, 3.5 and 3.6) by encouraging the preservation of habitat, setbacks, buffers, best management practices, and conservation easements. However, these policies do not guarantee that conservation measures will be implemented and that riparian habitat will be protected in the long term. Therefore, land use changes that would be allowed under the Draft General Plan could result in a **significant** impact to riparian habitat.

Mitigation Measure: Implement Mitigation Measures 4.4-1a and 4.4-1b.

Mitigation Measure 4.4-2: Riparian Habitat Protection

If projects require encroachment into the riparian habitat, project applicants will be required to develop a riparian habitat mitigation plan. The mitigation plan will include the following:

- implementation of Best Management Practices (BMPs) while working near riparian habitats to avoid inadvertent damage to riparian vegetation to be retained. BMPs will include establishment of no-disturbance buffers around the outer edge of the riparian vegetation to prevent root and crown damage, soil compaction, and implementation of standard BMPs to reduce erosion and water quality impacts, and introduction and spread of invasive species. Exceptions to riparian buffers will be granted to permit necessary road and bridge repair and construction, trails construction, and other recreational access structures that are water dependent, such as docks and piers;
- methods to be implemented to avoid and/or compensate for impacts on riparian habitat at a ratio adequate to offset the loss of riparian habitat functions and values. At a minimum, riparian habitat losses will be compensated at a 1:1 ratio;
- identification of mitigation sites and criteria for selecting these sites;
- site-specific management procedures to benefit establishment and maintenance of native riparian plant species;

- monitoring protocol, including schedule and annual report requirements (compensatory riparian habitats shall be monitored for a minimum period of five years);
- ecological performance standards and corrective measures if performance standards are not met;
- responsible parties for monitoring and preparing reports; and
- responsible parties for receiving and reviewing reports and for verifying success or prescribing implementation or corrective actions.

Mitigation may be accomplished through preservation, replacement, restoration or enhancement of degraded habitat, reestablishing riparian vegetation in areas that historically supported it, or purchase of credits at an established mitigation bank, such as the Cosumnes Floodplain Mitigation Bank. Compensatory mitigation will be provided within Amador County to the extent feasible and available; however, certain impacts may be compensated at an agency-approved mitigation bank in an adjacent county if required by CDFW and an agency-approved mitigation bank is not available in Amador County. If a proposed project requires work on the bed or bank of a stream, or other water body, the project applicant will also obtain a streambed alteration agreement under Section 1602 of the Fish and Game Code from CDFW prior to project implementation, and will implement all requirements of the agreement in the timeframes required therein.

Responsible Agencies/Departments: Planning Department

Working With: US Fish and Wildlife Service, ~~US Army Corps of Engineers,~~ California Department of Fish and Wildlife

Time Frame: Ongoing

Significance after Mitigation

Implementation of Mitigation Measured 4.4-1a, 4.4-1b, and 4.4-2 would reduce impacts to riparian habitat to a **less-than-significant** level because it would require impact avoidance or minimization through feasible project design modification or mitigation at a ratio sufficient to offset the loss of riparian habitat function and values.

IMPACT 4.4-3 ***Substantial adverse effect on lone chaparral, a sensitive natural community.** Implementation of the Draft General Plan would include new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. It would also allow continued mining of the lone formation. This could result in direct impacts to lone chaparral through habitat conversion. Indirect impacts could result from further spread of soil-borne pathogens adversely affecting this community. This impact would be significant.*

The lone chaparral is a plant community restricted to western and northern Amador County, and found only on the lone formation, an ecologically unique substrate. Because of its unique characteristics, the lone chaparral supports a high number of adapted rare plants, including the lone manzanita, lone buckwheat, and Irish Hill buckwheat. Lone chaparral is mapped on 1,196 acres in Amador County. Within its overall area of distribution, there are a total of about 860 acres of lone chaparral in public ownership, including lands owned or operated by East Bay Municipal Utilities District, Caltrans, and Amador County, as well as CDFW's 37 acre Apricum Hill Ecological Preserve and the BLM 120 acre lone manzanita Area of Critical Environmental Concern which are managed for the long-term conservation of the habitat. The clay component of the lone soils has high economic value and has been actively mined since the 1860s (See Chapter 4.6, "Geology, Soils, and Mineral and Paleontological Resources").

Impacts to Ione chaparral would result primarily from mining of the Ione formation, but could also result from incremental loss of this community due to industrial and urban development and infrastructure projects. Ione chaparral has also been suffering mortality due to two pathogens that affect the viability of the plants. This effect could be exacerbated by further spreading the soil-borne pathogens (described in section 4.4.2 “Environmental Setting” under the heading “Ione Chaparral Plants”) as a result of mining and development activities, and by moving around contaminated equipment. Land uses that would be allowed under the Draft General Plan, including the Mineral Resource Zone and Industrial designation, could result in significant adverse effects on the Ione chaparral through mining and development of new uses and associated infrastructure improvements. The potential spread of pathogens poses additional risk. The Draft General Plan contains policies that encourage preservation of Ione chaparral (Policies OS-3.4 and OS-4_-1). However, these policies do not guarantee that conservation measures will be implemented and that Ione chaparral will be protected in the long term. The impact to Ione chaparral would be **significant**.

Mitigation Measure: Implement Mitigation Measures 4.4-1a and 4.4-1b.

Mitigation Measure 4.4-3: Ione Chaparral Avoidance and BMPs

The County will require project applicants to submit a mitigation plan for unavoidable impacts to Ione chaparral. The mitigation plan will address how Ione chaparral to be retained on the project site will be avoided or how impacts will be minimized. The mitigation plan will include the following:

- BMPs for work near Ione chaparral to prevent the inadvertent spread of pathogens. BMPs may include the establishment of buffers and exclusion zones and mandatory equipment cleaning prior to and after work to prevent cross contamination among sites.
- Consideration of the recovery plan for the Ione chaparral plant community, once published, and other publications on the community or associate species.
- Measures for the management of soil-borne pathogens before, during and after project implementation and measures aimed at the prevention of their spread.
- Methods to be implemented to avoid and/or compensate for impacts on Ione Chaparral at a ratio adequate to offset the loss of Ione Chaparral functions and values. At a minimum, Ione Chaparral losses will be compensated at a 1:1 ratio.

Because Ione chaparral is known to support several federally listed plant species as well as other plant species considered special-status species by local and state agencies, mitigation will be developed in consultation with USFWS and CDFW, as appropriate depending on species status. Mitigation may include replanting and enhancement of degraded stands of Ione chaparral. However, because it is difficult to rehabilitate land to support Ione chaparral once it has been mined, planting and enhancement will be combined with preservation to help ensure the loss of habitat is compensated. The preferred conservation method will be the purchase of conservation easements by project applicants. Mitigation lands will be managed for the long term protection and survival of Ione chaparral and, if possible, be contiguous with lands already protected to maximize the likelihood of mitigation success.

If a project requires a Reclamation Plan under the State’s Surface Mining and Reclamation Act (SMARA), the plan may be developed to address multiple agencies’ requirements to avoid redundancy, and would address protection of Ione chaparral as required by SMARA’s Reclamation Plan standards and by CEQA.

Responsible Agencies/Departments: Planning Department

Working With: US Fish and Wildlife Service, California Department of Fish and Wildlife

Time Frame: Ongoing

Significance after Mitigation

Implementation of Mitigation Measures 4.4-1a, 4.4-1b, and 4.4-3 would reduce impacts on Ione chaparral by requiring avoidance and minimization of impacts on Ione chaparral through feasible project design modifications and BMPs and development of mitigation plans to compensate for unavoidable losses of Ione chaparral. However, the distribution of this sensitive natural community is extremely limited and mining activities directly depend on the same substrates where this plant community grows; thus avoidance, minimization and mitigation options to prevent substantial adverse effects are very limited. The impact is ~~expected to~~ would remain significant and unavoidable. No additional feasible mitigation measures are available to reduce this impact to a less-than significant level.

IMPACT 4.4-4 ***Substantial adverse effect on oak woodland, a sensitive natural community.** Implementation of the Draft General Plan would include new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. These new uses could occur in existing, developed communities and undeveloped areas of the County. This could result in direct impacts to oak woodland from loss of individual oak trees and stands of oak trees and associated species. It could also lead to increased habitat fragmentation which results in adverse effects to the plant and wildlife species dependent on oak woodlands. This impact would be **significant**.*

Oak woodlands provide important habitat to numerous common and special-status wildlife species and are generally considered sensitive habitats by wildlife resource agencies, including USFWS and CDFW. The passage of the Oak Woodlands Conservation Act (Senate Bill (SB) 1334) mandated counties to require feasible and proportional habitat mitigation for impacts to oak woodlands as part of the CEQA process under Public Resources Code (PRC) 21083.4. PRC 21083.4 also institutes a cap on planting oaks for habitat mitigation, specifically stating that not more than 50 percent of required mitigation can be in the form of replanting. SB 1334 and PRC 21083.4 were the direct consequences of a growing concern over the incremental loss of oak woodland habitat throughout the state as a result of habitat conversions, residential and commercial uses and other compounding factors, such as lack of regeneration, spread of Sudden Oak Death syndrome, and pressures from invasive species. Blue oak woodland is one of the dominant habitat types in Amador County, and much of the development that could occur under the Draft General Plan would take place in the foothill region of the County, where blue oak woodland is most common.

Impacts to oak woodland could result from direct loss of trees (either individual or whole stands) due to commercial and residential development, infrastructure projects, mining, agricultural conversion, and other land uses that are allowable under the proposed land use designations. In particular, proposed land uses in the Martell RSC and rural residential expansion around the cities of Plymouth and Jackson could result in losses of oak woodlands; however, this would be a tiny fraction of the over 50,000 acres of oak woodland present in the County. Most of the developed land use designations in the Draft General Plan are located away from oak woodlands. The greatest potential for oak woodland loss would be in the agricultural land use designations. The Draft General Plan contains policies that encourage preservation of oak woodland (Policies OS-3.1, 3.2, and 3.3). However, these do not guarantee that conservation measures will be implemented and that oak woodland resources will be protected in the long term. This impact is considered **significant**.

Mitigation Measure: Implement Mitigation Measures 4.4-1a and 4.4-1b.

Mitigation Measure 4.4-4a: Implement Program D-1a(12), Development Proposal Evaluation

The County will review proposed projects for consistency with goals, policies, and implementation programs of this general plan.

Evaluation criteria for discretionary development proposals include:

- Impacts to oak woodlands. The County will assess impacts of proposed projects on oak woodlands, and require mitigation per Public Resources Code Section 21083.4.

Responsible Agencies/Departments: Planning Department

Time Frame: Ongoing

Mitigation Measure 4.4-4b: Oak Woodlands

When considering discretionary development proposals implementing the Draft General Plan, the County, through CEQA reviews, will require that project applicants map oak woodland resources on the project site and, where feasible, establish buffers around existing oak woodland stands to prevent adverse effects. The County will require implementation of BMPs while working near oak woodlands to be retained to avoid inadvertent damage to oak trees. BMPs will include establishment of no-disturbance buffers around the outer canopy edge to prevent root and crown damage, soil compaction, and standard management practices to reduce introduction and spread of invasive species and other indirect effects.

For those impacts on oak woodland that cannot be avoided, the County will require the project applicant to minimize adverse effects. If conversion of oak woodland will occur, the County will require one or more of the following mitigation measures be implemented to mitigate the impact from loss of oak woodland habitat pursuant to Public Resources Code Section 21083.4:

- Conserve oak woodlands through the purchase of conservation easements.
- Plant acorns and container stock from a local seed source to replace oak woodland removed. The following parameters will be applied:
 - Plant an appropriate number of trees, including maintaining plantings and replacing dead or diseased trees.
 - Maintain trees for seven years after the trees are planted.
 - Planting may not account for more than 50% of the required mitigation, ~~and must occur on lands that are protected in perpetuity~~
 - Mitigation through planting may be used to restore former or degraded oak woodlands.
- Contribute funds to the Oak Woodlands Conservation Fund, as established under subdivision (a) of Section 1363 of the Fish and Game Code, for the purpose of purchasing oak woodland conservation easements.

The County will require project applicants to develop a mitigation and monitoring plan to compensate for the loss of oak woodland habitat. The mitigation and monitoring plan will describe in detail how loss of oak woodlands shall be avoided or offset, including details on restoration and creation of habitat, compensation for the temporal loss of habitat, success criteria ensuring habitat function goals and objectives are met, performance standards to ensure success, and remedial actions if performance standards are not met. The plan will include detailed information on the habitats present within the preservation and mitigation areas, the long-term management and monitoring of these habitats, legal protection for the preservation and mitigation areas (e.g., conservation easement, declaration of restrictions), and funding mechanism information (e.g., endowment).

If planting is used as part of compensatory mitigation, an oak planting plan will be developed by a qualified professional such as a professional biologist, arborist, or registered professional forester using the best available science and will clearly state all mitigation measures required.

Oak woodlands habitat placed under conservation easements will be at appropriate ratios to offset the loss of habitat functions and values of the oak woodland to be lost. Oak woodland habitat preserved this way should have similar tree sizes and densities, species composition, site condition, and landscape context to the oak woodland to be removed to serve the same function and have similar habitat value. At a minimum, 1 acre of oak woodland habitat providing similar functions and values will be placed under conservation easement for every acre of oak woodlands habitat lost.

The County may also permit project applicants to contribute to an established oak woodland fund to meet up to 50 percent of their mitigation requirements.

Responsible Agencies/Departments: Planning Department

Time Frame: Ongoing

Significance after Mitigation

Implementation of Mitigation Measures 4.4-1a, 4.4-1b, 4.4-4a, and 4.4-4b would reduce impacts on oak woodlands resulting from Draft General Plan implementation to a **less-than-significant** level because it would require impact avoidance or minimization through feasible project design modification or mitigation at a ratio sufficient to offset the loss of oak woodland habitat function and values.

IMPACT 4.4-5 ***Substantial adverse effect on federally protected wetlands, waters of the United States and waters of the state.** Implementation of the Draft General Plan would include new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. These new uses could occur in existing, developed communities and undeveloped areas of the County. This could result in direct impacts to federally protected wetlands and other waters of the United States, and waters of the state, including vernal pools, seasonal wetlands, marshes and rivers, stream, drainages and other water bodies in the County. Impacts could occur through habitat conversion, encroachment, routine maintenance, or other activities in the immediate vicinity of rivers and other water bodies and in habitat supporting wetlands. Indirect impacts could result from changes in hydrology. This impact would be **significant**.*

Amador County contains a wide variety of wetlands including vernal pools, seasonal wetlands, and marshes, and other waters of the United States including lakes, rivers and streams. Exhibit 4.4-5 shows the location and extent of those wetlands and waters mapped under the National Wetland Inventory (NWI). Mapped features include large reservoirs in the planning areas namely Lake Camanche, Pardee Reservoir, and Lake Amador. The County's largest rivers are the South Fork of the Cosumnes River and the North Fork of the Mokelumne River. Other important drainages include Dry Creek, Sutter Creek, and Jackson Creek and their many tributaries. The County also includes many unnamed intermittent and ephemeral drainages that flow out of the foothills and are tributaries to larger streams. Some of these drainages would likely be subject to federal jurisdiction under Section 404 of the federal Clean Water Act. Other wetlands that would be subject to federal jurisdiction would include seasonal wetlands, vernal pools and marshes associated with rivers, streams and reservoirs. Many of these features are too small to be mapped in the NWI, so their current distribution in Amador County is not well documented. Vernal pools are known to exist mainly in the western part of the County, near the borders with Sacramento and San Joaquin Counties.

Some wetlands or other waters in the County may be determined during a jurisdictional determination process to be non-navigable, isolated, and intrastate waters with no apparent interstate commerce connection. Although these waters would not be considered jurisdictional waters of the United States (non-jurisdictional), they would still

have value as biological resources and would be considered waters of the state potentially subject to regulation by the RWQCB. Wetlands and other waters that may be non-jurisdictional under Section 404, but that would still be waters of the state and have value as biological resources, include seasonal wetlands, vernal pools, and seasonal streams.

The greatest amount of habitat conversion resulting from implementation of the Draft General Plan would occur in the western portion of the County, which supports a relatively high concentration of wetlands and other waters. In particular, extensive complexes of vernal pools are found in the western portion of the County, where they occur in mosaics with annual grassland on low mounding hill topography. Industrial and mineral extraction land uses are proposed in vernal pool grasslands in the Michigan Bar Road/SR 104 vicinity and the Camanche Village SPA is proposed within a vernal pool grassland area. Therefore, there is high potential for vernal pools to be filled or degraded as a result of implementing the Draft General Plan. Many of the features identified as freshwater emergent wetland in Exhibit 4.4-5 are vernal pools.

Based on NWI data, the River Pines, Drytown, and Martell areas support a high concentration of freshwater wetlands and ponds that could be affected by proposed land use changes, including Town Center, Regional Service Center, and residential land uses. The primary threats to creeks would result from commercial and rural residential development in the Drytown Area along Dry Creek and development of a Town Center in the Pine Grove Area in the Upper reaches of Jackson Creek or its tributaries.

Impacts to wetlands and other waters of the United States and waters of the state could result from a variety of projects and associated activities allowed under the Draft General Plan, including residential and commercial development, infrastructure and road improvements, development of roads, water diversions, and other projects. Goals and policies of the Draft General Plan (OS 3.3, OS 3.4, and OS 3.5), are expected to benefit wetland habitat in the County by encouraging the preservation of habitat, setbacks, buffers, best management practices, and conservation easements. However, none of these policies guarantee protection. While implementation of these policies could reduce impacts to wetland habitat, they would not be sufficient to prevent adverse effects on wetlands and other waters of the United States or waters of the state resulting from land uses that would be allowed under the proposed Draft General Plan. The impact to wetlands and other waters of the United States and state would be **significant**.

Mitigation Measure: Implement Mitigation Measures 4.4-1a and 4.4-1b.

Mitigation Measure 4.4-5: Wetlands

Project applicants will be required to conduct wetland delineations according to USACE standards and submit the delineations to the USACE for verification. Based on the verified delineation, project applicants will quantify impacts to wetlands and other waters of the United States resulting from their proposed projects. A permit from the USACE will be required for any activity resulting in impacts of “fill” of wetlands and other waters of the United States.

If projects require activities that result in impacts to wetlands and other waters of the United States, the County during discretionary project review will require project applicants to obtain all necessary permits under Section 404 of the CWA, and implement compensatory mitigation consistent with USACE and EPA’s April 10, 2008 *Final Rule for Compensatory Mitigation for Losses of Aquatic Resources* (33 CFR Parts 325 and 332 and 40 CFR Part 230), including preparation of a wetland mitigation plan if required. The wetland mitigation plan will include ecological performance standards, based on the best available science, that can be assessed in a practicable manner. Performance standards must be based on attributes that are objective and verifiable. The County will require project applicants to commit to replace, restore, or enhance on a “no-net-loss” basis (in accordance with USACE Section 404 no-net-loss requirements) the acreage of all wetlands and other waters of the United States that would be removed, lost, and/or degraded by discretionary projects. The

County will require similar mitigation for loss of non-jurisdictional wetlands and waters that are waters of the state and have value as biological resources.

For Section 404 mitigation, in accordance with the Final Rule, mitigation banks (e.g., Cosumnes Floodplain Mitigation Bank) will be given preference over other types of mitigation because much of the risk and uncertainty regarding mitigation success is alleviated by the fact that mitigation bank wetlands must be established and demonstrating functionality before credits can be sold. The Final Rule also establishes a preference for compensating losses of aquatic resources within the same watershed as the impact site. A combination of mitigation bank credits and permittee-responsible on and off-site mitigation may be used as needed to fully offset project impacts on wetlands and other waters of the United States and waters of the state.

Project applicants that obtain a Section 404 permit will also be required to obtain certification from the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA. If the project involves work on the bed or bank of a river, stream or lake, a Streambed Alteration Agreement from CDFW pursuant to Section 1602 of the Fish and Game Code will also be needed, which will include mitigation measures required by CDFW. The County will require project applicants to obtain all needed permits prior to project implementation, and to abide by the conditions of the permits, including all mitigation requirements.

Responsible Agencies/Departments: Planning Department

Working With: US Army Corps of Engineers, Central Valley RWQCB, California Department of Fish and Wildlife

Time Frame: Ongoing

Significance after Mitigation

Implementation of Mitigation Measures 4.4-1a, 4.4-1b, and 4.4-5 would reduce impacts to wetlands and other waters of the United States and the state to a **less-than-significant** level by requiring avoidance and minimization of impacts if feasible. If avoidance or minimization is not feasible, project applicants would be required to replace, restore, or enhance on a “no-net-loss” basis the acreage of all wetlands and other waters of the United States or state that would be removed, lost, and/or degraded by discretionary projects.

IMPACT *Potential interference with wildlife movement. Implementation of the Draft General Plan would include new development in the planning area, including buildings, structures, paved areas, roadways, utilities, and other improvements. Proposed new uses could interfere with the movement of native resident or migratory wildlife species or with native resident or migratory wildlife corridors. However, proposed new uses would not interfere substantially with the movement of any native resident or migratory wildlife species because it would not eliminate important connections between any areas of natural habitat that would otherwise be isolated. This impact would be less than significant.*

Wildlife corridors are features that provide connections between two or more areas of habitat that would otherwise be isolated and unusable. Often drainages, creeks, or riparian areas are used by wildlife as movement corridors as these features can provide cover and access across a landscape. Implementation of the Draft General Plan would not interfere substantially with the movement of any native resident or migratory wildlife species because it would not eliminate important connections between any areas of natural habitat that would otherwise be isolated. The Mokelumne River corridor provides a link between the Salt Springs deer herd summer and winter range in Amador County and would continue to link these critical ranges following General Plan implementation. Overall, riparian habitat losses resulting from implementation of the Draft General Plan would be relatively small because major land use changes and development are not proposed in river and stream corridors and regionally common wildlife species such as coyote, fox, raccoon,

skunk, and deer, would continue to use these corridors after project implementation. There are no established migratory routes through the County that are vital for the movement of any resident or migratory fish or wildlife species or population and no migratory routes would be eliminated by Draft General Plan implementation. In addition, deer may move through any suitable open space habitat areas between their summer and winter ranges. Most of the developed land uses under the Draft General Plan are located around existing population centers and industrial areas and would occur on a relative small fraction of the existing land within the County. Most of the County would continue to be designated for agricultural uses, providing ample open space for wildlife movement. Therefore, the impact on wildlife movement would be **less than significant**.

Mitigation Measure: No mitigation measures are required.