Chapter 6
Biological Resources

6.1 Affected Environment

This section describes the regulatory and environmental setting associated with biological resources in the Plan Area.

6.1.1 Regulatory Setting

Federal

Federal Endangered Species Act

ESA and subsequent amendments provide for the conservation of listed endangered or threatened species, or candidates for listing, and the ecosystems on which they depend. USFWS has jurisdiction over plants, wildlife, and freshwater fish listed under ESA, and the National Marine Fisheries Service (NMFS) has jurisdiction over anadromous fish and marine fish and mammals. NMFS has issued two BOs for anadromous fish in Butte Creek and the Feather River. Both pertain to Federal Energy and Regulatory Commissions (FERC) relicensing actions: one for the DeSabla-Centerville project and one for the Oroville Dam. Guidelines for protecting anadromous fish are included in both and must be followed by PG&E.

Critical Habitat

ESA Section 3 defines *critical habitat* as follows.

- The specific areas within the geographical area occupied by a species at the time it is listed in accordance with the Act, on which are found those physical or biological features:
    - essential to the conservation of the species, and
    - that may require special management considerations or protection.
- Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no federal funding or authorization. Federal agencies are required to avoid destruction or adverse modification of designated critical habitat.

Endangered Species Act Prohibitions (Section 9)

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered. *Take*, as defined by ESA, means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification." Take of threatened species is also prohibited

under Section 9 unless otherwise authorized by federal regulations.[1] Additionally, Section 9 prohibits removing, cutting, and maliciously damaging or destroying plants listed under ESA on sites that are under federal jurisdiction.

Issuance of Incidental Take Permit for Nonfederal Actions (Section 10)

Section 10 of ESA requires the issuance of an incidental take permit before any nonfederal action may be taken that would potentially harm, harass, injure, kill, capture, collect, or otherwise hurt (i.e., take) any individual of an endangered or threatened species. The permit requires preparation and implementation of a habitat conservation plan (HCP) that would minimize and mitigate the take of covered species to the maximum extent practicable.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects migratory bird species from take. Take, under the MBTA, is defined as an action or an attempt to pursue, hunt, shoot, capture, collect, or kill (50 CFR 10.12). The definition differentiates between "intentional" take (take that is the purpose of the activity in question) and "unintentional" take (take that results from, but is not the purpose of, the activity in question).

Executive Order (EO) 13186 (signed January 10, 2001) directs each federal agency taking actions that would have or would likely have a negative impact on migratory bird populations to work with USFWS to develop a memorandum of understanding (MOU) to promote the conservation of migratory bird populations. Protocols developed under the MOU must include the following agency responsibilities.

- Avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting federal agency actions.
- Restore and enhance habitat of migratory birds, as practicable.
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

EO 13186 is designed to assist federal agencies in their efforts to comply with the MBTA; it does not constitute any legal authorization to take migratory birds.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires consultation with USFWS, NMFS, and the state fish and wildlife agencies where the waters of any stream or other body of water are proposed, authorized, permitted, or licensed to be impounded, diverted, or otherwise controlled or modified under a federal permit or license. Consultation is undertaken for the purpose of preventing loss of and damage to wildlife resources.

[1] Exceptions may be made for threatened species under ESA Section 4(d); in such cases, USFWS or NMFS issues a "4(d) rule," describing protections for the threatened species and specifying the circumstances under which take is no prohibited.

Clean Water Act

The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. *Point-source pollution* is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. *Nonpoint-source pollution* originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool. The following sections provide additional details on specific sections of the CWA.

Permits for the Placement of Dredged or Fill Material into Waters of the United States (Section 404)

CWA Section 404 regulates the discharge of dredged or fill materials into waters of the United States. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land, or changing the bottom elevation of any portion of a water of the United States.

Applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. USACE may issue either an individual permit (standard permit or letter of permission) which would be evaluated on a case-by-case basis, or a general permit issued on a nationwide or regional basis for a category or categories of activities when those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts or would result in avoiding unnecessary duplication of regulatory control exercised by another federal, state, or local agency, provided it has been determined that the environmental consequences of the action are individually and cumulatively minimal.

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue a standard permit, letter of permission, or verify the use of a general permit until the requirements of NEPA, ESA, and the National Historic Preservation Act (NHPA) have been met. In addition, USACE cannot issue or verify a permit for any activity that may result in a discharge of a pollutant into waters of the United States until a water quality certification or a waiver of certification has been issued pursuant to Section 401 of the CWA.

Permits for Stormwater Discharge (Section 402)

CWA Section 402 regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System Discharge (NPDES) program, administered by EPA. In California, the State Water Resources Control Board (State Water Board) is authorized by EPA to oversee the NPDES program through the Regional Water Quality Control Boards (Regional Water Boards) (see the related discussion of the Porter-Cologne Water Quality Control Act below). The Plan Area is within the jurisdiction of the Central Valley Water Board.

NPDES permits are required for projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public Notice of Intent (NOI) to discharge stormwater, and to prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the best management practices (BMPs) that would be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

Executive Order 11990: Protection of Wetlands

EO 11990, signed May 24, 1977, directs all federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. Such a project (that encroaches on wetlands) may not be undertaken unless the agency has determined that there are no practicable alternatives to such construction, the project includes all practicable measures to minimize harm to wetlands that would be affected by the project, and the impact will be minor.

Executive Order 13112: Prevention and Control of Invasive Species

EO 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The EO established the National Invasive Species Council (NISC), which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. In 2008, the NISC released an updated national invasive species management plan that recommends objectives and measures to implement the EO and prevent the introduction and spread of invasive species. The EO requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

State

California Endangered Species Act

California implemented the CESA in 1984. The act prohibits the take of state-listed endangered and threatened species. Section 2090 of CESA requires state agencies to comply with endangered species

protection and recovery and promote conservation of these species. CDFW administers the act and authorizes take through Section 2081 agreements (except for species designated as fully protected).

State Water Resources Control Board

For Decision ID 4497, the State Water Resources Control Board (State Water Board) listed water temperature for placement on the Section 303(d) list. Consequently, water temperature loggers were deployed in Butte Creek, and the following water quality objective/criterion was established.

> The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. Temperature objectives for COLD interstate waters, WARM interstate waters, and Enclosed Bays and Estuaries are as specified in the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California including any revisions. There are also temperature objectives for the Delta in the State Water Board's May 1991 Water Quality Control Plan for salinity. At no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature. To the extent of any conflict with the above, the more stringent objective applies. In determining compliance with the water quality objectives for temperature, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

Natural Community Conservation Planning Act

In 1991, California's NCCPA (California Fish and Game Code, Section 2800 et seq.) was enacted to implement broad-based planning that balances appropriate development and growth with conservation of wildlife and habitat. Pursuant to the NCCPA, local, state, and federal agencies are encouraged to prepare NCCPs to provide comprehensive management and conservation of multiple species and their habitats under a single plan, rather than through preparation of numerous individual plans on a project-by-project basis. The NCCPA is broader in its orientation and objectives than are ESA and CESA. The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. To be approved by CDFW, an NCCP must provide for the conservation of species and protect natural communities within the inventory area in perpetuity.

An approved NCCP provides for take of species whose conservation and management are provided for in the Plan (California Fish and Game Code Section 2835). The 1991 NCCPA was repealed and replaced with a substantially revised and expanded NCCPA in 2002. The revised NCCPA established new standards and guidance on many facets of the program, including scientific information, public participation, biological goals, interim project review, and approval criteria. The new NCCPA took effect on January 1, 2003.

This Plan complies with the NCCPA to conserve the ecosystems of western Butte County and to provide authorization to take covered species in accordance with Section 2835 of the California Fish and Game Code.

California Fish and Game Code

Section 1602 of the California Fish and Game Code requires project proponents to notify CDFW before any project diverts, obstructs, or changes the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable changes to the project to protect the resources.

These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

The California Fish and Game Code provides protection from take for a variety of species referred to as fully protected species. Section 5050 lists protected amphibians and reptiles. Section 5515 prohibits take of fully protected fish species. Section 3511 prohibits take of fully protected bird species. Section 4700 prohibits take of fully protected mammals. The California Fish and Game Code defines *take* as "hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill." All take of fully protected species is prohibited, except for take related to scientific research and take associated with an approved NCCP that covers a fully protected species.

Section 3503 prohibits the killing of birds or the destruction of bird nests. Section 3503.5 prohibits the killing of raptor species and the destruction of raptor nests. Many bird species could nest in the Plan Area. The nests would be protected under these sections of the California Fish and Game Code.

Porter-Cologne Water Quality Control Act

California Water Code Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements)." Under the Porter-Cologne Water Quality Control Act definition, *waters of the state* are "any surface water or groundwater, including saline waters, within the boundaries of the state." Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not true. Accordingly, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether USACE has concurrent jurisdiction under CWA Section 404. If USACE determines that a wetland is not subject to regulation under Section 404, CWA Section 401 water quality certification is not required. However, the Regional Water Board may impose waste discharge requirements (WDRs) if fill material is placed into waters of the state.

California Native Plant Protection Act

The California Native Plant Protection Act of 1977 (CNPPA) prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. CESA defers to the CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected under CESA but rather under CEQA.

Local

Butte County

Butte County General Plan 2030

The policies below are excerpted from the *Butte County General Plan 2030* (Butte County 2012:235–240). These policies are designed to guide planning related to and affecting habitat and biological resources within the County's jurisdiction.

> **COS-P6.1:** The County shall coordinate with applicable federal, State, regional and local agencies on natural resources and habitat planning.

COS-P7.1: Conservation easements that protect habitat areas, habitat corridors and sensitive biological resources shall be promoted.

COS-P7-2: Clustered development patterns shall be encouraged in order to conserve habitat for protected species and biological resources.

COS-P7.3: Creeks shall be maintained in their natural state whenever possible, and creeks and floodways shall be allowed to function as natural flood protection features during storms.

COS-P7.6: New development projects shall include setbacks and buffers along riparian corridors and adjacent to habitat for protected species, except where permitted in the BRCP Plan Area and where such development is consistent with the conditions of the BRCP, upon the future adoption of the BRCP.

COS-P7.7: Construction barrier fencing shall be installed around sensitive resources on or adjacent to construction sites. Fencing shall be installed prior to construction activities and maintained throughout the construction period.

COS-P7.8: Where sensitive on-site biological resources have been identified, construction employees operating equipment or engaged in any development-associated activities involving vegetation removal or ground disturbing activities in sensitive resource areas shall be trained by a qualified biologist and/or botanist who will provide information on the on-site biological resources (sensitive natural communities, special status plant and wildlife habitats, nests of special-status birds, etc.), avoidance of invasive plant introduction and spread, and the penalties for not complying with biological mitigation requirements and other state and federal regulations.

COS-P7.9: A biologist shall be retained to conduct construction monitoring in and adjacent to all habitats for protected species when construction is taking place near such habitat areas.

COS-P8.1: Native plant species shall be protected and planting and regeneration of native plant species shall be encouraged, wherever possible, in undisturbed portions of development sites.

COS-P8.2: New landscaping shall promote the use of xeriscape and native tree and plant species, including those valued for traditional Native American cultural uses.

COS-P9.1: A biological resources assessment shall be required for any proposed development project where special-status species or critical habitat may be present. Assessments shall be carried out under the direction of Butte County. Additional focused surveys shall be conducted during the appropriate season if necessary. Upon adoption of the BRCP, assessment requirements of the BRCP shall be implemented for development projects within the BRCP Plan Area.

COS-P9.2: If special-status plant or animal species are found to be located within a development site, proponents of the project shall engage in consultation with the appropriate federal, state and regional agencies and mitigate project impacts in accordance with state and federal law. Upon adoption of the BRCP, mitigation requirements of the BRCP shall be implemented for development projects within the BRCP Plan Area. Examples of mitigation may include:

a. Design the proposed project to avoid and minimize impacts.

b. Restrict construction to specific seasons based on project-specific special-status species issues (e.g. minimizing impacts on special-status nesting birds by constructing outside of the nesting season).

c. Confine construction disturbance to the minimum area necessary to complete the work.

d. Mitigate for the loss of special-status species by purchasing credits at an approved conservation bank (if a bank exists for the species in question), funding restoration or habitat improvement projects at existing preserves in Butte County, or purchasing or donating mitigation lands of substantially similar habitat.

e. Maintain a minimum 100-foot buffer on each side of all riparian corridors, creeks and streams for special-status and common wildlife.

f. Establish setbacks from the outer edge of special-status species habitat areas.

g. Construct barriers to prevent compaction damage by foot or vehicular traffic.

City of Oroville General Plan 2030

The *Oroville 2030 General Plan*, adopted in 2009, contains goals and policies designed to guide planning related to and affecting biological resources within the City of Oroville's jurisdiction.

These goals, contained in the Open Space, Natural Resources, and Conservation Elements of the City's general plan are reproduced below.

Goal OPS-8: Preserve and protect all special-status species that are candidates for federal or state listing, state species of special concern, and CNPS listed plant species.

Goal OPS-9: Protect areas of significant wildlife habitat and sensitive biological resources to maintain biological diversity among plant and animal species in the City of Oroville and the surrounding areas.

Goal OPS-10: Protect riparian, riverine, and open water habitats.

These goals include numerous policies that are designed to guide planning related to and affecting biological resources within the City of Oroville's jurisdiction (City of Oroville 2009:6-33–6-40).

City of Biggs General Plan 1997–2015

The policies below are excerpted from the *City of Biggs General Plan 1997–2015* (City of Biggs 1998:5-5–5-6). These policies are designed to guide planning related to and affecting habitat and biological and mineral resources within the City of Biggs' jurisdiction.

Policy 5.2.A: Apply mitigation measures to development projects to minimize impacts on biological resources during and after construction.

Policy 5.2.B: Consider opportunities for habitat preservation and enhancement in conjunction with public facility projects, particularly storm drainage facilities.

Policy 5.2.D: If the presence of protected species is determined to be likely, the project applicant shall be responsible for all costs associated with investigating species presence and preparation of any required mitigation plans.

Policy 5.2.E: Promote the establishment of an open space reserve along Hamilton Slough in areas southeast and south of the current City limits.

City of Gridley 2030 General Plan

The policies below are excerpted from the Conservation Element of the *City of Gridley 2030 General Plan* (City of Gridley 2009:17). These policies are designed to guide planning related to biological resources within the City of Gridley's jurisdiction.

Policy 5.1: New developments shall use techniques, such as buffers, setbacks, and clustering of development to protect wetlands, riparian corridors, vernal pools, and sensitive species.

Policy 5.3: The City will have former agricultural drainage ditches improved or restored in a way that avoids or improves habitat value and maintains or improves wetland function.

Policy 5.4: The City will condition new development, as necessary, to reduce erosion, siltation, and mitigate impacts on wetland, riverine, and riparian habitats.

Policy 5.7: The City will ensure consistency of new development with applicable portions of the Butte County Habitat Conservation Plan and Natural Communities Conservation Plan.

Policy 5.9: The City will continue to collaborate with the California Department of Fish and Game and the United States Fish and Wildlife Service, as appropriate, to ensure the protection and preservation of special-status species and their habitats within the Gridley Plan Area.

City of Chico General Plan 2030

The policies below are excerpted from the Open Space and Environment Element of the *Chico 2030 General Plan* (City of Chico 2011:10-17–10-19). These policies are designed to guide planning related to biological resources within the City of Chico's jurisdiction.

Policy OS-1.1 (Native Habitats and Species): Preserve native species and habitat through land use planning, cooperation, and collaboration.

Policy OS-1.2 (Regulatory Compliance): Protect special-status plant and animal species, including their habitats, in compliance with all applicable state, federal and other laws and regulations.

Policy OS-2.1 (Planning and Managing Open Space): Continue acquisition, management, and maintenance of open space to protect habitat and promote public access.

Policy OS-2.4 (Foothill Viewshed): Preserve the foothills as a natural backdrop to the urban form.

Policy OS-2.5 (Creeks and Riparian Corridors): Preserve and enhance Chico's creeks and riparian corridors as open space for their aesthetic, drainage, habitat, flood control, and water quality values.

Policy OS-2.6 (Oak Woodlands): Protect oak woodlands as open space for sensitive species and habitat.

Policy OS-3.1 (Surface Water Resources): Protect and improve the quality of surface water.

6.1.2 Environmental Setting

This section discusses the biological setting in the Plan Area. The Plan Area (Figure 1-1) encompasses 564,270 acres comprising the western lowlands and foothills of Butte County. It is bounded on the west by the county's boundaries with Tehama, Glenn, and Colusa Counties; on the south by the boundaries with Sutter and Yuba Counties; on the north by the boundary with Tehama County; and on the east by the upper extent of land dominated by oak woodland natural communities.

The Plan Area was designed to encompass the area within which covered activities would be implemented and to provide sufficient land and resources to implement measures to provide for the conservation of covered species and habitats affected by the proposed covered activities.

Natural Communities and Other Land Cover Types

All information on natural communities and other land cover types was obtained from Chapter 3 and Appendix B of the BRCP. This information was based on extensive land cover mapping conducted for the BRCP and therefore represents the best available landscape-scale data on biological resources in the Plan Area (see BRCP Chapter 3 for details on the methods used for this land cover mapping). The Plan Area contains six major natural communities and eight other land cover types. Table 6-1 lists these types and approximate acreages. The six major natural communities addressed in the BRCP are oak woodland and savannah, grassland, riparian, wetland, aquatic, and agriculture (which, though human-influenced, is considered as a natural community

Table 6-1. Extent of Natural Communities and Other Land Cover Types in the Plan Area (acres)

Land Cover Type	Acres
Oak Woodland and Savanna	
Blue oak savanna	10,581
Blue oak woodland	34,735
Interior live oak woodland	2,382
Mixed oak woodland	44,893
Subtotal	92,951
Grassland	
Grassland	68,124
Grassland with vernal swale complex	34,110
Subtotal	102,234
Riparian	
Cottonwood-willow riparian forest	7,509
Valley oak riparian forest	4,331
Willow scrub	2,995
Herbaceous riparian and river bar	1,658
Dredger tailings with riparian - stream	5,489
Dredger tailings with riparian- non-stream	167
Subtotal	22,149
Wetland	
Emergent wetland	4,440
Managed wetland	25,486
Managed seasonal wetland	2,097
Subtotal	32,023
Aquatic	
Open water	8,401
Major canal	1,897
Stock pond	465 ponds
Subtotal	10,298
Agriculture	
Rice	120,316
Irrigated cropland	20,413
Irrigated pasture	1,160
Orchard/vineyard	110,847
Nonnative woodland	213
Subtotal	252,949
Other Land Cover Types [a]	
Chaparral	8,393
Conifer-dominated forest	15
Subtotal	8,408
Total Natural Communities	521,012

Land Cover Type	Acres
Developed	
Urban	24,238
Ranchettes—wooded	6,378
Ranchettes—open	6,985
Disturbed ground	3,390
Subtotal	40,991
Total Land Cover—All Types	562,003[b]

[a] These are types not addressed in the BRCP because of their limited extent in the Plan Area.

[b] This number is 130 acres more than the total Plan Area acreage shown in Section 3.2 of the BRCP. This 0.02% difference is attributed to differences between calculating the sum acreage of several thousand polygons (BRCP calculation method) with the total acreage of the Plan Area boundary as one polygon (EIR/EIS calculation method).

because it provides important habitat for some special-status species). The distribution of natural communities in the Plan Area is depicted in Figure 6-1.

Two other land cover types—chaparral and conifer-dominated forest—occur within the Plan Area but are not addressed in the BRCP. They are considered in this EIS/EIR because they provide habitat for special-status species.

Descriptions of the constituent land cover types, distribution, physical conditions, and biological conditions for the six natural communities addressed in the BRCP are provided below. These descriptions contain information summarized from Chapter 3 of the BRCP, which contains additional detailed information about these communities' environmental conditions, environmental gradients, invasive species, and ecosystem function.

Oak Woodland and Savanna

Description

The oak woodland and savannah natural community consists of blue oak woodland, blue oak savannah, interior live oak woodland, and mixed oak woodland land cover types. The oak woodland and savannah natural community occurs in the foothills along the eastern boundary of the Plan Area on relatively level valleys and terraces to steep slopes. The soils that support oak woodland and savannah are typically moderately well drained and the slope aspect typically faces west to southwest.

The vegetation in the oak woodland and savannah natural community consists of an overstory with a minimum canopy cover of 3% and an herbaceous understory with shrubs sparse or absent. The dominant tree species in the overstory are blue oak (*Quercus douglasii*), canyon live oak (*Q. chrysolepis*), interior live oak (*Q. wislizeni*) and foothill pine (*Pinus sabiniana*). Where present, the shrub understory contains species such as toyon (*Heteromeles arbutifolia*), coyote brush (*Baccharis pilularis*), poison-oak (*Toxicodendron diversilobum*), and ceanothus (*Ceanothus* spp.). The herbaceous understory is dominated by nonnative annual grasses and forbs but also contains native grasses and forbs. Nonnative species that can occur in the herbaceous understory are Kentucky bluegrass (*Poa pratensis* ssp. *pratensis*), hairy rattail fescue (*Vulpia myuros* var. *hirsuta*), and shortfruit stork's bill (*Erodium brachycarpum*). Native herbaceous species that can occur are blue

wildrye (*Elymus glaucus*), soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*), wood rush (*Luzula comosa*), woodland star (*Lithophragma* spp.), and California goldfields (*Lasthenia californica*).

Wildlife Habitat

Oak woodlands provide nesting, foraging, and cover for a variety of species. Acorn woodpecker (*Melanerpes formicivorus*), northern mockingbird (*Mimus polyglottos*), western scrub-jay (*Aphelocoma californica*), and northern flicker (*Colaptes auratus*) are known to nest and forage in these habitats. Additionally, wild turkey (*Meleagris gallopavo*) is known to occur in oak woodlands. Reptiles, including western fence lizard (*Sceloporus occidentalis*), coast horned lizard (*Phrynosoma blainvillii*), gopher snake (*Pituophis catenifer*), and California kingsnake (*Lampropeltis getulus californiae*), frequent these habitats. Oak woodlands provide cover and foraging opportunities for numerous mammals, including Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), black-tailed deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*), and wild pig (*Sus scrofa*), and nesting opportunities for western gray squirrel (*Sciurus griseus*).

Grasslands

Description

The grasslands natural community in the Plan Area comprises two types: grasslands and grasslands with vernal swale complexes. Grasslands with vernal swale complexes are dominated by networks of meandering swales that channel flow across the landscape among varying distributions and densities of vernal pools and are associated with mound and intermound topography.

The vegetation in grasslands consists primarily of nonnative annual grasses that can include soft chess (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), wild oats (*Avena* spp.), and Italian ryegrass (*Lolium multiflorum*). Native perennial grasses, native forbs, and nonnative forbs also occur in grassland without vernal pools. Representative native species that are known to occur in grasslands are purple needlegrass (*Nassella pulchra*), Indian ryegrass (*Oryzopsis hymenoides*), butter-and-eggs (*Triphysaria eriantha*), California poppy (*Eschscholzia californica*), and pitgland tarweed (*Holocarpha virgata*).

Grasslands with vernal pools and/or swales are more common in the portion of the Plan Area east of Chico. Methodology used to map vernal pools in the Plan Area is included in Appendix I of the BRCP. Vegetation in the vernal pools and/or swales typically contains a higher proportion of native species than the adjacent grasslands. Several of the vernal pool endemics that are known from the Plan Area are listed under ESA and CESA: Hoover's spurge (*Chamaesyce hooveri*), Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*), hairy Orcutt grass (*Orcuttia pilosa*), slender Orcutt grass (*Orcuttia tenuis*), and Greene's tuctoria (*Tuctoria greenei*). Other species associated with vernal pools and/or swales are yellow carpet (*Blennosperma nanum*), Fremont's goldfields (*Lasthenia fremontii*), coyote thistle (*Eryngium* spp.), white navarretia (*Navarretia leucocephala*), sack clover (*Trifolium depauperatum*), and downingia (*Downingia* spp.).

Wildlife Habitat

Annual grasslands provide food and cover for abundant small mammals, including California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), deer mouse

(*Peromyscus maniculatus*), California vole (*Microtus californicus*), and black-tailed hare (*Lepus californicus*). Consequently, raptors such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), barn owl (*Tyto alba*), great horned owl (*Bubo virginianus*), and American kestrel (*Falco sparverius*) forage in annual grasslands. Other characteristic wildlife species include gopher snake, western rattlesnake (*Crotalus viridis*), western kingbird (*Tyrannus verticalis*), western bluebird (*Sialia mexicana*), and western meadowlark (*Sturnella neglecta*). Burrowing owl (*Athene cunicularia*) and American badger (*Taxidea taxus*) may use these areas for denning and foraging.

Where grasslands occur adjacent to permanent or semipermanent water features, such as canals, giant garter snake (*Thamnophis gigas*) may use these areas for upland cover; similarly, grasslands adjacent to canals, creeks, or ponds may be used for nesting or cover by western pond turtles (*Actinemys marmorata*). Grasslands containing seasonally inundated wetlands, such as vernal pools, may provide upland sites for California tiger salamander (*Ambystoma californiense*). Grasslands in the Plan Area are known to provide suitable winter foraging habitat for greater sandhill crane (*Grus canadensis*) and numerous waterfowl species.

Vernal pools in grasslands provide habitat for aquatic invertebrates that can tolerate the extreme range of conditions that characterize these ecosystems. Many of these species are specialized to complete their life cycles in the short period during which pools are ponded. Vernal pool invertebrates include crustaceans such as vernal pool fairy shrimp (*Branchinecta lynchi*), California fairy shrimp (*Linderiella occidentalis*), midvalley fairy shrimp (*Branchinecta mesovallensis*), tadpole shrimp (*Lepidurus packardi*); various genera of clam shrimp, seed shrimp, and daphnia; and water beetles, water boatmen, and aquatic larvae of fly and dragonfly species. Vernal pool invertebrate communities have evolved in the absence of aquatic predators such as fish and nonnative bullfrogs (*Rana catesbeiana*), which cannot survive in vernal pools because of their prolonged dry period.

Vernal pools also support amphibians such as Pacific treefrog (*Pseudacris regilla*), western toad (*Bufo boreas*), California tiger salamander, and western spadefoot (*Spea hammondii*). Vernal pool complexes are also important habitat for migratory birds, including herons, egrets, shorebirds, and waterfowl. Other birds, such as raptors (e.g., hawks, falcons, and kites) and a variety of songbirds, use vernal pool complexes for foraging and as water sources.

Riparian Communities

Description

The riparian natural communities comprise cottonwood willow riparian, valley oak riparian forest, willow scrub, herbaceous riparian river bar, dredger tailings with riparian—stream associated, and dredger tailings with riparian—non–stream associated. Dredger tailings are characterized by long mounds of alluvial deposits that formed as a result of past surface gold mining. The dredger tailings often support areas of dense riparian trees and shrubs interspersed with ponds and areas of bare sand and gravel.

The dominant vegetation in the riparian natural community can consist of either mature, tall trees or small trees and shrubs. Typical overstory species consist of Fremont cottonwood (*Populus fremontii* ssp. *fremontii*), red willow (*Salix laevigata*), Goodding's willow (*S. gooddingii*), valley oak (*Q. lobata*), western sycamore (*Platanus racemosa*), and white alder (*Alnus rhombifolia*). In addition to immature overstory species, the understory can contain shrubs and woody vines such as narrow-leaved willow (*Salix exigua*), blackberry (*Rubus* spp.), wild grape (*Vitis californica*), and wild rose

(*Rosa* spp.). Herbaceous species such as mugwort (*Artemisia douglasiana*), California aster (*Aster chilensis*), northern willow-herb (*Epilobium ciliatum*), and horsetail (*Equisetum* spp.) may also be present in the understory of the riparian natural community.

Wildlife Habitat

Riparian forest communities provide wildlife with dispersal and migration corridors and foraging areas, cover, and breeding habitat. Many species of birds, mammals, reptiles, and amphibians are known to use riparian communities and other woody vegetation communities near watercourses. Riparian trees provide suitable nesting and roosting habitat for a variety of raptors, egrets, herons, songbirds, and bats. Birds known to nest in these communities include red-shouldered hawk, red-tailed hawk, Swainson's hawk, white-tailed kite, Cooper's hawk (*Accipiter cooperii*), American kestrel, great blue heron (*Ardea herodias*), great egret (*Ardea alba*), Nuttall's woodpecker (*Picoides nuttallii*), western scrub-jay, California towhee (*Pipilo crissalis*), spotted towhee (*Pipilo maculates*), black phoebe (*Sayornis nigricans*), warbling vireo (*Vireo gilvus*), yellow-rumped warbler (*Dendroica coronata*), wrentit (*Chamaea fasciata*), and house wren (*Troglodytes aedon*).

Bats species known to use riparian habitats for roosting include California myotis (*Myotis californicus*), Yuma myotis (*Myotis yumanensis*), hoary bat (*Lasiurus cinereus*), western red bat (*Lasiurus blossevillii*), and pallid bat (*Antrozous pallidus*). Other mammal species known to use these communities include American beaver (*Castor canadensis*), Virginia opossum, striped skunk, black-tailed deer, raccoon, and muskrat (*Ondatra zibethicus*). Reptiles, including common garter snake (*Thamnophis sirtalis*), western fence lizard, and western pond turtle, and amphibians, including Pacific treefrog, western toad, and bullfrog, are also associated with these communities. Additionally, valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) may occur in areas where elderberry shrubs are present.

Riparian scrub provides nesting, cover, and foraging habitat for numerous bird species. Specifically, California quail (*Callipepla californica*), song sparrow (*Melospiza melodia*), spotted towhee, California towhee, wrentit, and bushtit (*Psaltriparus minimus*) are known to nest in these communities. Riparian scrub provides functions and values for reptiles, amphibians, and mammals similar to those described above for riparian forest.

Fish such as juvenile steelhead (*Oncorhyncus mykiss*) and Chinook salmon (*Oncorhyncus tshawytscha*) utilize stream reaches which have riparian vegetation. Overhanging riparian vegetation along watercourses provides rearing areas, cover and food resources for salmonids.

Wetlands

Description

The wetland natural community in the Plan Area consists of emergent wetlands, managed wetlands, and managed seasonal wetlands. For a discussion of vernal pools, see the *Grasslands* section above. Emergent wetlands are scattered throughout the Plan Area and are frequently associated with streams, rivers, and areas that receive water in the form of agricultural runoff. Most of the managed wetlands are in the western portion of the Plan Area and are associated with the Butte Basin, the Sacramento River, and the Feather River. Managed wetlands are associated with private hunting clubs or federal and state wildlife refuges such as Gray Lodge Wildlife Area, Sacramento River National Wildlife Refuge, and the Oroville Wildlife Area. The wetland natural community is supported by soils that occur in floodplains and flood basins. Managed seasonal wetlands typically

involve winter flooding of most of the managed wetland landscape for migratory bird foraging and resting habitat, followed by a slow drawdown of water to manage plant seed production.

Vegetation in the wetland natural community is somewhat variable. Emergent wetlands typically contain cattails (*Typha* spp.), sedges (*Carex* spp.), tule (*Scirpus acutus*), and bulrushes (*Scirpus* spp.) with margins supporting willows (*Salix* spp.) and blackberry. Managed wetlands, which have frequently been reverted from agricultural use, contain a combination of open water and vegetation types, including cottonwood-willow forest, willow scrub, ponds, freshwater marsh, and areas dominated by blackberry. Vegetation in managed wetlands may also include crops (e.g., millet and rice) that have been planted to reduce the destruction of adjacent agricultural lands by waterfowl and other wildlife.

Wildlife Habitat

Wetland provides cover and breeding habitat for amphibians including bullfrog, Pacific treefrog, and western toad, and reptiles including common garter snake and giant garter snake. Characteristic birds that nest in (or in association with) fresh emergent wetlands in the Plan Area include Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), gadwall (*Anas strepera*), Virginia rail (*Rallus limicola*), sora (*Porzana carolina*), American coot (*Fulica americana*), common moorhen (*Gallinula chloropus*), red-winged blackbird (*Agelaius phoeniceus*), tricolored blackbird (*Agelaius tricolor*), and northern harrier (*Circus cyaneus*). Though uncommon, California black rail (*Laterallus jamaicensis coturniculus*) could also use these areas for nesting. Mammals known to use emergent wetlands in the Plan Area include a variety of foraging bats, vagrant shrew (*Sorex vagrans*), ornate shrew (*Sorex ornatus*), American beaver, and muskrat. Managed wetlands such as the Butte Sink provide off-channel rearing opportunities for juvenile Chinook salmon during winter and spring over a broad range of flow conditions. Wetland habitats have been shown to create favorable conditions for feeding and growth of salmon, especially in wet years when these habitats can greatly expand the amount of available rearing habitat (Sommer et al. 2001, 2005).

Aquatic Communities

Description

The aquatic natural community type comprises open water, major canal, and stock pond land cover types. The aquatic natural community type is scattered throughout the Plan Area. Open water cover types consist of rivers and streams bordered by riparian and wetland cover types. Along valley floor streams (e.g., lower Butte Creek), aquatic habitat for fish and wildlife can expand seasonally during high flows to adjacent riparian, wetland, and floodplain habitats.

Wildlife Habitat

The riparian forest and riparian scrub communities are associated with open water habitats, and provide important wildlife habitat, as described above.

In addition to providing resources for fish, discussed below, open water habitat provides foraging, cover, and reproductive sites for a variety of wildlife species. Open water areas provide essential aquatic habitat for wading birds (e.g., great blue heron, great egret); waterfowl (e.g., northern pintail [*Anas acuta*], green-winged teal [*Anas crecca*], and ring-necked duck [*Aythya collaris*]);water birds (e.g., eared grebe [*Podiceps nigricollis*] double-crested cormorants [*Phalacrocorax auritus*]); and land

birds (e.g., osprey [*Pandion haliaetus*], belted kingfisher [*Megaceryle alcyon*]). Reptiles and amphibians, including western pond turtle, common garter snake, western aquatic garter snake (*Thamnophis couchii*), Pacific treefrog, western toad, and bullfrog breed and/or forage in open water areas. Within the Plan Area, open water habitats—specifically, major canals—have some potential to support giant garter snake. Smaller agricultural canals associated with rice and other flooded crops are discussed in the description of agricultural lands below. Bats, including California myotis, Yuma myotis, hoary bat, western red bat, and pallid bat, are associated with riparian forests and forage for insects over open water. Terrestrial mammals, including black-tailed deer, raccoon, striped skunk, and Virginia opossum, use rivers and streams as water sources. Aquatic and semiaquatic mammals that occur in open water habitats include beaver, river otter (*Lontra canadensis*), mink (*Mustela vison*), and muskrat.

Some fish species that occur in streams and rivers within the Plan Area include Sacramento sucker (*Catostomus occidentalis*), Sacramento pikeminnow (*Ptychocheilus grandis*), white sturgeon (*Acipenser transmontanus*), striped bass (*Morone saxatilis*), and American shad (*Alosa sapidissima*). Nonnative warmwater fish species such as bass (*Micropterus* spp.), sunfish species (*Lepomis* spp.), and crappie (*Pomoxis* spp.) could occur in canals and stock ponds in the Plan Area (Butte County Association of Governments 2012).

Agricultural Lands

Description

The agricultural natural community type is made up of several land cover types: orchards and vineyards, rice, irrigated cropland, irrigated pasture, and nonnative woodland. Nonnative woodland is included in the agricultural community type because it consists of eucalyptus plantations that have been planted for commercial purposes (e.g., pulp production). The agricultural natural community type encompasses the majority of the western half of the Plan Area—the north Central Valley where the soils and topography are the most suitable. The southwestern portion of the Plan Area supports rice, and orchards and vineyards are the dominant agricultural land cover type in the north. Soils in agricultural lands in the Plan Area vary from north to south (e.g., soils that support rice fields are less well drained than soils that support orchards and vineyards).

Vegetation in the agricultural natural community type consists of field crops and orchards and vineyards. Field crops include rice, irrigated pasture, alfalfa, and wheat. Orchard crops include almonds, olives, peaches, plums, and walnuts.

Wildlife Habitat

Orchards and vineyards provide very little value for wildlife, although birds such as red-shouldered hawk, American crow (*Corvus brachyrhynchos*), yellow-billed magpie (*Pica nuttalli*), mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), and rock pigeon (*Columba livia*) may nest or forage in these areas.

Row and field crops provide foraging opportunities for a variety of raptors, including red-tailed hawk, Swainson's hawk, white-tailed kite, American kestrel, burrowing owl, northern harrier, great horned owl, barn owl, and other migratory and resident birds (e.g., sandhill crane, Brewer's blackbird [*Euphagus cyanocephalus*], red-winged blackbird, tricolored blackbird, American crow, yellow-billed magpie, European starling, western meadowlark, mourning dove, and rock pigeon).

Birds such as burrowing owl, northern harrier, and western meadowlark are known to nest in or adjacent to these areas.

Flooded agricultural fields, particularly rice fields, provide foraging habitat for a variety of waterfowl, including tundra swan (*Cygnus columbianus*), snow goose (*Chen caerulescens*), white-front goose (*Anser albifrons*), and several species of ducks. Wading and shore birds are known to forage in flooded agricultural fields, including herons, egrets, long-billed curlew (*Numenius americanus*), killdeer (*Charadrius vociferous*), and greater yellow-legs (*Tringa melanoleuca*).

Within the Plan Area, rice fields (and associated agricultural ditches or canals) support giant garter snake. Mammals known to occur in all types of agricultural lands include coyote (*Canis latrans*), gray fox, black-tailed hare, California ground squirrel, Botta's pocket gopher, deer mouse, and California vole. Reptiles such as western fence lizard, gopher snake, and California kingsnake may also be found in association with agricultural areas.

Chaparral

Description

Chaparral occurs in the Cascade and Sierra Nevada foothills in the eastern portion of the Plan Area. Chaparral is typically found on steep slopes with relatively thin, well-drained soils.

The chaparral within the Plan Area is best described as mixed chaparral. This community is characterized by dense shrubs and small trees, dominated by ceanothus (*Ceanothus* spp.), manzanita (*Arctostaphlyos* spp.), oaks (*Quercus* spp.), and chamise (*Adenostoma fasciculatum*). Other common species include California buckeye (*Aesculus californica*), toyon (*Heteromeles arbutifolia*), and mountain mahogany (*Cercocarpus betuloides*).

Wildlife Habitat

Chaparral provides habitat for a variety of common reptiles, birds, and mammals. Numerous rodents, deer, and other herbivores are common in chaparral communities. Chaparral provides important winter range foraging areas for black-tailed deer. Chaparral also provides habitat for western fence lizard, gopher snake, California kingsnake, California quail (*Callipepla californica*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), and brush mouse (*Peromyscus boylii*).

Conifer-Dominated Forest

Description

A small amount of conifer-dominated forest occurs on the eastern edge of the Plan Area in the Cascade and Sierra Nevada foothills. Coniferous forests are more prevalent at higher elevations east of the Plan Area.

The conifer-dominated forest in the Plan Area is best described as ponderosa pine forest. This community is typically dominated by pure stands of ponderosa pine (*Pinus ponderosa*), but at lower elevations it can be mixed with blue oaks, interior live oaks, foothill pines, ceanothus, and manzanita.

Wildlife Habitat

Conifer forests provide habitat for a large number of wildlife species. The wide variety of plant species in conifer forests provides a diversity of food and cover for wildlife. Mature forests are valuable habitat for cavity-nesting birds. Wildlife species common in this habitat type include Steller's jay (*Cyanocitta stelleri*), hairy woodpecker (*Picoides villosus*), mountain chickadee (*Parus gambeli*), western gray squirrel, gray fox, and blacktail deer.

Special-Status Species

Special-status species are defined as plants and animals that are legally protected under ESA, CESA, or other regulations, and species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status species are defined as species in any of the categories listed below.

- Species that are listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.11 for listed animals and various notices in the FR for proposed species).
- Species that are candidates for possible future listing as threatened or endangered under the ESA (75 FR 69222, November 10, 2010).
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 CCR 670.5).
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).
- Animals listed as California species of special concern on CDFW's Special Animals List (California Department of Fish and Game 2011).
- Animals that are fully protected in California under the California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Plants listed as rare under the CNPPA (California Fish and Game Code Section 1900 et seq.).
- Plants considered by CDFW and the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Rare Plant Ranks 1A, 1B, and 2) (California Department of Fish and Wildlife 2013b).

The State CEQA Guidelines state that the lead agency preparing an EIR must consult with and receive written findings from CDFW concerning project impacts on species listed as threatened or endangered.

Special-Status Plants

Based on the USFWS (2013) species list for Butte County, CNDDB (2013a) records search, and the CNPS (2013) inventory search, 59 special-status plant species were identified as occurring or having the potential to occur in the Plan Area. Table 6-2 lists the status, geographic distribution, habitat requirements, and reported blooming period for each species. Thirty of the 59 species have been reported in the Plan Area. These 30 species include the 14 species that are proposed for coverage under the BRCP. Of the remaining 29 species, 14 were determined to be unlikely to occur in the Plan Area because their elevation ranges are substantially higher than the highest elevation in the Plan Area or because they inhabit natural communities (e.g., chaparral, coniferous forest) that are not proposed for coverage under the BRCP. These 14 species are not discussed further in this EIS/EIR.

Potential habitat for the remaining 15 species is present in the natural community types in the Plan Area that are proposed for coverage under the BRCP.

Accordingly, the special-status plants addressed in this chapter comprise the 14 that are proposed for coverage under the BRCP and the 15 that are not covered but that have potential to occur in the Plan Area. Occurrences of special-status plants are shown in Appendix F. The 14 special-status plants covered under the BRCP are listed below.

- Ferris's milkvetch (not listed)
- Lesser saltscale (not listed)
- Hoover's spurge (federal threatened)
- Ahart's dwarf rush (not listed)
- Red Bluff dwarf rush (not listed)
- Butte County meadowfoam (federal and state endangered)
- Veiny monardella (not listed)
- Hairy Orcutt grass (federal and state endangered)
- Slender Orcutt grass (federal threatened, state endangered)
- Ahart's paronychia (not listed)
- California beaked-rush (not listed)
- Butte County checkerbloom (not listed)
- Butte County golden clover (not listed)
- Greene's tuctoria (federal endangered, state rare)

Special-Status Wildlife

Based on the USFWS (2013) species list for Butte County and CNDDB records search (2013a) for the Plan Area, 28 special-status wildlife species were identified as having potential to occur within the Plan Area. Table 6-3 contains the status, distribution, and habitat requirements of these species. Of these species, 25 are known to occur in the Plan Area, one (California tiger salamander) is not known to occur within the Plan Area but have at least a moderate potential to occur based on the presence of suitable habitat, and two (golden eagle and California red-legged frog) have low to no potential to occur in the Plan Area based on the presence of limited suitable habitat and no occurrences within the Plan Area. These species are not discussed further in this EIS/EIR.

The special-status wildlife species addressed in this section are those that are covered under the BRCP and other special-status species that are known or have at least a moderate potential to occur in the Plan Area. Occurrences of special-status wildlife species are shown in Appendix F. The 20 special-status wildlife species covered under the BRCP are listed below.

- Tricolored blackbird (state endangered)
- Yellow-breasted chat (state species of special concern)
- Bank swallow (state threatened)
- Western burrowing owl (state species of special concern)

- Western yellow-billed cuckoo (federal threatened, state endangered)
- Greater sandhill crane (state threatened and fully protected)
- California black rail (state threatened and fully protected)
- American peregrine falcon (state fully protected)
- Swainson's hawk (state threatened)
- White-tailed kite (state fully protected)
- Bald eagle (state endangered and fully protected)
- Giant garter snake (federal threatened, state threatened)
- Blainville's horned lizard (state species of special concern)
- Western pond turtle (state species of special concern)
- Foothill yellow-legged frog (state species of special concern)
- Western spadefoot (state species of special concern)
- Valley elderberry longhorn beetle (federal threatened)
- Vernal pool tadpole shrimp (federal endangered)
- Conservancy fairy shrimp (federal endangered)
- Vernal pool fairy shrimp (federal threatened)

Twenty-four other special-status species are not covered under the Plan but are known or have at least a moderate potential to occur in the Plan Area; these species are also addressed in this document (Table 6-3).

Special-Status Fish

Based on the USFWS (2013) species list and other literature searches for the Plan Area, eight special-status fish species were identified as having potential to occur within the Plan Area. Table 6-3 provides the status, distribution, and habitat requirements of these species. Four of these species are known to occur in the Plan Area. In addition, hardhead (*Mylopharodon conocephalus*) has a high potential to occur in the Plan Area based on the presence of suitable habitat, and was accordingly included in Table 6-3. Sacramento River winter-run Chinook salmon has not been documented in the Plan Area except in the Sacramento River and is not discussed further in this EIS/EIR.

This chapter addresses the four fish species covered by the BRCP.

- California Central Valley steelhead
- Central Valley spring-run Chinook salmon
- Central Valley fall-/late fall–run Chinook salmon
- Green sturgeon

Sacramento splittail, river lamprey, and hardhead are not covered under the BRCP but have the potential to occur in the Plan Area and are also considered in this document.

Table 6-4 presents a matrix of all the special-status species addressed in this document whether covered or noncovered, correlating each species with the habitat type that supports it.

Designated Critical Habitat

In accordance with ESA Section 7, USFWS and NMFS must evaluate the effects of proposed actions on designated critical habitat. The following federally listed covered species have designated critical habitat within the Plan Area.

- Central Valley spring-run Chinook salmon
- California Central Valley steelhead
- Vernal pool tadpole shrimp
- Conservancy fairy shrimp
- Vernal pool fairy shrimp
- Hoover's spurge
- Hairy Orcutt grass
- Butte County meadowfoam
- Greene's tuctoria

The designated critical habitat for these species is shown in Appendix F. The effects on critical habitat are addressed in this chapter.

6.2 Environmental Consequences

This section incorporates by reference the impact determinations presented for biological resources in the Local Agencies' general plan EIRs (as described in more detail in Chapter 3, Section 3.3, *Resource Chapter Organization and NEPA/CEQA Requirements*).[2] The significance findings and mitigation measures of each of the general plan EIRs are compiled in Appendix C. The Lead Agencies have reviewed these analyses and found them to be appropriate for the purposes of this EIS/EIR.

6.2.1 Methods for Impact Analysis

This section describes the methods used to analyze the environmental consequences of implementing the conservation strategy and conservation measures.

The BRCP would not provide individual project approvals or entitlements for any private or public development or infrastructure projects. Accordingly, this EIS/EIR does not provide CEQA or NEPA coverage for individual covered activities and does not function as a *programmatic* or *umbrella* CEQA or NEPA document for regional development and infrastructure projects. The BRCP EIS/EIR evaluates only the adverse and beneficial environmental effects associated with the decisions of the federal agencies to permit the actions of BCAG, the Local Agencies, water and irrigation districts, and

[2] These previous CEQA documents are available collectively for public review at the BCAG offices (2580 Sierra Sunrise Terrace, Suite 100 Chico, CA 95928-8441). Individual general plans and EIRs are also available at each of the respective land use agencies.

Caltrans to approve and implement the BRCP. Accordingly, the methods for analyzing direct impacts on biological resources are tailored to evaluate the decisions of the federal agencies, BCAG, and the Local Agencies, water and irrigation districts, and Caltrans related to the BRCP. Additionally, Local Agency general plan updates were prepared concurrently with the BRCP planning process. A BRCP biological constraints map was used to inform the general plan updates and to develop alternatives that avoided and minimized impacts of general plan actions on sensitive habitats supporting covered species. These preferred alternatives were incorporated into the BRCP covered activities. Therefore, it is assumed that all covered activities approved by the Local Agencies would be consistent with the policies of their respective general plans and would be subject to any mitigation measures identified in the general plan EIRs, such that impacts would be adequately mitigated.

Implementation of Alternative 2 (the BRCP) or other alternatives could result in direct, indirect, or cumulative impacts on biological resources. *Direct impacts* are those effects of a project that occur at the same time and place as project implementation, such as removal of habitat from ground disturbance. *Indirect impacts* are those effects of a project that occur either later in time or at a distance from the project location but are reasonably foreseeable, such as loss of aquatic species from downstream effects on water quality. Direct and indirect impacts can be permanent or temporary. *Cumulative impacts* are those incremental effects of a project that, in combination with the effects of other projects, could significantly impact biological resources.

Biological resources could be affected directly or indirectly by activities associated with the conservation strategy and measures described under Alternative 2 or other alternatives (Alternatives 3 and 4). The following types of conservation strategy and measures activities may result in disturbance to biological resources.

- Increased human presence as part of surveys, monitoring, or recreational use.
- Conversion of one habitat type to another through restoration, enhancement, or creation activities.
- Removal of vegetation during construction of temporary staging areas and access roads.
- Removal of vegetation as part of management by grazing activities or herbicide application.
- Active or passive relocations of individuals of covered species.

The evaluation of permanent development and conservation strategy impacts on covered species is quantitative. The evaluation of other covered activities (e.g., water and irrigation district recurring maintenance activities or Caltrans facilities) under all the alternatives is qualitative. The evaluation of other covered activities (e.g., water and irrigation district recurring maintenance activities or Caltrans facilities) on covered species under all the alternatives is qualitative. A review was conducted of the natural community and land cover mapping and the habitat suitability models for covered species developed for the BRCP. The NEPA/CEQA Lead Agencies determined these data and information accurately represent the baseline conditions for biological resources within the Plan Area. Accordingly, the alternatives were compared to these maps and habitat suitability models for the analysis. The analysis assumes the proposed conservation strategy and conservation measures would be fully effective in their stated objectives and that habitat conditions predicted to result from Plan implementation would actually develop within the term of the permits. This assumption is substantially supported by successful implementation of similar conservation measures in other HCPs and NCCPs in California. It is also supported by the effective monitoring and adaptive

management plan that has been incorporated into the BRCP. The extent of impacts on covered special-status species, by alternative, is shown in Table 6-5.

This EIR/EIS evaluates noncovered special-status species. These include: migratory birds, special-status bats, the American badger, migratory black-tailed deer, hardhead, Antioch Dunes anthicid beetle, Sacramento anthicide beetle, and special-status plants. The evaluation of impacts on noncovered species relied on a combination of the available natural community and land cover mapping as presented in the BRCP, as well as species occurrence information. The species occurrence information was compiled from CNDDB data and additional records provided in GIS by BCAG. In addition, impacts on noncovered species from urban development were also assessed programmatically in Local Agencies' general plan EIRs and would be assessed in the future in project-specific environmental documents. The mitigation measures described in the previous CEQA documents for potential impacts on noncovered sensitive biological resources will be incorporated into all projects covered by the BRCP, as appropriate. However, additional mitigation measures may also be identified through project-level CEQA or NEPA review or as conditions of the project permits (e.g., a Section 404 permit or a Streambed Alteration Agreement). This EIS/EIR assumes that covered activities unrelated to the conservation strategy (i.e., development projects, water and irrigation district recurring maintenance, etc.) would comply with CEQA and address noncovered species issues on a project level at the appropriate time. Therefore, programmatic mitigation is not included in this EIS/EIR for noncovered species related to these types of covered activities. The extent of impacts on noncovered special-status species, by alternative, is shown in Table 6-5.

The assessment of impacts on potentially jurisdictional wetlands relied on assumptions the BRCP made on wetland densities within grassland and agricultural habitats (see Chapter 3 and Table 3-16 of the BRCP). The extent of impacts on potential jurisdictional wetlands in the Plan Area by alternative is shown in Table 6-6 of this EIS/EIR.

For Alternative 3, the Reduced Development/Reduced Fill Alternative, impacts on natural communities and covered species were quantified by ICF International using geographic information system (GIS) software with the covered species models and natural community/land cover data provided by BCAG. The footprint of the Local Agencies' reduced development alternatives were combined to create a single GIS layer that was then intersected with the natural communities and land use layers to quantify the impacts. The same impact limits that BRCP developed for natural community/land cover, covered species, and jurisdictional wetlands were applied to Alternative 3. These impact limits can be found in Tables 4-5, 4-8, and 4-11 of the BRCP. The extent of direct impacts on natural communities and agricultural lands under Alternative 3 is shown in Table 6-7 of this EIS/EIR.

6.2.2 Significance Criteria

USFWS has determined that it is appropriate to use Appendix G of the State CEQA Guidelines; factual or scientific information and data; views of the public in the affected area; the policy/regulatory environment of affected jurisdictions; and regulatory standards of federal, state, regional, and local agencies to inform the decision on the significance of the alternatives on the environment in those cases where NEPA regulations do not provide guidance on the thresholds of significance. Therefore, in accordance with Appendix G of the State CEQA Guidelines and professional judgment, the action alternatives would result in a significant effect if they would result in any of the conditions listed below.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species (including species listed as threatened or endangered) in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species.
- Have a substantial adverse effect on wetlands or other sensitive natural vegetation community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan in the surrounding region.
- Conflict with any local policies or ordinances\ protecting biological resources, such as a tree preservation policy or ordinance.

6.2.3 Impacts and Mitigation Measures

Alternative 1—No Action (No Plan Implementation)

As discussed in Chapter 2, Section 2.3.1, *Alternative 1—No Action (No Plan Implementation)*, under Alternative 1, project proponents would apply for permits on a project-by-project basis, without a coordinated and comprehensive effort to minimize and mitigate biological impacts through the BRCP. It is assumed that during the permitting process the applicants would be responsible for developing project-specific mitigation that would be subject to the approval of USFWS, NMFS, and CDFW. Under Alternative 1, urban development and public infrastructure projects would continue to occur pursuant to the approved general plans of the Local Agencies and BCAG's regional plan(s). No regional conservation strategy or conservation measures would be implemented; therefore, benefits to and impacts on biological resources associated with the conservation strategy and conservation measures would not occur. In addition, there would be no comprehensive monitoring program to ensure the success of management and restoration measures on a regional scale, nor would a regional general permit under the Clean Water Act be available to provide additional permit streamlining for applicants whose projects would have impacts on jurisdictional waters of the United States, including wetlands.

The primary mechanism of impacts on biological resources under Alternative 1 is habitat loss and degradation through implementation of the various general plans and related infrastructure construction. Moreover, because the BRCP would impose some acreage limitations on development in certain areas to minimize effects on covered species whose habitats have declined substantially in the Plan Area and the wider region, the long-term extent of effects under Alternative 1 would be greater than those under the proposed action (Alternative 2).

The general plan EIRs for the Local Agencies identified a range of impacts related to biological resources. The EIR for the Biggs general plan found that implementation of the general plan would not result in significant impacts on biological resources. The EIR for the Chico general plan found that implementation of the general plan would result in significant and unavoidable impacts on biological resources only at the cumulative level. The EIR for the Gridley general plan found that implementation of the general plan would result in significant impacts on biological resources, including impacts on special-status plants, raptors and migratory birds, Swainson's hawk, giant garter snake, valley elderberry longhorn beetle, and drainages and sensitive natural communities

and wetlands, all of which would be reduced to a less-than-significant level by mitigation measures identified in the Gridley general plan EIR. The EIRs for the Oroville and the County general plans found that implementation of those general plans would result in significant and unavoidable impacts on biological resources.

Impact BIO-1: Effects on tricolored blackbird (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 12,617 acres (5%) of modeled tricolored blackbird habitat and one known colony in the Plan Area.

Permanent development within 500 feet of tricolored blackbird habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically indirectly (through noise and visual disturbance) affect tricolored blackbird. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting tricolored blackbirds, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 12,617 acres of tricolored blackbird habitat, together with the impacts from recurring maintenance activities within the Plan Area, would constitute a significant impact. As identified in the general plan EIRs, general plan implementation for the City of Oroville and the County would also result in the loss the loss of one tricolored blackbird colony, which would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 12,617 acres of tricolored blackbird habitat, together with the impacts from recurring maintenance activities within the Plan Area, would constitute a significant impact. As identified in the general plan EIRs, general plan implementation for the City of Oroville and the County would also result in the loss of one colony, which would constitute a significant and unavoidable impact.

Impact BIO-2: Effects on yellow-breasted chat (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 980 acres (14%) of nesting and foraging habitat and 48 acres (16%) of known use areas in the Plan Area.

Permanent development within 500 feet of yellow-breasted chat habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically indirectly (through noise and visual disturbance) affect yellow-breasted chat. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting yellow-breasted chat, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 980 acres of yellow-breasted chat nesting and foraging habitat and 48 acres of known use areas in the Plan Area, together with the impacts from recurring maintenance activities under Alternative 1, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 980 acres of yellow-breasted chat nesting and foraging habitat and 48 acres of known use areas in the Plan Area, together with the impacts from recurring maintenance activities under Alternative 1, would constitute a significant and unavoidable impact.

Impact BIO-3: Effects on bank swallow (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in effects on 9 linear miles (5%) of bank swallow habitat in the Plan Area. No known colonies would be affected.

Permanent development within 500 feet of modeled bank swallow habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically indirectly (through noise and visual disturbance) affect bank swallows.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Implementation of Alternative 1 would result in permanent effects on 9 linear miles of bank swallow habitat in the Plan Area, as well as permanent development within 500 feet of bank swallow habitat. This could cause alterations in behavior due to noise and visual disturbances, which would constitute a significant and unavoidable impact.

CEQA Determination: Implementation of Alternative 1 would result in permanent effects on 9 linear miles of bank swallow habitat in the Plan Area, as well as permanent development within 500 feet of bank swallow habitat. This could cause alterations in behavior due to noise and visual disturbances, which would constitute a significant and unavoidable impact.

Impact BIO-4: Effects on western burrowing owl (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 14,496 acres (9%) of the modeled western burrowing owl habitat in

the Plan Area. Permanent development would affect the location of one CNDDB record for western burrowing owl.

Permanent development within 500 feet of western burrowing owl habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically indirectly (through noise and visual disturbance) affect western burrowing owl. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting western burrowing owls, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 14,496 acres of western burrowing owl habitat within the Plan Area, together with the impacts from recurring maintenance activities under Alternative 1, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 14,496 acres of western burrowing owl habitat within the Plan Area, together with the impacts from recurring maintenance activities under Alternative 1, would constitute a significant and unavoidable impact.

Impact BIO-5: Effects on western yellow-billed cuckoo (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 50 acres (1%) of modeled western yellow-billed cuckoo habitat in the Plan Area. No known locations of western yellow-billed cuckoo would be lost to development, and applicable AMMs would provide for nest identification in and near permanent development projects and avoid take and minimize effects on nest locations.

Permanent development within 1,300 feet of western yellow-billed cuckoo habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically indirectly (through noise and visual disturbance) affect western yellow-billed cuckoo. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting yellow-billed cuckoos, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Only a small percentage (1%) of western-yellow billed cuckoo habitat in the Plan Area would be lost. However, this species and suitable habitat in the region are rare. In

addition, there is the potential for alterations in behavior due to the proximity of permanent development and impacts from recurring maintenance activities. Therefore, the loss of habitat and associated impacts would constitute a significant and unavoidable impact.

CEQA Determination: Only a small percentage (1%) of western-yellow billed cuckoo habitat in the Plan Area would be lost. However, this species and suitable habitat in the region are rare. In addition, there is the potential for alterations in behavior due to the proximity of permanent development and impacts from recurring maintenance activities. Therefore, the loss of habitat and associated impacts would constitute a significant and unavoidable impact.

Impact BIO-6: Effects on greater sandhill crane (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of up to 1,764 acres (1%) of modeled greater sandhill crane habitat in the Plan Area: 1,627 acres (1%) of winter roosting and foraging habitat and 137 acres (5%) of impact on traditional upland use areas. Permanent development projects that include new transmission lines could result in take of greater sandhill cranes because cranes are vulnerable to line collisions during periods of fog.

Permanent development within 1,300 feet of greater sandhill crane habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically indirectly (through noise and visual disturbance) affect greater sandhill crane.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 1,764 acres of modeled greater sandhill crane habitat and increased risk of powerline collisions would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 1,764 acres of modeled greater sandhill crane habitat and increased risk of powerline collisions would constitute a significant and unavoidable impact.

Impact BIO-7: Effects on California black rail (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would not affect any known localities for California black rail, but occurrences that have not yet been documented could be present. Permanent development could affect such occurrences.

Permanent development within 500 feet of occupied California black rail habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically affect (through noise and visual disturbance) California black rails if they occur in the vicinity. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting California black

rails, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Known localities of this species would not be lost to permanent development. However, the potential effects on currently unknown localities, together with the impacts from recurring maintenance activities, would be adverse. This impact would be significant and unavoidable.

CEQA Determination: Known localities of this species would not be lost to permanent development. However, the potential impacts on currently unknown localities, together with the impacts from recurring maintenance activities, would be significant and unavoidable.

Impact BIO-8: Effects on American peregrine falcon (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 9 acres (14%) of nesting habitat and 3,759 acres (2%) of foraging habitat in the Plan Area. This development would also affect one known nest location.

Permanent disturbance within 500 feet of modeled habitat for American peregrine falcon could disrupt normal behaviors, including nesting, through noise and visual disturbances.

Recurring maintenance activities within Plan Area may periodically affect (through noise and visual disturbance) American peregrine falcon. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, and pipeline maintenance, could result in impacts on nesting peregrine falcons; these impacts could include harm or mortality to eggs and young through nest abandonment and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: The loss of nesting habitat and effects on one known American peregrine falcon nest location, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: The loss of nesting habitat and effects on one known American peregrine falcon nest location, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-9: Effects on Swainson's hawk (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 11,710 acres (8%) of modeled Swainson's hawk habitat in the Plan Area: 712 acres (4%) of modeled nesting habitat (riparian types), 557 acres (22%) of modeled nesting and foraging habitat (blue oak savanna), and 10,411 acres (8%) of foraging habitat

(cropland, irrigated pasture, grassland, and managed wetland). No known locations of Swainson's hawk nesting would be permanently affected.

Permanent development within 1,300 feet of Swainson's hawk nesting habitat and within 500 feet of foraging habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities inside and outside UPAs may periodically indirectly (through noise and visual disturbance) affect Swainson's hawk. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting Swainson's hawks, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 11,710 acres of Swainson's hawk habitat within the Plan Area, together with the impacts from recurring maintenance activities under Alternative 1, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 11,710 acres of Swainson's hawk habitat within the Plan Area, together with the impacts from recurring maintenance activities under Alternative 1, would constitute a significant impact.

Impact BIO-10: Effects on white-tailed kite (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 16,664 acres (5%) of modeled white-tailed kite habitat in the Plan Area: 3,079 acres (9%) of nesting habitat and 13,585 acres (5%) of foraging habitat.

Permanent development within 1,300 feet of white-tailed kit nesting habitat and within 500 feet of foraging habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within the Plan Area may periodically affect (through noise and visual disturbance) white-tailed kites. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting white-tailed kites, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: The loss of 16,664 acres of modeled white-tailed kite habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: The loss of 16,664 acres of modeled white-tailed kite habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-11: Effects on bald eagle (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 2,784 acres (12%) of nesting habitat and 85 acres (1%) of year-round foraging habitat in the Plan Area. No known nest sites would be lost.

Permanent development within 1,300 feet of bald eagle nesting habitat and within 500 feet of foraging habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities inside and outside UPAs may periodically affect (through noise and visual disturbance) bald eagles. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting bald eagles, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: The loss of bald eagle nesting habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: The loss of bald eagle nesting habitat, would together with the impacts from recurring maintenance activities, constitute a significant and unavoidable impact.

Impact BIO-12: Effects on giant garter snake (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of up to 18 miles (4%) of movement habitat and 3,196 acres (2%) of other modeled giant garter snake habitat within the Plan Area. Permanent development projects would affect two locations of giant garter snake recorded in the CNDDB (2013a), or 7% of the recorded locations in the Plan Area.

Permanent disturbance within 500 feet of modeled habitat could adversely affect giant garter snake through hydrologic alteration of aquatic habitat, water pollution, and introduction of potential predators (cats, dogs, nonnative fish, and bullfrogs). Recurring maintenance activities within the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, water and irrigation canal maintenance, and vegetation management, may periodically directly and indirectly affect giant garter snake habitat; moreover, such activities could result in direct mortality. Considering the amount of habitat lost, the potential for take from recurring maintenance in agricultural lands (canal and ditch maintenance), the uncertainty of maintaining habitat on agricultural lands (rice), and the species' disjunct distribution in the Plan Area, effects on giant garter snake would be adverse.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of up to 18 miles of movement habitat and 3,196 acres of other modeled giant garter snake habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of up to 18 miles of movement habitat and 3,196 acres of other modeled giant garter snake habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-13: Effects on Blainville's horned lizard (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in impacts on 7,776 acres (11%) of grasslands, 1,478 acres (14%) of oak savanna, and 1,413 acres (6%) of riparian natural communities that contain suitable habitat elements for Blainville's horned lizard (e.g., gravelly sandy substrates). The amount of actual suitable habitat that could be affected could not be determined at the scale of this analysis.

Recurring maintenance activities within the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically directly and indirectly affect Blainville's horned lizard.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Though the actual amount of suitable habitat lost could not be determined, the extent of natural communities that may contain suitable habitat is considerable; consequently, potential effects on Blainville's horned lizard would be adverse. Such loss of suitable habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: Though the actual amount of suitable habitat lost could not be determined, the extent of natural communities that may contain suitable habitat is considerable; consequently, potential effects on Blainville's horned lizard would be adverse. Such loss of suitable habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-14: Effects on western pond turtle (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 24 (12%) potential breeding ponds, 5 linear miles (5%) of stream habitat, and 4,652 acres (5%) of modeled western pond turtle habitat in the Plan Area. Development could also result in injury or mortality of western pond turtles and habitat fragmentation. No known locations of western pond turtle listed in the CNDDB (2013a) would be affected by permanent development; however, unreported populations may be affected.

Permanent development within 500 feet of modeled habitat could indirectly affect the species through increased noise and visual disturbances, introduced predators, increased traffic on nearby roads, and water pollution.

Recurring maintenance activities in the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, flood control and stormwater maintenance, and vegetation management, may periodically directly (through inadvertent mortality) and indirectly (through noise, visual disturbance, and ground vibrations) affect western pond turtle.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: The loss of 24 potential breeding ponds, 5 linear miles of stream habitat, and 4,652 acres of modeled western pond turtle habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: The loss of 24 potential breeding ponds, 5 linear miles of stream habitat, and 4,652 acres of modeled western pond turtle habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-15: Effects on foothill yellow-legged frog (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 107 miles of streams (10%) and 1,189 acres of uplands surrounding these streams (11%) in the Cascades and Sierra Nevada foothills—features that provide potential habitat for foothill-yellow legged frog.

Permanent disturbance within 500 feet of modeled foothill yellow-legged frog habitat could adversely affect the species through hydrologic alteration of aquatic habitat, water pollution, and introduction of potential predators (cats, dogs, nonnative fish, and bullfrogs).

Recurring maintenance activities in the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, flood control and stormwater maintenance, and vegetation management, could periodically directly (through inadvertent mortality) and indirectly (through noise, visual disturbance, and ground vibrations) affect yellow-legged frog.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 107 miles of streams and 1,189 acres of associated upland habitat suitable for foothill yellow-legged frog, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 107 miles of streams and 1,189 acres of associated upland habitat suitable for foothill yellow-legged frog, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-16: Effects on western spadefoot (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 22 (11%) potential breeding ponds and 10,142 acres (9%) of modeled western spadefoot habitat (non-pond breeding and upland) in the Plan Area. No known locations of western spadefoot listed in the CNDDB (2013a) would be affected by permanent development; however, unreported populations may be affected.

Permanent development within 500 feet of modeled habitat could indirectly affect the species through increased noise and visual disturbances, increased traffic on nearby roads, and hydrologic alteration of aquatic habitat.

Recurring maintenance activities in the Plan Area may periodically directly (through inadvertent mortality) and indirectly (through noise, visual disturbance, and ground vibrations) affect western spadefoot.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 22 potential breeding ponds and 10,142 acres of modeled western spadefoot habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 22 potential breeding ponds and 10,142 acres of modeled western spadefoot habitat, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-17: Effects on Chinook salmon (spring- and fall-/late fall–run) and Central Valley steelhead (NEPA: less than significant; CEQA: less than significant)

Alternative 1 would result in permanent direct effects on 0.61 mile (0.4% of total occupied aquatic habitat) of spring-run Chinook habitat, 0.55 mile (0.4% of total occupied aquatic habitat) of fall-run Chinook salmon habitat, and 0.77 mile (0.4% of total occupied aquatic habitat) of steelhead habitat within the Plan Area. These habitat losses would result from construction of new and replacement bridge projects both within and outside the UPAs. Bridges would be constructed as free-span structures where feasible. Permanent direct effects would result from placement of bridge structures in the channel, causing a permanent change in substrate composition and channel morphology under the bridge. Bridge structures would not create migration barriers for juvenile or adult salmonids. If riprap were installed in the vicinity of bridge projects, permanent loss of shallow water habitat, riparian vegetation, and instream woody material could result, leading to a loss of cover, shelter, and food resources.

Designated critical habitat for spring-run Chinook salmon and Central Valley steelhead is present in the Plan Area. Designated critical habitat for spring-run Chinook salmon encompasses the length of Pine Creek, Lindo Channel, Big Chico Creek, and Butte Creek, and portions of Mud Creek, Rock Creek, and the Feather River. Approximately 0.61 mile of critical habitat (0.4% of designated critical habitat within the Plan Area) for spring-run Chinook salmon could be permanently affected by construction and replacement of bridge structures. Critical habitat for steelhead occurs in the Feather River through Oroville, Little Chico, Butte, Little Butte, and Little Dry Creeks. Approximately 0.77 mile

(0.4% of designated critical habitat within the Plan Area) of designated critical habitat for steelhead could be permanently affected by construction and replacement of bridge structures.

Essential fish habitat (EFH) for Chinook salmon also occurs in the Plan Area. Construction of new and replacement bridges would result in permanent effects on EFH, as discussed above.

Temporary direct effects on spring-run Chinook salmon, fall-run Chinook salmon, and steelhead would result from construction of residential, recreational, transportation, and other facilities and maintenance activities. Temporary direct effects include noise, visual disturbances, and temporary increases in turbidity in stream channels associated with operating equipment in or near streams supporting Chinook salmon and steelhead habitat. These activities also pose a threat to water quality, fish, and other aquatic organisms from potential releases of contaminants into streams or adjacent waters. Noise and increased turbidity can cause a temporary disruption of feeding, migration, and spawning activities.

Recurring maintenance activities within and outside UPAs, such as transportation facility maintenance, utility service facilities maintenance, flood control and stormwater facility maintenance, and vegetation management, may have temporary direct effects on Chinook salmon and steelhead through the release of sediment and contaminants and the removal of in-channel woody material. Maintenance of the Sycamore Pool in Big Chico Creek, which requires weekly dewatering from May to September, can cause stranding of juvenile Chinook salmon and steelhead.

Permanent indirect effects of construction of new or replacement bridges and maintenance activities include noise, visual disturbance, and ground vibrations that could cause Chinook salmon and steelhead to avoid suitable aquatic habitat. Vehicles on bridges and equipment used for maintenance activities can increase noise levels and lead to release of petroleum-based chemicals into waterways, in turn causing decreased spawning, migratory, or rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates). Adverse effects may also occur through bioaccumulation of toxic compounds in these food organisms.

Alternative 1 could result in adverse effects on Chinook salmon and steelhead and their critical habitat. Project proponents would apply for permits on a project-by-project basis, without a coordinated effort to minimize biological impacts throughout the Plan Area. Because Alternative 1 would result in implementation on a project-by-project basis, conservation planning and implementation would not occur at a regional scale and, therefore, would not allow for more efficient and effective establishment of a system of conservation lands to meet the needs of species covered by the BRCP.

NEPA Determination: Implementation of avoidance and minimization measures would occur on a project-by-project basis. Seasonal restrictions on in-water activities, erosion and sediment control BMPs, and other measures to protect water quality would be implemented to protect fish habitat. With implementation of these measures, impacts on Chinook salmon and steelhead, spring- and fall-/late fall–run Chinook salmon and steelhead critical habitat, and EFH would be less than significant because of their limited extent and wide dispersal across the Plan Area. No mitigation is required.

CEQA Determination: Implementation of avoidance and minimization measures would occur on a project-by-project basis. Seasonal restrictions on in-water activities, erosion and sediment control BMPs, and other measures to protect water quality would be implemented to protect fish habitat. With implementation of these measures, impacts on Chinook salmon and steelhead, spring- and fall-/late fall–run Chinook salmon and steelhead critical habitat, and EFH would be less than significant because of their limited extent and wide dispersal across the Plan Area. No mitigation is required.

Impact BIO-18: Effects on Sacramento splittail (NEPA: less than significant; CEQA: less than significant)

Alternative 1 would result in the permanent alteration of 0.09 mile (0.2% of total occupied aquatic habitat) of Sacramento splittail habitat from construction of replacement bridges in the Feather River. Permanent direct effects would result from placement of bridge structures in the channel, causing a permanent change in substrate composition and channel morphology under the bridge. Bridge structures would not create migration barriers for Sacramento splittail.

Temporary direct effects on Sacramento splittail would result from construction of residential, recreational, transportation, and other facilities and maintenance activities. Temporary direct effects include noise, visual disturbances, and temporary increases in turbidity in stream channels associated with operating equipment in or near streams supporting splittail. Water quality could be affected by release of sediment, increased turbidity, and contaminants. Sacramento splittail would be more susceptible to contaminants because they are bottom feeders, feeding on macroinvertebrates that live in the substrate. Noise and disturbance from construction activities could prevent splittail from using areas of streams where they would feed or migrate if they are present during construction activities.

Permanent indirect effects from construction of new or replacement bridges and maintenance activities include noise, visual disturbance, and ground vibrations that could cause Sacramento splittail to avoid aquatic habitat. Disturbance caused by vehicles or equipment near occupied water bodies can deter splittail from using spawning, migratory, or rearing areas resulting in decreased survival. Increased runoff of petroleum-based chemicals from operation of vehicles on new bridges into waterways can cause decreased migratory or rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates). Adverse effects may also occur through bioaccumulation of toxic compounds in these food organisms.

NEPA Determination: Implementation of avoidance and minimization measures would take place on a project-by-project basis. Nevertheless, bridge construction would have a minor but permanent effect on Sacramento splittail aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

CEQA Determination: Implementation of avoidance and minimization measures would take place on a project-by-project basis. Nevertheless, bridge construction would have a minor but permanent effect on Sacramento splittail aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

Impact BIO-19: Effects on green sturgeon (NEPA: less than significant; CEQA: less than significant)

Alternative 1 would result in permanent direct effects on 0.23 mile (0.4% of total occupied aquatic habitat) of green sturgeon habitat from construction of new or replacement bridges projects in the Oroville UPA on the Feather River (this area is also designated critical habitat). Placement of bridge structures in the channel would result in alteration of substrate and channel morphology under the bridge. Bridge structures would not create migration barriers for green sturgeon.

Temporary direct effects on green sturgeon would result from construction of residential, recreational, transportation, and other facilities and maintenance activities. Temporary direct effects include noise, visual disturbances, and temporary increases in turbidity in stream channels associated with operating equipment in or near streams supporting green sturgeon. Noise and disturbance from construction activities could prevent green sturgeon from using areas of streams where they would feed or migrate if they are present during construction activities. Short-term increases in suspended sediments or turbidity are unlikely to affect green sturgeons' foraging success because the species uses olfactory rather than visual cues. While foraging success may not be affected by turbidity, green sturgeon may be more susceptible to contaminants because they are bottom feeders, feeding on fish and macroinvertebrates that live in the substrate and that are consequently susceptible to uptake of deposited contaminants.

Permanent indirect effects from construction of new or replacement bridges and maintenance activities include noise, visual disturbance, and ground vibrations that could cause green sturgeon to avoid aquatic habitat. Increased runoff of petroleum-based chemicals from operation of vehicles on new bridges into waterways can cause decreased migratory or rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates). Adverse effects may also occur through bioaccumulation of toxic compounds in these food organisms.

Alternative 1 could result in adverse effects on green sturgeon and its critical habitat. Project proponents would apply for permits on a project-by-project basis, without a coordinated effort to minimize biological impacts throughout the Plan Area. Because Alternative 1 would result in implementation on a project-by-project basis, conservation planning and implementation would not occur at a regional scale and, therefore, would not allow for more efficient and effective establishment of a system of conservation lands to meet the needs of species covered by the BRCP.

NEPA Determination: Implementation of avoidance and minimization measures would occur on a project-by-project basis. Seasonal restrictions on in-water activities, erosion and sediment control BMPs, and other measures to protect water quality would be implemented to protect fish habitat. With implementation of these measures, impacts on green sturgeon habitat would be limited in extent and widely dispersed across the Plan Area. Consequently, impacts would be less than significant. No mitigation is required.

CEQA Determination: Implementation of avoidance and minimization measures would occur on a project-by-project basis. Seasonal restrictions on in-water activities, erosion and sediment control BMPs, and other measures to protect water quality would be implemented to protect fish habitat. With implementation of these measures, impacts on green sturgeon habitat would be limited in

extent and widely dispersed across the Plan Area. Consequently, impacts would be less than significant. No mitigation is required.

Impact BIO-20: Effects on river lamprey (NEPA: less than significant; CEQA: less than significant)

Alternative 1 would result in the permanent alteration of 0.23 mile (0.4% of total occupied aquatic habitat) of river lamprey habitat from construction of new and replacement bridges on the Feather River in the Oroville UPA. Permanent direct effects would result from placement of bridge structures in the channel, causing a permanent change in substrate composition and channel morphology under the bridge. Bridge structures would not create migration barriers for river lamprey.

Dewatering around the piles associated with bridge construction could also result in permanent effects on river lamprey. Dewatering causes lamprey ammocoetes to emerge from the substrate once the area is dry, resulting in mortality either through desiccation or predation by birds or mammals. Moreover, equipment operating in the water could kill ammocoetes by exposing and crushing them.

Temporary direct effects of construction activities include degradation of water quality through release of sediment and contaminants and increased turbidity. Increased turbidity and contaminant release may affect ammocoetes because they are filter feeders. Noise and disturbance from construction activities could prevent river lamprey from using areas of streams where they would feed or migrate if they are present during construction activities.

Permanent indirect effects could result from both construction and maintenance activities. An increase in the input of contaminants (e.g., petroleum-based chemicals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Such an increase could result in increased toxins in sediments, having sublethal effects on ammocoetes associated with bioaccumulation of toxic compounds, as well as potentially lethal effects, depending on the contaminants.

NEPA Determination: Implementation of avoidance and minimization measures would take place on a project-by-project basis. Nevertheless, bridge construction would have a minor but permanent effect on river lamprey and its habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

CEQA Determination: Implementation of avoidance and minimization measures would take place on a project-by-project basis. Nevertheless, bridge construction would have a minor but permanent effect on river lamprey and its habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

Impact BIO-21: Effects on valley elderberry longhorn beetle (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 3,360 acres (approximately 8%) of the modeled valley elderberry longhorn beetle habitat in the Plan Area. No known locations of valley elderberry longhorn beetle listed in the CNDDB (2013a) would be affected; however, unreported populations may be affected.

Permanent disturbance within 100 feet of modeled habitat could indirectly affect valley elderberry longhorn beetle if hydrologic alterations adversely affect elderberry shrubs occupied by the species.

Recurring maintenance activities, such as transportation facility maintenance, utility service facilities maintenance, flood control and stormwater maintenance, and vegetation management, may periodically directly and indirectly affect valley elderberry longhorn beetle habitat.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

Considering the amount of habitat lost in the Plan Area, the effects on valley elderberry longhorn beetle would be adverse. This impact would be significant.

NEPA Determination: Loss of 3,360 acres of modeled valley elderberry longhorn beetle habitat and potential direct and indirect effects associated with ground disturbance and maintenance activities would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 3,360 acres of modeled valley elderberry longhorn beetle habitat and potential direct and indirect effects associated with ground disturbance and maintenance activities would constitute a significant and unavoidable impact.

Impact BIO-22: Effects on vernal pool crustaceans (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of 1,963 acres (approximately 6%) of the modeled vernal pool crustacean habitat in the Plan Area. Permanent development would potentially result in the loss of at least three vernal pool tadpole shrimp occurrences (18% of those in the Plan Area), 17 vernal pool fairy shrimp occurrences (59% of those in the Plan Area), two Conservancy fairy shrimp occurrences (66% of those in the Plan Area), and three occurrences of California linderiella (60% of those in the Plan Area), as well as unreported populations.

Permanent development within 250 feet of vernal pool complexes could result in alternation of the hydrology of vernal pools through the disruption of surface and subsurface flows across the landscape, potentially affecting the ability of these pools to support vernal pool crustaceans.

Recurring maintenance activities within 250 feet of vernal pool complexes could also result in disturbances of vernal pools through trenching and grading and could also result in the release of contaminants into vernal pools, any of which could adversely affect vernal pool crustaceans.

Alternative 1 would also result in the permanent loss of up to 288 acres (4.6%) of designated critical habitat for vernal pool fairy shrimp in the Plan Area, and up to 530 acres (2.3%) of designated critical habitat for vernal pool tadpole shrimp. Not all these areas necessarily contain the primary constituent elements (as defined in the critical habitat designations for these species) needed to support vernal pool fairy shrimp and vernal pool tadpole shrimp; consequently, the actual amount of critical habitat affected for these species may be less than the acreages reported here.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat. Considering the relative numbers of occurrences affected, the amount of habitat lost in the Plan

Area, and the potential effects of recurring maintenance activities, the effects on vernal pool crustaceans would be adverse. This impact would be significant.

NEPA Determination: Loss of 1,963 acres of modeled habitat for vernal pool crustaceans, loss of several known occurrences of four species of vernal pool crustaceans, potential loss of designated critical habitat, and adverse indirect effects on water quality and hydrology would constitute a significant and unavoidable impact.

CEQA Determination: Loss of 1,963 acres of modeled habitat for vernal pool crustaceans, loss of several known occurrences of four species of vernal pool crustaceans, potential loss of designated critical habitat, and adverse indirect effects on water quality and hydrology would constitute a significant and unavoidable impact.

Impact BIO-23: Effects on Red Bluff dwarf rush (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Alternative 1 would result in the loss of at least one occurrence of Red Bluff dwarf rush. Alternative 1 would also result in the loss of 1,313 acres of modeled habitat for Red Bluff dwarf rush and the temporary loss of habitat functions on an additional 518 acres of modeled habitat. Although Red Bluff dwarf rush is not known to be present in this habitat, undiscovered occurrences are potentially present and could be affected.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat and no potential impacts on Red Bluff dwarf rush associated with such activities. Moreover, because individual projects would assess impacts based on occupied rather than modeled habitat, no compensation for impacts on modeled habitat would be implemented. Loss of habitat would be an adverse effect on this species. This impact would be significant.

NEPA Determination: Loss of modeled habitat, as well as at least one occurrence of Red Bluff dwarf rush associated with implementation of Alternative 1, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of modeled habitat, as well as at least one occurrence of Red Bluff dwarf rush associated with implementation of Alternative 1, would constitute a significant and unavoidable impact.

Impact BIO-24: Effects on Butte County meadowfoam (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Alternative 1 would result in the loss of three occurrences of Butte County meadowfoam and the partial loss of two other occurrences and would have indirect effects on up to seven occurrences. In addition, Alternative 1 would result in the loss of 477.6 acres of critical habitat designated for Butte County meadowfoam. Alternative 1 would result in the loss of 345 acres of modeled primary habitat and 1,165 acres of modeled secondary habitat and the temporary loss of habitat functions on an additional 179 acres of primary habitat and 144 acres of secondary habitat. The effects on modeled habitat could potentially affect undiscovered occurrences of Butte County meadowfoam.

Mitigation for this impact would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be

no beneficial effects on the species from managing and enhancing preserved habitat and no potential impacts on the species associated with such activities. Under this alternative, there would be no Chico Butte County Meadowfoam Preserve, nor would preservation of all or part of five other occurrences take place. Moreover, because individual projects would assess impacts based on occupied rather than modeled habitat, no compensation for impacts on modeled habitat would be implemented. Loss of habitat would be an adverse effect on this species. This impact would be significant.

NEPA Determination: Loss of modeled habitat, critical habitat, and multiple occurrences of Butte County meadowfoam associated with implementation of Alternative 1, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of modeled habitat, critical habitat, and multiple occurrences of Butte County meadowfoam associated with implementation of Alternative 1, would constitute a significant and unavoidable impact.

Impact BIO-25: Effects on Butte County checkerbloom (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Alternative 1 would result in adverse effects on eight occurrences of Butte County checkerbloom. Alternative 1 would also result in the loss of 2,638 acres of modeled habitat for Butte County checkerbloom and the temporary loss of habitat functions on an additional 194 acres of modeled habitat. The effects on modeled habitat could potentially affect undiscovered occurrences of Butte checkerbloom.

Mitigation for this impact would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat and no potential impacts on the species associated with such activities. Moreover, because individual projects would assess impacts based on occupied rather than modeled habitat, no compensation for impacts on modeled habitat would be implemented. Loss of habitat would result in an adverse effect on this species.

NEPA Determination: Loss of modeled habitat, as well as adverse effects on eight occurrences of Butte County checkerbloom associated with implementation of Alternative 1, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of modeled habitat, as well as adverse effects on eight occurrences of Butte County checkerbloom associated with implementation of Alternative 1, would constitute a significant and unavoidable impact.

Impact BIO-26: Effects on other special-status plants (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Alternative 1 would not result in the loss of or damage to any known occurrences of the other 11 covered plant species or 13 noncovered special-status plant species that occur in the Plan Area. However, it would result in the loss of habitat for eight covered plant species (beyond those discussed in the preceding three impacts), as well as five noncovered special-status plant species. No occurrences of or habitat for lesser saltscale, veiny monardella, or California beaked rush would be affected.

Alternative 1 would result in the loss of 1,313 acres of modeled habitat and temporary loss of habitat functions on an additional 518 acres of modeled habitat for Hoover's spurge, Ahart's dwarf rush, hairy Orcutt grass, slender Orcutt grass, Ahart's paronychia, and Greene's tuctoria. In addition, Alternative 1 would result in the loss of 1.7 acres of critical habitat designated for Hoover's spurge, hairy Orcutt grass, and Greene's tuctoria. Alternative 1 would result in the loss of 176 acres of modeled habitat and temporary loss of habitat functions on an additional 18 acres of modeled habitat for Ferris' milkvetch. It would result in the loss of 236 acres of modeled habitat and temporary loss of habitat functions on an additional 184 acres of modeled habitat for Butte County golden clover. Mitigation for this impact would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat and no potential impacts on these species associated with such activities. Moreover, because individual projects would assess impacts based on occupied rather than modeled habitat, no compensation for impacts on modeled habitat would be implemented. Loss of habitat would be an adverse effect on these species.

Alternative 1 could also result in the loss of habitat and the temporary loss of habitat functions for five noncovered species with known occurrences: Brandegee's clarkia, white-stemmed clarkia, adobe lily, rose mallow, and California satintail. Undiscovered occurrences of these species occurring in the affected habitats could also be affected. Existing regulatory processes may provide a way to mitigate impacts to these plant species. Impacts are expected to occur as a result of activities that are subject to discretionary authorization by Local Agencies, BCAG, and other permittees (e.g., Caltrans) and therefore would be subject to environmental review under CEQA. Avoidance and minimization measures and compensatory mitigation could be developed during CEQA review for individual discretionary actions, but mitigation may be limited to salvage and transplant activities of any individuals that are discovered during the review process. Therefore, it is anticipated these actions would mitigate for the loss of noncovered plant species. Mitigation of any type is unlikely for impacts from projects that are not subject to discretionary review.

NEPA Determination: Loss of critical habitat, modeled habitat and temporary loss of habitat functions for other covered special-status plant species would constitute a significant and unavoidable impact.

CEQA Determination: Loss of critical habitat, modeled habitat and temporary loss of habitat functions for other covered special-status plant species would constitute a significant and unavoidable impact.

Impact BIO-27: Effects on Antioch Dunes and Sacramento anthicid beetles (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of approximately 31 acres of herbaceous riparian river bar (1% of this community in the Plan Area) that could be used by Antioch Dunes and Sacramento anthicid beetles. Recurring maintenance activities in the Plan Area could result in temporary disturbances of anthicid beetle habitat. Considering the small amount of habitat loss in the Plan Area (1%), impacts on Antioch Dunes and Sacramento anthicid beetles would be less than significant.

NEPA Determination: Loss of approximately 31 acres of habitat (1% of this community in the Plan Area) that could be used by Antioch Dunes and Sacramento anthicid beetles would be a minimal adverse effect. However, because of the limited extent of this loss, the impact would be less than significant. No mitigation is necessary.

CEQA Determination: Loss of approximately 31 acres of habitat (1% of this community in the Plan Area) that could be used by Antioch Dunes and Sacramento anthicid beetles would be a minimal adverse effect. However, because of the limited extent of this loss, the impact would be less than significant. No mitigation is necessary.

Impact BIO-28: Effects on hardhead (NEPA: less than significant; CEQA: less than significant)

Hardhead was not addressed in the BRCP analysis, but uses similar habitat to Sacramento splittail. The analysis of effects on Sacramento splittail during preparation of the BRCP was used to determine the effects on hardhead (the effects on Sacramento splittail were analyzed but the species did not end up being included as a covered species in the BRCP).

Alternative 1 would result in permanent alteration of 0.09 mile of hardhead habitat from construction of new and replacement bridges in the Feather River. Permanent direct effects would result from placement of bridge structures in the channel, causing a permanent change in substrate composition and channel morphology under the bridge. Bridge structures would not create migration barriers for hardhead.

Temporary direct effects on hardhead would result from construction of residential, recreational, transportation, and other facilities and maintenance activities. Water quality could be affected by release of sediment and increased turbidity and contaminants. Noise and disturbance from construction activities could prevent hardhead from using areas of streams where they would spawn, feed, or migrate if they are present during construction activities. Maintenance of the Sycamore Pool in Big Chico Creek from May to September entails requires weekly dewatering, potentially stranding adult and juvenile hardhead and causing direct mortality.

Permanent indirect effects on hardhead would result from both construction and maintenance activities. An increase of toxic contaminant release could occur from new impervious surfaces from residential development, transportation projects, and other facilities if runoff enters waterways. An increase in the input of contaminants (e.g., petroleum-based chemicals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates). Adverse effects may also occur through bioaccumulation of toxic compounds in these food organisms.

Alternative 1 could result in adverse effects on hardhead. Project proponents would apply for permits on a project-by-project basis, without a coordinated effort to minimize biological impacts throughout the Plan Area. Because Alternative 1 would result in implementation on a project-by-project basis, conservation planning and implementation would not occur at a regional scale and, therefore, would not allow for more efficient and effective establishment of a system of conservation lands to meet the needs of species covered by the BRCP. However, with implementation of avoidance and minimization measures on a project-by-project basis, Alternative 1 would have a less-than-significant impact on hardhead.

NEPA Determination: Implementation of avoidance and minimization measures would take place on a project-by-project basis. Nevertheless, bridge construction would have a minor but permanent effect on hardhead aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

CEQA Determination: Implementation of avoidance and minimization measures would take place on a project-by-project basis. Nevertheless, bridge construction would have a minor but permanent effect on hardhead aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

Impact BIO-29: Effects on noncovered special-status birds and migratory birds (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in substantial losses of natural communities that provide habitat for noncovered special-status birds as well as nesting habitat for migratory birds. Permanent development would remove 11,324 acres (12%) of oak woodland and savanna, 1,529 acres (6%) of riparian, and 93 acres (0.2%) of wetland natural communities within the Plan Area; these community types support the highest quality nesting habitats for noncovered bird species. This habitat loss would be addressed on a project-by-project basis through mitigation and compensation under the existing regulatory framework and would likely result in a pattern of conservation that is geographically fragmented and managed in a piecemeal fashion. There would be no mechanism to comprehensively provide for species recovery. In addition, there would be no comprehensive adaptive management and monitoring program to ensure successful conservation at a landscape scale. Therefore it is anticipated that this habitat loss would significantly affect noncovered special status birds and migratory birds.

Permanent development within 500 feet of nesting and foraging habitat for noncovered birds can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities. Recurring maintenance activities within the Plan Area such as transportation facility maintenance, utility service facilities maintenance, water and irrigation canal maintenance, and vegetation management, may periodically indirectly affect noncovered bird behavior, including nesting. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting birds, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults. Permanent development and recurring maintenance activities effecting noncovered special status birds and migratory birds would comply with the provisions of the MBTA and the California Fish and Game Code on a project-by-project basis. The USFWS and CDFW enforce the MBTA and California Fish and Game Code and typically require actions to protect and reduce impacts to migratory birds such as:

- Avoid removing or disturbing any active noncovered raptor nests or other noncovered special-status birds' nests occurring within a designated buffer (i.e., 250 feet) of areas that support large trees or other natural habitats, or remnants there of (e.g., grasslands, chaparral, riparian, oak woodland).
- Conduct nest and bird surveys during the nonbreeding season (generally between September 1 and January 31) or after a qualified biologist determines that fledglings have left any active nests.

- Limit activities during nonbreeding season (generally September 1 through January 31).
- If activities need to occur during the breeding season (February 1 through August 31), then a wildlife biologist with experience in conducting nesting bird surveys would be retained to conduct surveys for noncovered nesting birds in all tree, shrub, and ground-nesting habitat within a designated buffer (i.e., 250 feet) of construction activities, including areas subject to grading.
- Consult with CDFW/USFWS to establish a suitable buffer zone if active nests are identified within designated buffer (i.e., 250 feet) of the work area. The minimum buffer area requirements are 250 feet for any active noncovered raptor nest and 100 feet for any noncovered migratory bird nest unless otherwise specified by CDFW and/or USFWS.
- Monitor active nests to determine when the young have fledged.
- Reference to specific requirements and the MBTA would be included in the construction specifications

Compliance with the MBTA and California Fish and Game Code is mandatory and the actions described above would be applied on a project-by-project basis depending on the project characteristics and the timeframe of potential disturbance; therefore, it is expected disturbances to noncovered special status birds and migratory birds would be reduced or avoided.

NEPA Determination: Substantial losses of natural communities that provide habitat for noncovered special-status birds and losses of nesting habitat for migratory birds, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: Substantial losses of natural communities that provide habitat for noncovered special-status birds and losses of nesting habitat for migratory birds, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-30: Effects on bats (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Bats that are known to or could occur in the Plan Area (pallid bat, silver-haired bat, western red-bat, hoary bat, western mastiff bat, and Yuma myotis) employ varied roost strategies, from solitary roosting in foliage of trees to colonial roosting in trees, caves, mines, and artificial structures such as tunnels, buildings, and bridges. Various roost strategies include night roosts, maternity roosts, migration stopover, and hibernation. The natural community/land cover types used to assess effects on bat roosting habitat comprise oak woodland and savanna (all types) and riparian (all types except willow scrub); all undeveloped portions of the Plan Area would be suitable for foraging.

Under Alternative 1, permanent development projects associated with the Local Agencies' general plans would result in the loss of up to 12,737 acres (11%) of potential tree roosting habitat in the Plan Area. In addition, bridge replacement and improvements could affect bats that utilize bridge weep holes and crevices for roosting.

Permanent development within 500 feet of bat roosting habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities if bats are present.

Recurring maintenance activities may periodically indirectly (through noise and visual disturbance) affect roosting bats. Recurring maintenance activities, such as vegetation management and bridge maintenance could result in impacts on bats, which could include harm or mortality to young and adults, and reduced reproductive success.

Mitigation for these impacts would be developed and implemented on a project-specific basis. Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of up to 12,737 acres of potential bat roosting habitat in the Plan Area under Alternative 1, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

CEQA Determination: Loss of up to 12,737 acres of potential bat roosting habitat in the Plan Area under Alternative 1, together with the impacts from recurring maintenance activities, would constitute a significant and unavoidable impact.

Impact BIO-31: Effects on American badger (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, permanent development projects associated with implementation of the Local Agencies' general plans would result in the loss of 7,776 acres (11%) of grasslands that are potential habitat for American badger in the Plan Area. No American badger records listed in the CNDDB are in areas that would be directly affected by development projects and therefore, Alternative 1 is not expected to result in direct impacts on known occurrences; however, impacts on unreported individuals may occur. Permanent development within 500 feet of American badger habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities. Recurring maintenance activities within the Plan Area may periodically indirectly (through noise and visual disturbance) affect American badger. Impacts associated with discretionary approvals would be mitigated on a project-specific basis. Badgers are considered to have secure populations in California (NatureServe rank of S4); therefore, potential indirect impacts are not anticipated to significantly affect existing badger populations.

Because no regional conservation strategy or conservation measures would be implemented, there would be no beneficial effects on the species from managing and enhancing preserved habitat.

NEPA Determination: Loss of 7,776 acres of potential American badger habitat in the Plan Area under Alternative 1 would remove a substantial amount of potential habitat for the species, but because badgers are considered to have secure populations in California (NatureServe rank of S4), this impact would be less than significant. No mitigation is required.

CEQA Determination: Loss of 7,776 acres of potential American badger habitat in the Plan Area under Alternative 1 would remove a substantial amount of potential habitat for the species, but because badgers are considered to have secure populations in California (NatureServe rank of S4), this impact would be less than significant. No mitigation is required.

Impact BIO-32: Effects on migratory deer (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Effects on migratory black-tailed deer in the Plan Area were conducted qualitatively and are based primarily on a review of BRCP Figure 3-20 (Deer Herds and Habitat Ranges in the Plan Area) and

various maps in the BRCP depicting the UPAs and transportation improvement projects. The information on deer herds presented here and in the BRCP comes from the 2005 County general plan.

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would allow some development within winter deer herd range and critical winter deer herd range but would require that development be planned according to the Deer Herd Migration Area Overlay in the County general plan (see Figure LU-4 in the County general plan). This overlay, which the County general plan defines as a more specific regulation to the underlying planning designations, states that development in the winter deer herd migration area requires a minimum lot size of 20 acres and that development in the critical winter deer herd migration area requires a minimum lot size of 40 acres; however, development in these areas may be clustered at smaller lot sizes than these minimums in order to protect the deer herd areas, provided that the nondevelopment areas are protected under permanent conservation easements.

Residential development is proposed within a small amount of critical winter deer habitat in the northeast portion of the Chico UPA, and scattered residential development is proposed within winter deer range along the eastern limits of the Chico UPA—in particular, a large area along the south side of Butte Creek and in the Foothill UPA north of SR 191.

A substantial amount of residential development is proposed within critical winter deer range for the Buck Mountain herd from buildout of the area west of Lake Oroville; a small amount of development is proposed within the lower elevation winter deer range.

For the Mooretown deer herd, a small amount of residential development is proposed within critical winter habitat for the Mooretown herd east of Oroville, and a large amount is proposed in lower elevation winter habitat in the Bangor UPA and the southeastern corner of the Oroville UPA.

NEPA Determination: Despite the minimum lot sizes proposed by the County's general plan, considering the current state of critical winter deer habitat in the Plan Area, the large loss of critical winter habitat for the Bucks Mountain deer herd, and the lower elevation winter habitat for the East Tehama and Mooretown deer herds, development under Alternative 1 would result in a significant and unavoidable impact.

CEQA Determination: Despite the minimum lot sizes proposed by the County's general plan, considering the current state of critical winter deer habitat in the Plan Area, the large loss of critical winter habitat for the Bucks Mountain deer herd, and the lower elevation winter habitat for the East Tehama and Mooretown deer herds, development under Alternative 1 would result in a significant and unavoidable impact.

Impact BIO-33: Effects on wildlife migration corridors (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

The potential effects of Alternative 1 on wildlife corridors in the Plan Area were evaluated qualitatively using map data from the California Essential Habitat Connectivity (CEHC) Project (Spencer et al. 2010). This information was used to determine if buildout of any of the UPAs would result in barriers across natural lands that serve as known or potential wildlife corridors. The CEHC identified natural blocks of habitat across California and areas that potentially provide linkages—or Essential Connectivity Areas (ECAs)—between these blocks. ECAs are defined as lands likely to be important to wildlife movement between large, mostly natural areas at the statewide level. The

ECAs form a functional network of wildlands that are considered important to the continued support of California's diverse natural communities.

Two ECAs occur within the Plan Area. The Orland Buttes/ Stone Valley/ Julian Rocks–Ishi Wilderness ECA crosses the Plan Area at its northwest corner. This ECA connects the Sierra foothills to the north of, and including a portion of, the Plan to the rolling grasslands west of the Plan Area and ultimately to the Coast Ranges. The North Table Mountain–Ishi Wilderness ECA originates northeast of the Plan Area, enters the Plan Area just east of Chico, and continues south through the foothills to the outskirts of Oroville. This ECA connects the higher elevation Cascades to the northeast to the foothills along the Plan Area's eastern boundary.

Under Alternative 1, permanent development projects associated with implementation of the Local Agencies' general plans would occupy a large portion of the North Table Mountain–Ishi Wilderness ECA and would consequently adversely affect wildlife corridors, including the movement of migratory deer. Capacity enhancements on SR 99 would likely create additional barriers to east–west wildlife movements through the northern portion of the Plan Area.

NEPA Determination: Under Alternative 1, permanent development projects associated with Local Agencies' general plans would result in a significant and unavoidable impact on wildlife corridors in the Plan Area.

CEQA Determination: Under Alternative 1, permanent development projects associated with Local Agencies' general plans would result in a significant and unavoidable impact on wildlife corridors in the Plan Area.

Impact BIO-34: Effects on wetlands and waters of the United States (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans could result in impacts on up to 1,911 acres (3%) of potentially jurisdictional wetlands, 136 acres (0.2%) of other waters, and 141 linear miles (6%) of other waters in the Plan Area.

Permanent development adjacent to wetlands and waters of the United States could result in alterations in local ground and surface waters and the introduction of pollutants that could adversely affect the functions and values of wetlands and waters.

Recurring maintenance activities adjacent to wetlands and waters of the United States could result in the inadvertent introduction of invasive plant species, the accidental release of chemical pollutants into wetlands and waters, and sedimentation resulting from ground-disturbing activities that could adversely affect the functions and values of wetlands and waters.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans could adversely affect the functions and values of wetlands and waters in the Plan Area. This is considered a significant and unavoidable impact.

CEQA Determination: Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans could adversely affect the functions and values of wetlands and waters in the Plan Area. This is considered a significant and unavoidable impact.

Impact BIO-35: Effects on chaparral (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in impacts on 389 acres (5%) of chaparral in the Plan Area.

Permanent development adjacent to chaparral could result in the introduction of invasive plant species that would affect species composition in this natural community.

Recurring maintenance activities within and adjacent to chaparral could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

NEPA Determination: Because the relative amount (5%) of chaparral affected in the Plan area is small, and this natural community is not considered to be rare in the region, permanent development associated with implementation of the Local Agencies' general plans under Alternative 1 would result in a less-than-significant impact. No mitigation is required.

CEQA Determination: Because the relative amount (5%) of chaparral affected in the Plan area is small, and this natural community is not considered to be rare in the region, permanent development associated with implementation of the Local Agencies' general plans under Alternative 1 would result in a less-than-significant impact. No mitigation is required.

Impact BIO-36: Effects on coniferous forest (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in effects on 9 acres (60%) of coniferous forest in the Plan Area.

Permanent development adjacent to coniferous forest could result in the introduction of invasive plant species that would affect species composition in this natural community.

Recurring maintenance activities within and adjacent to coniferous forest could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels, all of which could alter the species composition of this natural community.

NEPA Determination: The amount of coniferous forest affected in the Plan Area is small (9 acres), this natural community is common in the region, and coniferous forest is managed and protected in eastern Butte County in the Plumas National Forest. Therefore, this would be a less-than-significant impact. No mitigation is required.

CEQA Determination: The amount of coniferous forest affected in the Plan Area is small (9 acres), this natural community is common in the region, and coniferous forest is managed and protected in eastern Butte County in the Plumas National Forest. Therefore, this would be a less-than-significant impact. No mitigation is required.

Impact BIO-37: Effects on oak woodland and savanna natural communities (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in impacts on 11,324 acres (12%) of oak woodland in the Plan Area.

Permanent development adjacent to oak woodland and savanna could result in the introduction of invasive plant species and alterations in local ground and surface waters that could affect species composition in these natural communities.

Recurring maintenance activities within and adjacent to oak woodland and savanna could result in the inadvertent introduction of invasive plant species, removal and trimming of trees for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels, any of which could directly affect individual oak trees and could alter the species composition of these natural communities.

NEPA Determination: Although foothill oak woodlands are common in the state and region, past and current grazing activities have suppressed natural recruitment of oak trees; this change could result in the decline of these communities in the state and region. Consequently, the loss of 12% of the oak woodland and savanna in the Plan Area would be a significant and unavoidable impact.

CEQA Determination: Although foothill oak woodlands are common in the state and region, past and current grazing activities have suppressed natural recruitment of oak trees; this change could result in the decline of these communities in the state and region. Consequently, the loss of 12% of the oak woodland and savanna in the Plan Area would be a significant and unavoidable impact.

Impact BIO-38: Effects on grassland natural communities (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in effects on 9,715 acres (10%) of grassland natural communities in the Plan Area: 7,776 acres (13%) of grasslands and 1,939 acres (6%) of grassland with vernal swale complex. The grasslands in the Plan Area also support a highly variable density of vernal pools.

Permanent development adjacent to grassland could result in the introduction of invasive plant species and alterations in local ground and surface waters that could affect species composition of these natural communities as well as vernal pools and seasonal wetlands within grasslands.

Recurring maintenance activities in and adjacent to grasslands could result in the inadvertent introduction of invasive plant species, ground disturbance associated with utility maintenance and the establishment of fire breaks that could alter surface and subsurface hydrology, and the accidental release of vehicle oils and fuels, any of which could alter the species composition of these natural communities and water quality in vernal pools and other seasonal wetlands found in grasslands.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: Grasslands are generally not considered to be rare; however, vernal swale complexes and individual vernal pools within the Plan Area are considered sensitive natural communities. Consequently, the loss of these features due to permanent development associated

with implementation of the Local Agencies' general plans under Alternative 1 would be a significant and unavoidable impact.

CEQA Determination: Grasslands are generally not considered to be rare; however, vernal swale complexes and individual vernal pools within the Plan Area are considered sensitive natural communities. Consequently, the loss of these features due to permanent development associated with implementation of the Local Agencies' general plans under Alternative 1 would be a significant and unavoidable impact.

Impact BIO-39: Effects on riparian natural communities (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in impacts on 1,413 acres (6%) of riparian natural communities in the Plan Area.

Permanent development adjacent to riparian habitat could result in the introduction of invasive plant species and alterations in local ground and surface waters that could affect species composition in these natural communities.

Recurring maintenance activities within and adjacent to riparian natural communities could result in the inadvertent introduction of invasive plant species, removal and trimming of trees for utility and transportation maintenance, ground disturbance associated with utility maintenance, and the accidental release of vehicle oils and fuels, any of which could directly affect riparian vegetation.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: Riparian habitats in the state and region have become increasingly rare. Therefore, the loss of 6% of riparian natural communities within the Plan Area as a result of permanent development associated with implementation of the Local Agencies' general plans would be a significant and unavoidable impact.

CEQA Determination: Riparian habitats in the state and region have become increasingly rare. Therefore, the loss of 6% of riparian natural communities within the Plan Area as a result of permanent development associated with implementation of the Local Agencies' general plans would have a significant and unavoidable impact.

Impact BIO-40: Effects on wetland natural communities (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in impacts on 93 acres (0.2%) of wetland natural communities within the Plan Area.

Permanent development adjacent to wetlands could result in alterations in local ground and surface waters and the introduction of pollutants that could adversely affect wetland function and values.

Recurring maintenance activities adjacent to wetland natural communities could result in the inadvertent introduction of invasive plant species, the accidental release of chemical pollutants into wetlands, and sedimentation resulting from ground disturbing activities, any of which could adversely affect wetland functions and values.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: Wetlands natural communities within the state and region have become increasingly rare. Therefore, the loss of 93 acres of wetland natural communities within the Plan Area as a result of permanent development associated with implementation of the Local Agencies' general plans would be a significant and unavoidable impact.

CEQA Determination: Wetlands natural communities within the state and region have become increasingly rare. Therefore, the loss of 93 acres of wetland natural communities within the Plan Area as a result of permanent development associated with implementation of the Local Agencies' general plans would be a significant and unavoidable impact.

Impact BIO-41: Effects on aquatic natural communities (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in impacts on 140 acres (1%) of aquatic natural communities and 52 ponds (11%) within the Plan Area.

Permanent development adjacent to aquatic natural communities could result in alterations in local ground and surface waters and the introduction of pollutants that could adversely affect aquatic function and values.

Recurring maintenance activities in and adjacent to aquatic natural communities could result in the accidental release of chemical pollutants into waters and sedimentation resulting from ground-disturbing activities; such releases could adversely affect aquatic functions and values.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: Aquatic natural communities are rare and sensitive in the state and region. Therefore, the loss of 140 acres of aquatic communities and 52 ponds in the Plan Area as a result of permanent development associated with implementation of the Local Agencies' general plans would be a significant and unavoidable impact.

CEQA Determination: Aquatic natural communities are rare and sensitive in the state and region. Therefore, the loss of 140 acres of aquatic communities and 52 ponds in the Plan Area as a result of permanent development associated with implementation of the Local Agencies' general plans would be a significant and unavoidable impact.

Impact BIO-42: Effects on agricultural land cover for native wildlife (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, permanent development associated with implementation of the Local Agencies' general plans would result in the loss of 3,822 acres (3%) of agricultural lands used by native wildlife in the Plan Area.

Permanent development adjacent to agricultural lands could result in alterations in local ground and surface waters that could affect agricultural practices and the land's value for use by covered and other native wildlife species.

Recurring maintenance activities adjacent to agricultural lands could result in the inadvertent introduction of invasive plant species that could degrade the habitat value of agricultural crops for native wildlife species.

NEPA Determination: Agricultural lands within the Plan Area that provide habitat for native wildlife are relatively common in the region. Therefore, the conversion of 3% of these agricultural lands would constitute a less-than-significant impact. No mitigation is required.

CEQA Determination: Agricultural lands within the Plan Area that provide habitat for native wildlife are relatively common in the region. Therefore, the conversion of 3% of these agricultural lands would constitute a less-than-significant impact. No mitigation is required.

Alternative 2—Proposed Action

Under Alternative 2, covered activities would include the existing, planned, and proposed land uses over which the Permit Applicants have land use authority; state and local transportation projects; maintenance of water delivery systems (e.g., WCWD canals and similar delivery systems); habitat restoration, enhancement, and management actions (conservation measures); and adaptive management and monitoring activities. Covered activities relevant to biological resources are generally those that involve construction or those that involve earthmoving activities or those that would permanently remove habitat (i.e., permanent development projects). Covered activities that would involve construction and removing habitat are all development activities consistent with the Local Agencies' general plans, state and local transportation projects, and water district canal installation. Certain restoration actions under the conservation strategy (CM4–CM11, CM14, and Activities to Improve Urban Stormwater Quality) would involve construction. Most covered activities (mainly permanent development projects) would require individual permits and approvals pursuant to the Local Agencies' general plans and land use regulations or the requirements of the implementing agency (such as Caltrans and irrigation districts) and would undergo subsequent project-level CEQA review and relevant NEPA review for construction and operations-related impacts; some covered activities, however, may be exempted from environmental review requirements due to project characteristics, including small projects or infill projects.

Impact BIO-1: Effects on tricolored blackbird (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 48,411 acres (18%) of modeled habitat for tricolored blackbird and the protection of three colonies (CM1 and SPEC1.2).Habitat would be protected in at least 40-acre patches. Protected habitat would be a mosaic of grassland, emergent wetland, managed wetland, and agricultural land that include patches of suitable nesting habitat. Objective SPEC1.2 calls for the protection of three tricolored blackbird nesting sites that have been active within the previous 5 years. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands would convert up to 178 acres of modeled tricolored blackbird habitat into riparian habitat.

Covered activities on conservation lands could also indirectly affect tricolored blackbird during implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that may alter tricolored blackbird behavior.

Alternative 2 would result in the permanent loss of at most 12,617 acres—or roughly 5%—of the modeled tricolored blackbird habitat in the Plan Area. These losses would result from permanent development projects within and outside the UPAs. Permanent development would avoid directly affecting known nesting colonies.

Permanent development within 500 feet of tricolored blackbird habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

As specified in Table 5-25 of the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects; AMM3 provides for designing projects to avoid take and minimize effects on nest locations. AMM5 provides for relocating staging and temporary work areas associated with permanent development projects outside areas with active nests. AMM9 provides for the establishment of exclusion zones around active nest sites within and adjacent to permanent development projects.

Recurring maintenance activities within and outside UPAs may periodically affect (through noise and visual disturbance) tricolored blackbird. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting tricolored blackbirds, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the species distribution outside of the Plan Area, amount of modeled habitat affected (5%) relative to the amount protected (18%), the commitment to avoid removing habitat at nest locations associated with permanent development projects that have been active within the previous 5 years, the protection of at least three nest sites, relevant AMMs to be implemented during permanent development projects, and long-term management of 48,411 acres of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the tricolored blackbird.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled tricolored blackbird habitat in the Plan Area. Covered activities on conservation lands would convert modeled tricolored blackbird habitat into riparian habitat and would indirectly affect the species through visual and noise disturbances. Similarly, recurring maintenance activities within and outside UPAs could periodically indirectly affect the species. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of tricolored blackbird habitat and three colonies of the species and management and enhancement of protected habitat in the Plan Area. AMMs would provide for nest identification in and near permanent development projects and avoidance of take and minimization of effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled tricolored blackbird habitat in the Plan Area. Covered activities on conservation lands would convert modeled tricolored blackbird habitat into riparian habitat, and would also indirectly affect the species through visual and noise disturbances. Similarly, recurring maintenance activities within and outside UPAs could periodically indirectly affect the species. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of tricolored blackbird habitat and three colonies of the species and management and enhancement of protected habitat in the Plan

Area. AMMs would provide for nest identification in and near permanent development projects and avoidance of take and minimization of effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-2: Effects on yellow-breasted chat (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 3,020 acres (42%) of modeled nesting habitat for yellow-breasted chat in the Plan Area (CM1). To compensate for effects on habitat, the conservation strategy would entail restoration of up to 144 acres of habitat suitable for yellow-breasted chat. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands could also indirectly affect yellow-breasted chat during implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that may alter yellow-breasted chat behavior.

Alternative 2 would result in the permanent loss of at most 278 acres—or roughly 4%—of the modeled yellow-breasted chat habitat in the Plan Area. These losses would result from permanent development projects within and outside the UPAs.

Permanent development within 500 feet of yellow-breasted chat habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within and outside UPAs may periodically affect (through noise and visual disturbance) yellow-breasted chat. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting yellow-breasted chat, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the amount of impacts on modeled habitat (4%) relative to the amount protected (42%) in the Plan Area, the commitment to restoration, and long-term management of 3,164 acres of yellow-breasted chat habitat in the Plan Area, Alternative 2 would not significantly impact the yellow-breasted chat.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled yellow-breasted chat habitat in the Plan Area. Covered activities on conservation lands and recurring maintenance activities within and outside UPAs would indirectly affect the species through visual and noise disturbances. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of nesting habitat, restoration of habitat suitable for yellow-breasted chat, and management and enhancement of protected habitat in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled yellow-breasted chat habitat in the Plan Area. Covered activities on conservation lands and recurring maintenance activities within and outside UPAs would indirectly affect the species through visual and noise disturbances. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these

impacts through the protection of nesting habitat, restoration of habitat suitable for yellow-breasted chat, and management and enhancement of protected habitat in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-3: Effects on bank swallow (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of natural communities in floodplain locations such that at least 20 linear miles of potentially erodible bank along Big Chico and Butte Creeks potentially supporting bank swallow nesting habitat are protected (CM1). In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area. Under CM6, permanent agreements will be sought to protect habitat for bank swallow and protect existing colonies from adverse effects of management actions in these habitats.

Covered activities on conservation lands to restore riparian habitat would not result in the loss of modeled bank swallow habitat; however, temporary disturbances could affect bank swallow foraging and nesting behavior if riparian restoration activities are undertaken within 500 feet of nesting and foraging habitat.

Development projects in the Plan Area would not result in a permanent or temporary loss of bank swallow habitat.

Permanent development within 500 feet of modeled habitat for bank swallow can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

In the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects; AMM3 provides for designing projects to avoid take and minimize effects on nest locations. AMM5 provides for relocating staging and temporary work areas associated with permanent development projects outside areas with active nests.

Recurring maintenance activities within and outside UPAs may periodically indirectly (through noise and visual disturbances) affect bank swallows.

Considering the lack of permanent impacts on bank swallow habitat, the amount of protection, relevant AMMs to be implemented during permanent development projects,; and long-term management of 20 miles of potential habitat in the Plan Area, Alternative 2 would not significantly impact the bank swallow.

NEPA Determination: Although permanent development projects in the Plan Area and covered activities on conservation lands would not result in the permanent loss of bank swallow habitat, temporary disturbances on conservation lands and permanent development within 500 feet of nesting and foraging habitat could affect foraging and nesting behavior. In addition, recurring maintenance activities within and outside the UPAs could periodically affect the species. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection, management, and enhancement of bank swallow habitat in the Plan Area. Further, AMMs would provide for identification of nests in and near permanent development projects and ensure project designs that would avoid take and minimize effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Although permanent development projects in the Plan Area and covered activities on conservation lands would not result in the permanent loss of bank swallow habitat, temporary disturbances on conservation lands and permanent development within 500 feet of nesting and foraging habitat could affect foraging and nesting behavior. In addition, recurring maintenance activities within and outside the UPAs could periodically affect the species. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection, management, and enhancement of bank swallow habitat in the Plan Area. Further, AMMs would provide for identification of nests in and near permanent development projects and ensure project designs that would avoid take and minimize effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-4: Effects on western burrowing owl (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 36,388 acres (22%) of modeled habitat for western burrowing owl (CM1). In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area. Objective SPEC4.2 calls for the enhancement or maintenance of functions of protected modeled western burrowing owl habitat to maintain or increase the abundance of native fossorial rodents.

Covered activities on conservation lands to restore riparian habitat would convert up to 178 acres of modeled habitat for western burrowing owl.

Covered activities on conservation lands could also indirectly affect western burrowing owls during implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that may alter burrowing owl behavior.

Alternative 2 would result in the permanent loss of at most 14,496 acres—or roughly 9%—of the modeled habitat for western burrowing owl in the Plan Area. These losses would result from permanent development projects within and outside the UPAs. Permanent development would affect the location of one CNDDB record for western burrowing owl. As specified in Table 5-25 of the BRCP, AMM9 calls for the development of exclusion zones around nesting birds within or adjacent to permanent development project footprints. AMM22 calls for development of an exclusion plan to passively relocate wintering burrowing owls identified in permanent development project areas.

Permanent development within 500 feet of western burrowing owl habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

In the BRCP, AMM2 would identify occupied western burrowing owl burrows within permanent development footprints and temporary work areas. AMM5 provides for relocating staging and temporary work areas associated with permanent development projects outside areas with occupied burrows.

Recurring maintenance activities within and outside UPAs, may periodically affect (primarily through noise and visual disturbance) western burrowing owls. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting western burrowing

owls, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the species' broad distribution beyond the Plan Area, the amount of modeled habitat affected (9%) relative to the amount of protection (22%) in the Plan Area, relevant AMMs to be implemented during permanent development projects, and long-term management of 36,388 acres of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the western burrowing owl.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled habitat for western burrowing owl and would affect the location of one CNDDB record for the species in the Plan Area. Recurring maintenance activities within and outside UPAs, as well as covered activities on conservation lands, could periodically affect the species and could include impacts on nesting western burrowing owls. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection, management, and enhancement of western burrowing owl habitat in the Plan Area. In addition, AMMs would provide for identification of occupied western burrowing owl burrows and passive relocation of wintering burrowing owls in permanent development project footprints. Therefore, this impact is less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled habitat for western burrowing owl and would affect the location of one CNDDB record for the species in the Plan Area. Recurring maintenance activities within and outside UPAs, as well as covered activities on conservation lands, could periodically affect the species and could include impacts on nesting western burrowing owls. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection, management, and enhancement of western burrowing owl habitat in the Plan Area. In addition, AMMs would provide for identification of occupied western burrowing owl burrows and passive relocation of wintering burrowing owls in permanent development project footprints. Therefore, this impact is less than significant. No mitigation is required.

Impact BIO-5: Effects on western yellow-billed cuckoo (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 1,785 acres (32%) of modeled nesting habitat for western yellow-billed cuckoo in the Plan Area (CM1). In general, the BRCP's riparian protection of cottonwood riparian forest and valley oak riparian forest would be in minimum patch sizes of 25 acres (BRCP Table 5-16); this protection would maintain and expand on potential cuckoo habitat as well as maintain long-term habitat connectivity. To compensate for effects on habitat, the conservation strategy would entail restoration of up to 50 acres of habitat suitable for western yellow-billed cuckoo. Objective SPEC2.5 would result in the protection of currently unknown and unprotected western-yellow billed cuckoo nest sites within 5 years of being discovered. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands could indirectly affect western yellow-billed cuckoo during implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that may alter western yellow-billed cuckoo behavior.

Alternative 2 would result in the permanent loss of at most 50 acres—or roughly 1%—of the modeled habitat for western yellow-billed cuckoo in the Plan Area. These losses would result from permanent development projects within and outside the UPAs. No locations of recorded western-yellow billed cuckoo would be removed by permanent development projects.

Permanent development within 1,300 feet of western yellow-billed cuckoo habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

As specified in Table 5-25 of the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects; AMM3 provides for designing projects to avoid take and minimize effects on nest locations. AMM5 provides for relocating staging and temporary work areas associated with permanent development projects outside areas with active nests. AMM9 provides for the establishment of exclusion zones around active nest sites within and adjacent to permanent development projects.

Recurring maintenance activities within and outside UPAs may periodically affect (through noise and visual disturbance) western yellow-billed cuckoo. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting yellow-billed cuckoos, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the amount of modeled habitat affected (1%) relative to the amount of protected habitat (32%), the commitment to restoration, the protection of all new nest sites, relevant AMMs to be implemented during permanent development projects, and long-term management of at least 1,785 acres of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the yellow-billed cuckoo.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled habitat for the yellow-billed cuckoo in the Plan Area. Covered activities on conservation lands and permanent development within 1,300 feet of western yellow-billed cuckoo habitat could indirectly affect the species through visual and noise disturbances. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of nesting habitat and restoration of habitat suitable for western yellow-billed cuckoo, as well as through management and enhancement protected habitat in the Plan Area. AMMs would provide for nest identification in and near permanent development projects and would help avoidance of take and minimize effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled habitat for the yellow-billed cuckoo in the Plan Area. Covered activities on conservation lands and permanent development within 1,300 feet of western yellow-billed cuckoo habitat could indirectly affect the species through visual and noise disturbances. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of nesting habitat and restoration of habitat suitable for western yellow-billed cuckoo, as well as through management and enhancement protected habitat in the Plan Area. AMMs would provide for nest identification in and near permanent development projects and would help avoidance of take and minimize effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-6: Effects on greater sandhill crane (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 21,660 acres (15%) of modeled winter roosting and foraging habitat for greater sandhill crane and 500 acres (18%) of traditional upland use areas (CM1). In addition, the BRCP calls for the creation and management of 160 acres of seasonal managed wetland as winter roosting habitat for greater sandhill crane (SPEC5.2 and CM7). BRCP conservation measures CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands to restore emergent wetland habitat may alter the composition and structure of up to 2,000 acres of existing ricelands, which can be used as foraging habitat by wintering cranes.

Covered activities on conservation lands could also indirectly affect greater sandhill crane during the implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that may alter greater sandhill crane behavior.

Alternative 2 would result in the permanent loss of up to 1,764 acres—or roughly 1%—of the modeled habitat for greater sandhill crane in the Plan Area: 1,627 acres (1%) of winter roosting and foraging habitat and 137 acres (5%) of traditional upland use areas. These losses would result from permanent development projects within and outside the UPAs. Permanent development projects that include new transmission lines could result in take of greater sandhill cranes because cranes are vulnerable to power line collisions during periods of fog. The BRCP includes AMM23, which states that wire markers will be installed to increase visibility on new or modified transmission lines in greater sandhill crane habitat.

Permanent development within 1,300 feet of greater sandhill crane habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within and outside UPAs may periodically indirectly (through noise and visual disturbance) affect greater sandhill crane.

Considering the amount of winter roosting and traditional upland use areas affected (1% and 5%, respectively) relative to the amount of protection (15% and 18%, respectively) in the Plan Area; the commitment to restoration; relevant AMMs to be implemented during permanent development projects including AMM3, which calls for avoiding winter roost sites occupied within the previous 5 years (see BRCP Table 5-23); the installation of wire markers on new and modified transmission lines in modeled habitat (AMM23); and long-term management of 22,160 acres (15%) of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the greater sandhill crane.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of winter roosting and foraging habitat for greater sandhill crane, and traditional upland use areas in the Plan Area. Permanent development projects that include new transmission lines could also result in take of greater sandhill cranes. Further, recurring maintenance activities could periodically indirectly affect greater sandhill crane. Implementation of covered activities on conservation lands could indirectly affect greater sandhill crane through visual and noise disturbances. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of winter roosting and foraging habitat and upland use areas, as well as through the management

and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of winter roosting and foraging habitat for greater sandhill crane, and traditional upland use areas in the Plan Area. Permanent development projects that include new transmission lines could also result in take of greater sandhill cranes. Further, recurring maintenance activities could periodically indirectly affect greater sandhill crane. Implementation of covered activities on conservation lands could indirectly affect greater sandhill crane through visual and noise disturbances. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of winter roosting and foraging habitat and upland use areas, as well as through the management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-7: Effects on California black rail (NEPA: less than significant; CEQA: less than significant)

As stated in Objective SPEC6.2, implementation of the BRCP would ensure that no occupied California black rail habitat is removed. Implementation of CM1 would result in at least five patches of California black rail habitat protected within the species' known Plan Area range that are either occupied by rails or are adjacent to occupied habitat. In addition, CM6 provides for the management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands could affect California black rail behavior if restoration and enhancement activities occur within 500 feet of occupied habitat.

Development projects in the Plan Area would not result in a permanent or temporary loss of occupied California black rail habitat.

Permanent development within 500 feet of occupied California black rail habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

As specified in Table 5-25 of the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects; AMM3 provides for designing projects to avoid take and minimize effects on nest locations as specified in Table 5-23 of the BRCP. AMM5 provides for relocating staging and temporary work associated with permanent development areas outside areas with active nests. AMM9 provides for the establishment of exclusion zones around active nest sites within and adjacent to permanent development projects.

Recurring maintenance activities within and outside UPAs may periodically affect (through noise and visual disturbance) California black rails if they occur in the vicinity. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting California black

rails, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the BRCP's commitment to protect five patches of occupied habitat, its commitment to avoid removing occupied habitat, and relevant AMMs to be implemented during permanent development projects, Alternative 2 would not significantly impact California black rail.

NEPA Determination: Covered activities on conservation lands and activities associated with permanent development could affect California black rail behavior if it occurred within 500 feet of occupied habitat. In addition, recurring maintenance activities within and outside the UPAs could result in impacts on nesting California black rails and thus reduced reproductive success. However, implementation of the BRCP under Alternative 2 would result in the protection of five patches of occupied habitat and would ensure that there is no loss of occupied habitat for the California black rail. Further, AMMs implemented under this alternative would help minimize potential impacts on the species. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Covered activities on conservation lands and activities associated with permanent development could affect California black rail behavior if it occurred within 500 feet of occupied habitat. In addition, recurring maintenance activities within and outside the UPAs could result in impacts on nesting California black rails and thus reduced reproductive success. However, implementation of the BRCP under Alternative 2 would result in the protection of five patches of occupied habitat and would ensure that there is no loss of occupied habitat for the California black rail. Further, AMMs implemented under this alternative would help minimize potential impacts on the species. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-8: Effects on American peregrine falcon (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 29,192 acres of modeled habitat (CM1): 29,157 acres (15%) of protected foraging habitat and 35 acres (55%) of protected nesting habitat. Objective SPEC7.2 also calls for the protection of all peregrine nest sites within 5 years of being discovered. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

The BRCP's restoration of riparian habitats would result in the conversion of 614 acres of modeled foraging habitat for peregrine falcon; however, this effect would be minimal compared to the 194,860 acres of foraging habitat in the Plan Area. Enhancement and management actions could result in indirect effects, such as noise and visual disturbances, on American peregrine falcons.

Alternative 2 would result in the permanent loss of up to 3,759 acres (2%) of the modeled habitat for American peregrine falcon in the Plan Area. These impacts would result from permanent development projects both within and outside the UPAs. The BRCP would avoid affecting known nest sites from permanent development projects that have been active within the previous 5 years.

Permanent disturbance within 500 feet of modeled habitat for American peregrine falcon could disrupt normal behaviors, including nesting, through noise and visual disturbances.

As specified in Table 5-25 of the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects and AMM3 provides for designing projects to avoid take and minimize effects on nest locations as specified in Table 5-23 of the BRCP. AMM5 provides for relocating staging and temporary work areas associated with permanent development projects

outside areas with active nests. AMM9 provides for the establishment of exclusion zones around active nest sites in and adjacent to permanent development projects.

Recurring maintenance activities within and outside UPAs may periodically affect (through noise and visual disturbance) American peregrine falcons. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting peregrine falcons, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the amount modeled foraging habitat affected (2%) relative to the amount protected (15%); the avoidance of effects on nesting habitat and the protection of 55% of this habitat in the Plan Area; relevant AMMs to be implemented during permanent development projects; and long-term management of covered species habitats in the Plan Area, Alternative 2 would not significantly impact the American peregrine falcon.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the loss of modeled habitat for peregrine falcon in the Plan Area. Recurring maintenance activities could result in impacts on nesting peregrine falcons and thus reduced reproductive success. However, implementation of the BRCP conservation strategy under Alternative 2 would help offset these impacts through the protection of foraging and nesting habitat, as well as through the management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the loss of modeled habitat for peregrine falcon in the Plan Area. Recurring maintenance activities could result in impacts on nesting peregrine falcons and thus reduced reproductive success. However, implementation of the BRCP conservation strategy under Alternative 2 would help offset these impacts through the protection of foraging and nesting habitat, as well as through the management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-9: Effects on Swainson's hawk (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 4,325 acres (25%) of modeled nesting habitat (riparian) for Swainson's hawk, 800 acres (31%) of modeled nesting and foraging habitat (blue oak savanna), and 17,880 acres (14%) of foraging habitat (CM1). Riparian habitat restoration (CM4) would restore 178 acres of habitat that in the future would provide suitable nesting and roosting habitat. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands would convert up to 178 acres of modeled foraging habitat for Swainson's hawk into riparian habitat that could in the future support nesting habitat. An additional 621 acres of modeled foraging habitat could be removed if all of the BRCP restored giant garter snake habitat and emergent wetland restoration is located on managed wetlands. This impact

is expected to be less because a portion of the restored giant garter snake habitat would include uplands, which would support Swainson's hawk foraging habitat.

Covered activities on conservation lands could also indirectly affect Swainson's hawk during the implementation of habitat restoration, enhancement, and management actions that create visual and noise disturbances that may alter Swainson's hawk behavior.

Alternative 2 would result in the permanent loss of at most 11,312 acres—or roughly 7%—of the modeled Swainson's hawk habitat in the Plan Area: 315 acres (2%) of modeled nesting habitat (riparian types), 557 acres (22%) of modeled nesting and foraging habitat (blue oak savanna), and 10,411 acres (8%) of foraging habitat (cropland, irrigated pasture, grassland, and managed wetland). These losses would result from permanent development projects within and outside the UPAs. No known Swainson's hawk nest sites would be permanently affected.

Permanent development within 1,300 feet of Swainson's hawk nesting habitat and within 500 feet of foraging habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

In the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects; AMM3 provides for designing projects to avoid take and minimize effects on nest locations. AMM5 provides for relocating staging and temporary work areas associated with permanent development projects outside areas with active nests. AMM9 provides for the establishment of exclusion zones around active nest sites within and adjacent to permanent development projects as specified in Table 5-25 of the BRCP.

Recurring maintenance activities within and outside UPAs may periodically indirectly (through noise and visual disturbance) affect Swainson's hawks, including nesting Swainson's hawks. AMM30 would avoid affecting Swainson's hawks that may be nesting in trees planned for trimming or removal; however other recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management (other than trees), pipeline maintenance, and flood control maintenance, could result in impacts on nesting Swainson's hawks, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the amount of modeled habitat affected (7%) relative to the amount protected (15%) in the Plan Area, the commitment to restoration, relevant AMMs to be implemented during permanent development projects, AMM30 for recurring maintenance activities, and long-term management of 23,183 acres of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the Swainson's hawk.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled nesting and foraging habitat for Swainson's hawk in the Plan Area. Recurring maintenance activities within and outside UPAs, as well as covered activities on conservation lands, could periodically affect the species and could include impacts on nesting Swainson's hawk. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of foraging habitat and the protection and restoration of suitable nesting and roosting habitat. Further, protected habitat in the Plan Area would be managed and enhanced, AMMs would provide for nest identification in and near permanent development projects and help avoid take and minimize effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of modeled nesting and foraging habitat for Swainson's hawk in the Plan Area. Recurring maintenance activities within and outside UPAs, as well as covered activities on conservation lands, could periodically affect the species, and could include impacts on nesting Swainson's hawk. However, implementation of the BRCP conservation strategy and conservation measures under Alternative 2 would help offset these impacts through the protection of foraging habitat and the protection and restoration of suitable nesting and roosting habitat. Further, protected habitat in the Plan Area would be managed and enhanced, AMMs would provide for nest identification in and near permanent development projects and help avoid take and minimize effects on nest locations. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-10: Effects on white-tailed kite (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 5,725 acres (18%) of modeled nesting habitat for white-tailed kite, 24,880 acres (14%) of year-round foraging habitat, and 25,636 acres of breeding season foraging habitat (27%) (note the year-round and breeding season foraging habitats largely overlap) (CM1). Riparian habitat restoration (CM4) would restore 178 acres habitat that in the future would provide suitable white-tailed kite nesting and roosting habitat. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands would convert up to 579 acres of modeled foraging habitat for white-tailed kite into riparian habitat that could in the future support nesting habitat. Up to 34 acres of foraging habitat would be converted to willow scrub, which is not modeled foraging habitat. An additional 2,121 acres of modeled foraging habitat could be removed if all the BRCP giant garter snake habitat and emergent wetland restoration is located on managed wetlands, ricelands, or irrigated agricultural land. This impact is expected to be less than this amount because a portion of the restored giant garter snake habitat would include uplands that support foraging habitat for white-tailed kite.

Covered activities on conservation lands could also indirectly affect white-tailed kites during the implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that could alter white-tailed kite behavior.

Alternative 2 would result in the permanent loss of at most 16,183 acres—or roughly 5%—of the modeled white-tailed kite habitat in the Plan Area: 2,598 acres (8%) of modeled nesting habitat, and 6,599 acres (8%) of year-round foraging habitat and 6,986 acres of breeding season foraging habitat (7%) (note the year round and breeding season habitat largely overlap). These losses would result from permanent development projects within and outside the UPAs. Although no white-tailed kite nests that are included in the CNDDB would be affected, unreported nests or new nests may be affected.

Permanent development within 1,300 feet of white-tailed kite nesting habitat and within 500 feet of foraging habitat can cause alterations in behavior through noise and visual disturbance associated with construction and normal ongoing activities.

In the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects, and AMM3 provides for designing projects to avoid take and minimize effects on nest locations as specified in Table 5-23 of the BRCP. AMM5 provides for relocating staging and

temporary work areas associated with permanent development projects outside areas with active nests. AMM9 provides for the establishment of exclusion zones around active nest sites within and adjacent to permanent development projects as specified in Table 5-25 of the BRCP.

Recurring maintenance activities within and outside UPAs may periodically indirectly (through noise and visual disturbance) affect white-tailed kites. AMM30 would avoid affecting white-tailed kites that may be nesting in trees planned for trimming or removal; however other recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management (other than trees), pipeline maintenance, and flood control maintenance, could result in impacts on nesting white-tailed kites, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the species' distribution outside of the Plan Area; the amount of nesting and foraging (year-round and breeding) habitats affected (8%, 8%, and 7%, respectively) relative to the amount of protection (18%, 14 and 27%, respectively) in the Plan Area; restoration and enhancement of modeled habitats; relevant AMMs to be implemented during permanent development projects; and long-term management of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the white-tailed kite.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of nesting habitat and seasonal and year-round foraging habitat for white-tailed kites due to permanent development, as well as covered activities on conservation lands, in the Plan Area. Further, recurring maintenance activities could result in impacts on nesting white-tailed kites and, thus, reduced reproductive success. However, implementation of the BRCP conservation strategy under Alternative 2 would help offset these impacts through the protection of seasonal and breeding season foraging habitat and nesting habitat, as well as through the management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Accordingly, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of nesting habitat and seasonal and year-round foraging habitat for white-tailed kites due to permanent development, as well as covered activities on conservation lands, in the Plan Area. Further, recurring maintenance activities could result in impacts on nesting white-tailed kites and, thus, reduced reproductive success. However, implementation of the BRCP conservation strategy under Alternative 2 would help offset these impacts through the protection of seasonal and breeding season foraging habitat and nesting habitat, as well as through the management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Accordingly, this impact would be less than significant. No mitigation is required.

Impact BIO-11: Effects on bald eagle (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 4,435 acres (19%) of modeled bald eagle nesting habitat and 21,195 acres (12%) of seasonal foraging habitat (CM1). Riparian habitat restoration (CM4) would restore trees that in the future would provide suitable bald eagle nesting and roosting habitat. The implementation of fish habitat improvements under CM9 would support a primary food source (salmonids) for bald eagles. In addition, CM5 and

CM6 provide for the management and enhancement of protected habitat in the Plan Area. As stated in Section 5.8 of the BRCP, active nest sites in BRCP conservation lands would be monitored to assess nesting success.

Covered activities on conservation lands would convert up to 579 acres of modeled seasonal foraging habitat for bald eagle into riparian habitat that could in the future support bald eagle nesting habitat. Emergent wetland restoration and giant garter snake habitat restoration could convert up to 121 acres and up to 2,000 acres, respectively, of bald eagle seasonal foraging habitat into habitat that is not suitable for foraging. The actual amount of seasonal foraging habitat converted into giant garter snake habitat would likely be less than this amount, because portions of this acreage will have open water and uplands that could still be used for foraging.

Covered activities on conservation lands could also indirectly affect bald eagles during the implementation of habitat restoration, enhancement, and management actions that create visual and noise disturbances that may alter bald eagle behavior.

Alternative 2 would result in the permanent loss of at most 6,277—or roughly 3%—of the modeled bald eagle habitat in the Plan Area: 2,708 acres (11%) of modeled nesting habitat, though no known nest sites would be affected, and 3,570 acres (2%) of seasonal foraging habitat. These losses would result from permanent development projects within and outside the UPAs.

Permanent development within 1,300 feet of bald eagle nesting habitat and within 500 feet of foraging habitat can cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

In the BRCP, AMM1 and AMM2 provide for the identification of nests in and near permanent development projects, and AMM3 provides for designing projects to avoid take and minimize effects on nest locations as specified in Table 5-23 of the BRCP. AMM5 provides for relocating staging and temporary work areas associated with permanent development projects outside areas with active nests. AMM9 provides for the establishment of exclusion zones around active nest sites within and adjacent to permanent development projects as specified in Table 5-25 of the BRCP.

Recurring maintenance activities within and outside UPAs, may periodically indirectly (through noise and visual disturbance) affect bald eagles. Recurring maintenance activities, such as reconductoring of electrical distribution lines, vegetation management, pipeline maintenance, and flood control maintenance, could result in impacts on nesting bald eagles, which could include harm or mortality to eggs and young from nest abandonment, and reduced reproductive success for adults.

Considering the species' broad distribution beyond the Plan Area; the amount of nesting and seasonal foraging habitat affected (11% and 2%, respectively) relative to the amount of protection of these habitats (19% and 12%, respectively) in the Plan Area; the restoration and enhancement of riparian habitat; relevant AMMs to be implemented during permanent development projects; and long-term management of 25,630 acres (12%) of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the bald eagle.

NEPA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of nesting and seasonal foraging habitat for bald eagles due to permanent development as well as covered activities on conservation lands in the Plan Area. Further, recurring maintenance activities could result in impacts on nesting bald eagles and, thus, reduced reproductive success. However, implementation of the BRCP conservation strategy under

Alternative 2 would help offset these impacts through the protection of seasonal foraging and nesting habitat, as well as through the management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Permanent development projects within and outside the UPAs would result in the permanent loss of nesting and seasonal foraging habitat for bald eagles due to permanent development as well as covered activities on conservation lands in the Plan Area. Further, recurring maintenance activities could result in impacts on nesting bald eagles and, thus, reduced reproductive success. However, implementation of the BRCP conservation strategy under Alternative 2 would help offset these impacts through the protection of seasonal foraging and nesting habitat, as well as through the management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects to help minimize direct and indirect impacts due to development projects. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-12: Effects on giant garter snake (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 27,547 acres of modeled habitat (CM1) and the restoration of 500 acres of giant garter snake habitat (CM4). The protected habitat includes 23,182 acres of riceland, 585 acres of managed and emergent wetland and willow scrub, and 3,780 acres of adjoining cropland. CM3 will help identify opportunities for improving wildlife movement through the landscape and across roads, railroads, and utility corridors. In addition, CM56 and CM6 provide for the management and enhancement of protected habitat in the Plan Area. The BRCP also includes Objective SPEC9.3, which calls for the protection of a north–south corridor at least 0.6 mile wide along the west boundary of the Plan Area consisting of riparian, wetland, aquatic, and agricultural natural communities. This objective is designed to maintain connectivity between occupied patches of habitat (see BRCP Figure 5-4); however, there are no specifications as to what agricultural lands would be within this corridor and whether these areas would include connected canals and ditches; moreover, it is unlikely that riparian habitat would benefit movement of giant garter snakes because they typically avoid this habitat.

The BRCP's restoration, enhancement, and management actions could result in injury or mortality of giant garter snakes and temporarily reduce the function of those ricelands and managed wetlands converted to emergent wetlands.

Alternative 2 would result in the permanent loss of up to 18 miles of movement habitat (4%) and 3,194 acres (2%) of other giant garter snake modeled habitat within the Plan Area. These impacts would result from permanent development projects both within and outside the UPAs. Development activities could also result in injury or mortality of giant garter snakes. Permanent development projects would affect two locations of giant garter snake recorded in the CNDDB (2013a), representing 7% of the records in the Plan Area.

Permanent disturbance within 500 feet of modeled habitat could adversely affect giant garter snake through hydrologic alteration of aquatic habitat, water pollution, and the introduction of potential predators (cats, dogs, nonnative fish, and bullfrogs).

Recurring maintenance activities within and outside UPAs, such as transportation facility maintenance, utility service facilities maintenance, water and irrigation canal maintenance, and vegetation management, may periodically directly and indirectly affect giant garter snake. Effects of water and irrigation canal maintenance will be minimized through implementation of AMM30 from the BRCP. This AMM sets specific limits for bank clearing during each maintenance year to 80% of the linear distance along one side of the bank per year and no more than 20% of the linear distance if both banks are cleared. This activity would involve the removal of vegetation, debris, and sediment from canals and ditches as well as the re-sloping of banks that are comprised of heavy clay soils that are subject to collapses if both sides are not maintained during the same year. As mentioned above, in these cases only 20% of the linear distance of banks in the Plan Area would be re-sloped in a given year. This type of canal and ditch maintenance can only occur when the canals are not in service, which is typically from mid-January through April. These activities could result in the mortality and injury of giant garter snakes that may be inactive and occupying burrows or other cover on canal and ditch banks at this time (the snakes inactive periods is generally early October to late April.

Considering the impacts on modeled habitat (2%) relative to the amount of protection (16%) in the Plan Area; the commitment to restoration; relevant AMMs to be implemented during permanent development activities and recurring channel maintenance (AMM30); and long-term management of 28,047 acres (17%) giant garter snake habitat in the Plan Area, Alternative 2 would not significantly impact the giant garter snake.

NEPA Determination: Implementation of permanent development projects under Alternative 2 would result in the loss of up to 18 miles of movement habitat and 3,194 acres of other modeled giant garter snake habitat in the Plan Area. Development and recurring maintenance activities, as well as BRCP's restoration, enhancement, and management actions, could also result in injury or mortality of giant garter snakes and habitat disruption. However, the BRCP conservation strategy would result in the protection and long-term management of 27,547 acres of modeled habitat and the restoration of 500 acres of giant garter snake habitat in the Plan Area. Additionally, relevant AMMs to be would be implemented during permanent development activities and recurring channel maintenance to help minimize impacts on the species. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of permanent development projects under Alternative 2 would result in the loss of up to 18 miles of movement habitat and 3,194 acres of other modeled giant garter snake habitat in the Plan Area. Development and recurring maintenance activities, as well as BRCP's restoration, enhancement, and management actions, could also result in injury or mortality of giant garter snakes and habitat disruption. However, the BRCP conservation strategy would result in the protection and long-term management of 27,547 acres of modeled habitat and the restoration of 500 acres of giant garter snake habitat in the Plan Area. Additionally, relevant AMMs to be would be implemented during permanent development activities and recurring channel maintenance to help minimize impacts on the species. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-13: Effects on Blainville's horned lizard (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of at least 5 patches of occupied Blainville's horned lizard habitat. Protection and enhancement of grasslands, oak woodland and savanna, and riparian natural communities are expected to maintain the existing distribution and abundance of Blainville's horned lizard in the Plan Area (CM1). In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

The BRCP's restoration, enhancement, and management actions could result in injury or mortality of Blainville's horned lizards through operation of equipment in their habitat. Alternative 2 could result in the permanent loss of habitat from development in the Plan Area and/or direct mortality of Blainville's horned lizards through operation of equipment in their habitat. The BRCP did not develop a habitat model for this species because it was determined that there was insufficient information regarding the distribution of the physical attributes that support the species in the Plan Area (e.g., gravelly sandy substrates). Therefore, no acreages of permanent or indirect impacts are known at this time.

Recurring maintenance activities within and outside UPAs, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically directly and indirectly affect Blainville's horned lizard.

Considering the amount of protection; relevant AMMs to be implemented during permanent development projects; and long-term management of riparian habitats in the Plan Area, Alternative 2 would not significantly impact the Blainville's horned lizard.

NEPA Determination: Implementation of Alternative 2 could result in the permanent loss of habitat and direct mortality of Blainville's horned lizards. Implementation of the BRCP conservation strategy would result in the protection of at least five patches of occupied Blainville's horned lizard habitat, as well as the protection and enhancement of grasslands, oak woodland and savanna, and riparian natural communities, which would benefit the species. Additionally, implementation of relevant AMMs during permanent development projects would help minimize direct and indirect impacts on Blainville's horned lizard. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 could result in the permanent loss of habitat and direct mortality of Blainville's horned lizards. Implementation of the BRCP conservation strategy would result in the protection of at least five patches of occupied Blainville's horned lizard habitat, as well as the protection and enhancement of grasslands, oak woodland and savanna, and riparian natural communities, which would benefit the species. Additionally, implementation of relevant AMMs during permanent development projects would help minimize direct and indirect impacts on Blainville's horned lizard. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-14: Effects on western pond turtle (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 10,965 acres (13%) of modeled habitat for western pond turtle in the Plan Area, the protection of 20 linear miles (18%) of stream habitat, and the protection of 43 ponds identified as suitable for western pond

turtle (21%) (CM1). In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

The BRCP's restoration, enhancement, and management actions could result in inadvertent mortality, the release of contaminants (e.g., fuels, lubricants) into aquatic habitat that could affect survivorship, and erosion that could affect water quality in aquatic habitat.

Alternative 2 would result in the permanent loss of 24 potential breeding ponds (12%), 5 linear miles of stream habitat (5%), and 4,606 acres (5%) of modeled habitat for western pond turtle in the Plan Area. This loss would result from permanent development projects within and outside the UPAs. Covered activities could also result in injury or mortality of western pond turtles and the fragmentation of habitat. No known locations of western pond turtle listed in the CNDDB (2013a) would be affected by permanent development; however, unreported populations may be affected. Permanent development within 500 feet of modeled habitat could indirectly affect the species through increased noise and visual disturbances, introduced predators, increased traffic on nearby roads, and water pollution.

Considering the wide distribution of this species beyond the Plan Area; impacts on modeled habitat, miles of stream habitat, and ponds (5%, 5%, and 12%, respectively) relative to the amount of protection (13%, 18%, and 21%, respectively); relevant AMMs to be implemented during permanent development projects; and long-term management of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the western pond turtle.

NEPA Determination: There would be a loss of 24 potential breeding ponds, 5 linear miles of stream habitat, and 4,606 acres of modeled western pond turtle habitat as part of the permanent development that would occur in the Plan Area under Alternative 2. The BRCP's restoration, enhancement, and management actions could result in direct and indirect impacts on western pond turtle. Implementation of the BRCP conservation strategy would result in the protection of 10,965 acres of modeled habitat for western pond turtle in the Plan Area, the protection of stream habitat, and the protection of 43 ponds, and would also provide for the management and enhancement of protected habitat in the Plan Area, which would help offset other potential impacts on the species and its habitat. Additionally, implementation of relevant AMMs during permanent development projects would help minimize direct and indirect impacts on western pond turtle. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: There would be a loss of 24 potential breeding ponds, 5 linear miles of stream habitat, and 4,606 acres of modeled western pond turtle habitat as part of the permanent development that would occur in the Plan Area under Alternative 2. The BRCP's restoration, enhancement, and management actions could result in direct and indirect impacts on western pond turtle. Implementation of the BRCP conservation strategy would result in the protection of 10,965 acres of modeled habitat for western pond turtle in the Plan Area, the protection of stream habitat, and the protection of 43 ponds, and would also provide for the management and enhancement of protected habitat in the Plan Area, which would help offset other potential impacts on the species and its habitat. Additionally, implementation of relevant AMMs during permanent development projects would help minimize direct and indirect impacts on western pond turtle. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-15: Effects on foothill yellow-legged frog (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 2,025 acres (18%) of modeled habitat in the Plan Area (CM1). In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area. The BRCP's restoration, enhancement, and management actions could result in injury or mortality of foothill yellow-legged frog and indirect effects on occupied habitat.

Alternative 2 would result in the permanent loss of up to 1,189 acres (11%) of the modeled habitat for foothill yellow-legged frog within the Plan Area. These impacts would result from permanent development projects both within and outside the UPAs. No known locations of foothill yellow-legged frog listed in the CNDDB (2013a) would be affected by permanent development; however, currently unreported populations could be affected.

Permanent disturbance within 500 feet of modeled foothill yellow-legged frog habitat in the Plan Area could adversely affect foothill yellow-legged frog through hydrologic alteration of aquatic habitat, water pollution, and the introduction of potential predators (cats, dogs, nonnative fish, and bullfrogs).

Recurring maintenance activities within and outside UPAs, such as transportation facility maintenance, utility service facilities maintenance, flood control and stormwater maintenance, and vegetation management, may periodically directly (inadvertent mortality) and indirectly (noise, visual, and ground vibrations) affect yellow-legged frog.

Considering the wide distribution of this species beyond the Plan Area; the amount of modeled habitat affected (11%) and the amount protected (18%) in the Plan Area; relevant AMMs to be implemented during permanent development projects; and long-term management of covered species habitats in the Plan Area, Alternative 2 would not significantly impact the foothill yellow-legged frog.

NEPA Determination: Implementation of Alternative 2 could result in the loss and alteration of habitat in the Plan Area for foothill yellow-legged frog. However, given the wide distribution of this species in the Plan Area, the protection of 18% of yellow-legged frog habitat in the Plan Area, implementation of relevant AMMs during permanent development projects, and the long-term management of covered species habitats, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 could result in the loss and alteration of habitat in the Plan Area for foothill yellow-legged frog. However, given the wide distribution of this species in the Plan Area, the protection of 18% of yellow-legged frog habitat in the Plan Area, implementation of relevant AMMs during permanent development projects, and the long-term management of covered species habitats, this impact would be less than significant. No mitigation is required.

Impact BIO-16: Effects on western spadefoot (NEPA: less than significant: CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 30,675 acres (28%) of modeled western spadefoot habitat and the protection of 31 ponds (CM1). In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

The BRCP's restoration, enhancement, and management actions could result in inadvertent mortality and result in the release of contaminants (e.g., fuels, lubricants) into habitat that could affect survival and cause erosion that could affect habitat.

Alternative 2 would result in the permanent loss of 22 (11%) potential breeding ponds and 10,142 acres—or roughly 9%—of the modeled western spadefoot habitat (non-pond breeding and upland) in the Plan Area. This loss would result from permanent development projects within and outside the UPAs. No known locations of western spadefoot listed in the CNDDB (2013a) would be affected by permanent development; however, currently unreported populations could be affected.

Permanent development within 500 feet of modeled habitat could indirectly affect the species through increased noise and visual disturbances, increased traffic on nearby roads, and hydrologic alteration of aquatic habitat.

Recurring maintenance activities within and outside UPAs may periodically directly (inadvertent mortality) and indirectly (noise, visual, and ground vibrations) affect western spadefoot.

Considering the wide distribution of this species beyond the Plan Area; impacts on breeding ponds and modeled habitat (9% and 11%, respectively) and the amount of protection (16% and 28%, respectively) in the Plan Area; relevant AMMs to be implemented during permanent development projects; and long-term management of up to 30,675 acres of modeled habitat in the Plan Area, Alternative 2 would not significantly impact the western spadefoot.

NEPA Determination: Implementation of permanent development projects under Alternative 2 would result in the loss of 22 potential breeding ponds and 10,142 acres of modeled western spadefoot habitat in the Plan Area. There would be 30,675 acres of western spadefoot habitat and 31 ponds protected and managed in the Plan Area with implementation of the conservation strategy and conservation measures. In addition, relevant AMMs would be implemented during permanent development projects to minimize impacts on the species. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of permanent development projects under Alternative 2 would result in the loss of 22 potential breeding ponds and 10,142 acres of modeled western spadefoot habitat in the Plan Area. There would be 30,675 acres of western spadefoot habitat and 31 ponds protected and managed in the Plan Area with implementation of the conservation strategy and conservation measures. In addition, relevant AMMs would be implemented during permanent development projects to minimize impacts on the species. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-17: Effects on Chinook salmon (spring- and fall-/late fall–run) and Central Valley steelhead (NEPA: less than significant; CEQA: less than significant)

Under Alternative 2, the effects of new and replacement bridge projects would be the same as under Alternative 1.

Covered activities outside the Local Agencies' jurisdiction (i.e., conservation strategy and measures, water and irrigation district actions, road projects) could result in injury or mortality of Chinook salmon and steelhead, as well as permanent and temporary direct effects on occupied habitat. Impact mechanisms associated with habitat restoration and enhancement activities include conversion of cultivated lands, dredger tailings, and lands dominated by herbaceous vegetation to riparian habitat and the operation of equipment to carry out such activities. Operation of equipment

could result in injury or mortality of covered and other native fish species that cannot avoid operating equipment. Accidental introduction of contaminants on project construction sites (e.g., fuel spills) could also result in mortality or inhibit normal behaviors of covered and other native fish species that are sensitive to and come into contact with these contaminants. Permanent direct effects from aquatic habitat improvement activities include removal of in-channel debris to improve fish passage, and placement of spawning gravels. Placement of spawning gravels in stream channels may remove riparian vegetation from channel banks (e.g., vegetation removed for equipment access) and would alter the existing in-channel habitat structure for covered fish and other native aquatic organisms. Also, these activities may result in localized alterations in channel form and patterns of erosion and sedimentation that over time change aquatic habitat structure and function from existing conditions.

Temporary direct effects result from operation of restoration- and enhancement-related equipment. Noise and visual disturbances associated with operation of equipment can result in temporary abandonment or reduction in use of habitat areas by covered and other native fish species adjacent to restoration sites. Erosion, dust, and sedimentation associated with construction-related disturbance of soils during construction periods may also reduce the function of receiving waters as habitat for covered and other native species (e.g., increased turbidity, reduced dissolved oxygen). Operation of equipment in and adjacent to channels and placement of spawning gravels could result in temporary degradation of water quality conditions (e.g., turbidity), which could lead to temporary abandonment of habitat and increased risk of predation downstream of habitat enhancement sites.

Implementation of the conservation strategy and conservation measures would protect up to 6,370 acres of riparian habitat and 57 miles of open water habitat (CM1) and restore up to 613 acres of riparian land cover types (CM4). In addition, CM5 and CM9–CM11 provide for the management and enhancement of protected riparian habitat and fish habitat. These measures would provide for the protection and expansion of habitat for Chinook salmon and steelhead within the Plan Area. Accordingly, the effects of restoration, enhancement, and management actions would be avoided or minimized through implementation of the relevant AMMs identified in Table 4-7 of the Plan; in the long term, these species would likely benefit from these actions.

NEPA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance Chinook salmon and steelhead habitat. A small proportion of overall habitat would be affected by construction and maintenance activities, but restoration activities are expected to result in an overall gain in fish habitat. Therefore, implementation of Alternative 2 would result in a less-than-significant impact on Chinook salmon and steelhead habitat, critical habitat, and EFH in the Plan Area. No mitigation is required.

CEQA Determination: The incorporation of relevant AMMs and the BRCP's protection and conservation measures would protect 57 miles of open water habitat and enhance Chinook salmon and steelhead habitat. A small proportion of overall habitat would be affected by construction and maintenance activities, but management and enhancement activities are expected to result in an overall gain in fish habitat. Therefore, implementation of Alternative 2 would result in an overall beneficial effect on Chinook salmon and steelhead habitat, critical habitat, and EFH. This impact would be less than significant. No mitigation is required.

Impact BIO-18: Effects on Sacramento splittail (NEPA: less than significant; CEQA: less than significant)

Under Alternative 2, the effects of construction of replacement bridges in the Feather River would be the same as under Alternative 1.

The BRCP does not contain conservation measures that would be implemented in waterways used by Sacramento splittail. However, incorporation of relevant AMMs identified in Table 4-7 of the Plan would prevent potential indirect effects associated with implementation of the conservation strategy and conservation measures.

NEPA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance Sacramento splittail habitat. Nevertheless, bridge construction would have a minor but permanent effect on Sacramento splittail aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

CEQA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance Sacramento splittail habitat. Nevertheless, bridge construction would have a minor but permanent effect on Sacramento splittail aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

Impact BIO-19: Effects on green sturgeon (NEPA: less than significant; CEQA: less than significant)

Under Alternative 2, the effects of new and replacement bridge projects would be the same as under Alternative 1.

Covered activities outside the Local Agencies' jurisdiction (i.e., conservation strategy and measures, water and irrigation district actions, road projects) could result in effects similar to those discussed for Chinook salmon and steelhead in Impact BIO-17. In addition, construction-related activities that create sediment or contaminant discharge could result in effects associated with the species' bottom-feeding characteristics. However, implementation of the BRCP conservation strategy and conservation measures would result in the protection of aquatic habitats (CM1) and would restore approximately 620 acres of riparian habitat (CM4). In addition, CM5 and CM9–CM11 provide for the management and enhancement of protected fish habitat in the Plan Area. These measures would provide for the protection and possible expansion of potential habitat for green sturgeon within the Plan Area. In the long term, this species would likely benefit from these actions.

NEPA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance green sturgeon habitat. A small proportion of overall habitat would be affected by construction and maintenance activities, but restoration activities are expected to result in an overall gain in fish habitat. Therefore, the implementation of Alternative 2 would result in a less-than-significant impact on green sturgeon and its habitat. No mitigation is required.

CEQA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance green sturgeon habitat. A small proportion of overall habitat would be affected by construction and maintenance activities, but restoration

activities are expected to result in an overall gain in fish habitat. This impact would be less than significant. No mitigation is required.

Impact BIO-20: Effects on river lamprey (NEPA: less than significant; CEQA: less than significant)

Under Alternative 2, the effects of new and replacement bridge projects would be the same as under Alternative 1.

The BRCP does not contain conservation measures that would be implemented in waterways used by river lamprey. However, incorporation of relevant AMMs identified in Table 4-7 of the Plan would prevent potential indirect effects associated with implementation of the conservation strategy and conservation measures.

NEPA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance river lamprey habitat. Nevertheless, bridge construction would have a minor but permanent effect on river lamprey aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

CEQA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance river lamprey habitat. Nevertheless, bridge construction would have a minor but permanent effect on river lamprey aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

Impact BIO-21: Effects on valley elderberry longhorn beetle (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 8,282 acres of modeled habitat (CM1) and the restoration of 189 acres of riparian habitat under CM4, which states that elderberry shrubs will be planted to replace shrubs and as shown in BRCP Table 5-11, three shrubs will be planted for every shrub supporting species habitat removed. The BRCP's restoration, enhancement, and management actions (such as weed control, planting and seeding of native vegetation, and installation of irrigation features) could result in injury or mortality of valley elderberry longhorn beetle and indirect effects on occupied habitat.

Alternative 2 would result in the permanent loss of up to 2,280 acres (5%) of the modeled valley elderberry longhorn beetle habitat within the Plan Area. These impacts would result from permanent development projects both within and outside the UPAs. No known locations of valley elderberry longhorn beetle in the CNDDB (2013a) would be affected; however, currently unreported populations could be affected.

Permanent disturbance within 100 feet of modeled habitat could indirectly affect valley elderberry longhorn beetle if hydrologic alterations adversely affect elderberry shrubs occupied by the species.

Recurring maintenance activities within and outside UPAs, such as transportation facility maintenance, utility service facilities maintenance, flood control and stormwater maintenance, and vegetation management, may periodically directly and indirectly affect valley elderberry longhorn beetle habitat.

Considering the species-wide distribution beyond the Plan Area; the amount of modeled habitat affected (5%), the amount protected (19%), and the commitment to replacing affected elderberry shrubs (those with stems more than one inch in diameter) at a 3:1 ratio in riparian restoration sites in the Plan Area; relevant AMMs to be implemented during permanent development projects; and long-term management of riparian habitats in the Plan Area, Alternative 2 would not significantly impact the valley elderberry longhorn beetle.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 2,280 acres of valley elderberry longhorn beetle habitat within the Plan Area due to development projects within and outside the UPAs. Recurring maintenance activities (e.g., transportation facility maintenance, vegetation management) may also affect valley elderberry longhorn beetle habitat. However, implementation of the BRCP conservation strategy would result in the protection and restoration of valley elderberry longhorn beetle habitat and long-term management of riparian habitats in the Plan Area. Additionally, relevant AMMs would be implemented during permanent development projects to minimize impacts on this species. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 2,280 acres of valley elderberry longhorn beetle habitat within the Plan Area due to development projects within and outside the UPAs. Recurring maintenance activities (e.g., transportation facility maintenance, vegetation management) may also affect valley elderberry longhorn beetle habitat. However, implementation of the BRCP conservation strategy would result in the protection and restoration of valley elderberry longhorn beetle habitat and long-term management of riparian habitats in the Plan Area. Additionally, relevant AMMs would be implemented during permanent development projects to minimize impacts on this species. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-22: Effects on vernal pool crustaceans (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of 21,400 acres (62%) of modeled habitat for vernal pool crustaceans (CM1) and in the restoration of at least 38 acres of habitat (CM4) in the Plan Area. At least 14,850 acres of habitat would be protected in core recovery areas. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area. CM14 would result in the implementation of actions to reestablish occurrences of Conservancy fairy shrimp as part of the BRCP's contribution to recovery of the species. The conservation strategy also proposes to protect up to eight occurrences and 150 acres in the Vina Plains Core Recovery Area and to avoid take of Conservancy fairy shrimp within the Plan Area (see BRCP Table 5-23). Presence or absence of Conservancy fairy shrimp will be determined during the planning-level surveys (AMM1) conducted for permanent development projects.

The BRCP's restoration, enhancement, and management actions that occur within approximately 250 feet of vernal pool crustacean habitat could result in the release of contaminants (e.g., fuels, lubricants) into habitat that could affect survival and cause erosion that could affect habitat.

Alternative 2 would result in the permanent loss of approximately 303 acres of vernal pools and other seasonal wetlands associated with grasslands in the Plan Area. This loss would result from permanent development projects within and outside the UPAs.

Alternative 2 would also result in the loss of three known vernal pool tadpole shrimp occurrences (18% of those in the Plan Area), 17 vernal pool fairy shrimp occurrences (59% of those in the Plan Area), and three occurrences of California linderiella (60% of those in the Plan Area). Additional unreported populations may also be affected.

Permanent development within 250 feet of vernal pool complexes can result in alteration of the hydrology of vernal pools through the disruption of surface and subsurface flows across the landscape.

Alternative 2 would also result in the permanent loss of up to 288 acres (4.6%) of designated critical habitat for vernal pool fairy shrimp in the Plan Area, and up to 530 acres (2.3%) of designated critical habitat for vernal pool tadpole shrimp. Not all these areas necessarily contain the primary constituent elements (as defined in the critical habitat designations for these species) needed to support vernal pool fairy shrimp and vernal pool tadpole shrimp; consequently, the actual amount of critical habitat affected for these species may be less than the acreages reported here.

Considering the impacts on modeled habitat (4%), the amount of protection (62%) and restoration in the Plan Area; the commitment to avoid take of Conservancy fairy shrimp and to preserve up to eight occurrences for this species; relevant AMMs to be implemented during permanent development projects; and long-term management of 21,400 acres of modeled habitat in the Plan Area, Alternative 2 would not significantly impact vernal pool crustaceans.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of approximately 303 acres of vernal pool crustacean habitat in the Plan Area due to permanent development projects within and outside the UPAs; the loss of several known occurrences vernal pool tadpole shrimp, vernal pool fairy shrimp, and California linderiella; and the loss of up to 288 acres of designated critical habitat for vernal pool fairy shrimp and up to 530 acres of designated critical habitat for vernal pool tadpole shrimp. However, implementation of the conservation measures and AMMs as part of the BRCP conservation strategy would protect and restore vernal pool crustacean habitat in the Plan Area, help reestablish occurrences of Conservancy fairy shrimp and protect up to eight occurrences of the species, and minimize other potential impacts on vernal pool crustaceans. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of approximately 303 acres of vernal pool crustacean habitat in the Plan Area due to permanent development projects within and outside the UPAs; the loss of several known occurrences vernal pool tadpole shrimp, vernal pool fairy shrimp, and California linderiella; and the loss of up to 288 acres of designated critical habitat for vernal pool fairy shrimp and up to 530 acres of designated critical habitat for vernal pool tadpole shrimp. However, implementation of the conservation measures and AMMs as part of the BRCP conservation strategy would protect and restore vernal pool crustacean habitat in the Plan Area, help reestablish occurrences of Conservancy fairy shrimp and protect up to eight occurrences of the species, and minimize other potential impacts on vernal pool crustaceans. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-23: Effects on Red Bluff dwarf rush (NEPA: less than significant; CEQA: less than significant)

Alternative 2 would result in the loss of at least one occurrence of Red Bluff dwarf rush. AMM3 from the BRCP permits the removal of all Red Bluff dwarf rush plants within covered activity footprints and up to eight currently undiscovered occurrences unless USFWS and CDFW determine that

avoiding the occurrence is necessary to maintain the genetic diversity or regional distribution of the species. The BRCP would compensate for the loss of this occurrence by preserving 10 other known occurrences[3] of Red Bluff dwarf rush. The effect of preserving 10 occurrences of Red Bluff dwarf rush would be beneficial, because these occurrences would be protected from future habitat conversion; however, the net effect would be the loss of at least one occurrence.

Alternative 2 would also result in the loss of 1,313 acres of modeled habitat for Red Bluff dwarf rush and the temporary loss of habitat functions on an additional 518 acres of modeled habitat. Although Red Bluff dwarf rush is not known to be present in this habitat, the effects on modeled habitat could potentially affect undiscovered occurrences. Some potential effects on undiscovered occurrences of Red Bluff dwarf rush would be avoided through implementation of AMM1 and AMM10 from the BRCP. AMM10 requires exclusion zones be established around occurrences to prevent any direct or indirect impacts. However, it is unlikely that an occurrence would continue to persist in such a small, isolated habitat fragment. Should such an occurrence fail to persist, the BRCP would not require compensation for its loss.

The loss of 1,313 acres of modeled habitat for Red Bluff dwarf rush would be compensated for by the acquisition, protection, and enhancement of 2,133 acres of modeled habitat with the same or greater habitat function. In addition, another 19,267 acres of modeled habitat would be acquired, protected, and enhanced, and 307 acres of vernal swales and pools would be restored within the historical distribution of Red Bluff dwarf rush. Preserving 21,400 acres of habitat may compensate for the habitat loss because the affected habitat is not known to be occupied by the species. However, if undiscovered occurrences of Red Bluff dwarf rush are present in the affected modeled habitat, then this impact could result in a loss of habitat and habitat functions.

Under CM5, the preserved habitat would be managed specifically for the benefit of Red Bluff dwarf rush. Habitat enhancement and management is expected to compensate for the loss of Red Bluff dwarf rush individuals and habitat functions resulting from the loss of one or more occurrences. Monitoring will be conducted to verify that the actions carried out under CM5 fully compensate for these adverse effects. If monitoring determines that the effects are not fully compensated, then adaptive management will be implemented to ensure that there is no net loss of individuals or habitat functions.

NEPA Determination: Implementation of Alternative 2 would result in the loss of at least one occurrence of Red Bluff dwarf rush and 1,313 acres of Red Bluff dwarf rush habitat in the Plan Area. However, habitat loss would be compensated for, and preserved habitat would be managed for the benefit of Red Bluff dwarf rush under CM5. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the loss of at least one occurrence of Red Bluff dwarf rush and 1,313 acres of Red Bluff dwarf rush habitat in the Plan Area. However, habitat loss would be compensated for, and preserved habitat would be managed for the benefit of Red Bluff dwarf rush under CM5. Therefore, this impact would be less than significant. No mitigation is required.

[3] Because the BRCP does not use the term *occurrence* in accordance with accepted practice (California Natural Diversity Database 2001; NatureServe 2002), it is unclear whether the 10 occurrences represent populations or simply 10 locations where Red Bluff dwarf rush has been observed.

Impact BIO-24: Effects on Butte County meadowfoam (NEPA: less than significant; CEQA: less than significant)

Alternative 2 would result in the loss of three occurrences of Butte County meadowfoam and partial loss of two other occurrences. AMM3 from the BRCP permits the removal of all Butte County meadowfoam plants within the specified covered activity footprints the loss of up to six currently undiscovered Butte County meadowfoam occurrences unless USFWS and CDFW determine that avoiding the occurrence is necessary to maintain the genetic diversity or regional distribution of the species. The BRCP would compensate for the loss of these occurrences by preserving 10 occurrences of Butte County meadowfoam within the Chico Butte County Meadowfoam Preserve and preserving all or part of five other Butte County meadowfoam occurrences.

Alternative 2 would have indirect effects on up to seven occurrences. These indirect effects would be avoided or minimized through implementation of AMMs.

Alternative 2 would result in the loss of 345 acres of modeled primary habitat and 1,165 acres of modeled secondary habitat and the temporary loss of habitat functions on an additional 179 acres of primary habitat and 144 acres of secondary habitat. In addition, Alternative 2 would result in the loss of 478 acres of critical habitat designated for Butte County meadowfoam. The effects on modeled habitat could potentially affect undiscovered occurrences of Butte County meadowfoam. Some potential effects on undiscovered occurrences of Butte County meadowfoam would be avoided through implementation of AMM1 and AMM10 from the BRCP. AMM10 requires exclusion zones be established around occurrences to prevent any direct or indirect impacts. However, it is unlikely that an occurrence would continue to persist in such a small, isolated habitat fragment. Should such an occurrence fail to persist, BRCP would not require compensation for its loss.

The loss of 345 acres of modeled primary habitat and 1,165 acres of secondary habitat would be compensated for by the acquisition, protection, enhancement, and management of 2,441 acres of primary modeled habitat and 326 acres of secondary modeled habitat with the same or greater habitat function. In addition, another 3,600 acres of primary modeled habitat and 892 acres of secondary modeled habitat would be acquired, protected, enhanced, and managed for the benefit of Butte County meadowfoam. In addition, 285 acres of vernal pool habitat would be restored within the historic distribution of Butte County meadowfoam, financed by habitat fees for removal of primary habitat.

The preservation of 6,041 acres of primary habitat and 1,218 acres of secondary habitat, in conjunction with the preservation of all or parts of 15 occurrences, would be beneficial because it would preserve all the remaining occurrences and primary habitat that would be necessary to ensure the survival and recovery of the species. The restoration of 285 acres of vernal pool habitat, together with enhancement of the preserved habitat and management for the benefit of Butte County meadowfoam, are likely to offset the adverse effects of the loss of occurrences and primary and secondary habitat that would be permitted under the BRCP.

NEPA Determination: Implementation of Alternative 2 would result in the loss of three occurrences of Butte County meadowfoam and partial loss of two other occurrences, primary and secondary modeled Butte County meadowfoam habitat, and critical habitat for Butte County meadowfoam in the Plan Area. AMMS implemented as part of Alternative 2, as well as the acquisition, protection, enhancement, and management of primary and secondary habitat with equal or greater habitat function, would minimize impacts on Butte County meadowfoam. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the loss of three occurrences of Butte County meadowfoam and partial loss of two other occurrences, primary and secondary modeled Butte County meadowfoam habitat, and critical habitat for Butte County meadowfoam in the Plan Area. AMMS implemented as part of Alternative 2, as well as the acquisition, protection, enhancement, and management of primary and secondary habitat with equal or greater habitat function, would minimize impacts on Butte County meadowfoam. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-25: Effects on Butte County checkerbloom (NEPA: less than significant; CEQA: less than significant)

Alternative 2 would result in adverse effects on eight occurrences of Butte checkerbloom.[4] AMM3 from the BRCP permits the removal of all Butte County checkerbloom plants within covered activity footprints and up to 20 currently unknown occurrences unless USFWS and CDFW determine that avoiding the occurrence is necessary to maintain the genetic diversity or regional distribution of the species. The BRCP would compensate for the loss of these occurrences by preserving 65 other known occurrences of Butte County checkerbloom. The effect of preserving 65 occurrences would be beneficial because these occurrences would be protected from future habitat conversion, but the net effect would be the loss of at least eight occurrences.

Alternative 2 would result in the loss of 2,638 acres of modeled habitat for Butte County checkerbloom and the temporary loss of habitat functions on an additional 194 acres of modeled habitat. The effects on modeled habitat could potentially affect undiscovered occurrences of Butte checkerbloom. Some potential effects on undiscovered occurrences of Butte checkerbloom would be avoided through implementation of AMM1 and AMM10 from the BRCP. AMM10 requires that exclusion zones be established around occurrences to prevent any direct or indirect impacts. However, it is unlikely that an occurrence would continue to persist in such a small, isolated habitat fragment. Should such an occurrence fail to persist, the BRCP would not require compensation for its loss.

The loss of 2,638 acres of modeled habitat for Butte County checkerbloom would be compensated for by the acquisition, protection, and enhancement of 2,638 acres of modeled habitat with the same or greater habitat function. Preserving 2,638 acres of habitat does not fully compensate for this impact because it allows a net loss of habitat and habitat functions.

Under CM5, the preserved habitat would be managed specifically for the benefit of Butte County checkerbloom. Habitat enhancement and management is expected to compensate for the loss of Butte County checkerbloom individuals and habitat functions resulting from the loss of eight occurrences. Monitoring will be conducted to verify that the measures carried out under CM5 fully compensate for these adverse effects. If monitoring determines that the effects are not fully compensated for, then adaptive management will be implemented to ensure that there is no net loss of individuals or habitat functions.

NEPA Determination: Implementation of Alternative 2 would result in the loss of eight occurrences of Butte County checkerbloom, as well as 2,638 acres of habitat and the temporary loss of habitat functions on 194 acres of habitat for the species in the Plan Area. Implementation of CM5 and AMMS as part of Alternative 2, as well as the acquisition, protection, and enhancement of habitat with equal

[4] See footnote 3 regarding the BRCP's use of the term *occurrence*.

or greater habitat function would minimize impacts on Butte County checkerbloom. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the loss of eight occurrences of Butte County checkerbloom, as well as 2,638 acres of habitat and the temporary loss of habitat functions on 194 acres of habitat for the species in the Plan Area. Implementation of CM5 and AMMS as part of Alternative 2, as well as the acquisition, protection, and enhancement of habitat with equal or greater habitat function would minimize impacts on Butte County checkerbloom. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-26: Effects on other special-status plants (NEPA: less than significant; CEQA: less than significant)

Alternative 2 would not result in the loss of or damage to any known occurrences of 11 other covered plant species or 13 noncovered special-status plant species that occur in the Plan Area. The BRCP does not protect or compensate for the loss of noncovered species occurrences. It would result in the loss of habitat for eight covered plant species (beyond those discussed in the preceding three impacts), as well as five noncovered special-status plant species. No occurrences or habitat for lesser saltscale, veiny monardella, or California beaked rush would be affected.

Alternative 2 would result in the loss of habitat for eight other covered plants. Covered activities would result in the loss of 1,313 acres of modeled habitat and temporary loss of habitat functions on an additional 518 acres of modeled habitat for Hoover's spurge, Ahart's dwarf rush, hairy Orcutt grass, slender Orcutt grass, Ahart's paronychia, and Greene's tuctoria. In addition, Alternative 2 would result in the loss of 1.7 acres of critical habitat designated for Hoover's spurge, hairy Orcutt grass, and Greene's tuctoria. Alternative 2 would result in the loss of 176 acres of modeled habitat and temporary loss of habitat functions on an additional 18 acres of modeled habitat for Ferris' milkvetch. It would result in the loss of 236 acres of modeled habitat and temporary loss of habitat functions on an additional 184 acres of modeled habitat for Butte County golden clover.

The loss of 1,313 acres of modeled habitat for Hoover's spurge, Ahart's dwarf rush, hairy Orcutt grass, slender Orcutt grass, Ahart's paronychia, and Greene's tuctoria would be compensated for by the acquisition, protection, and enhancement of 2,133 acres of modeled habitat with the same or greater habitat function. In addition, another 19,267 acres of modeled habitat would be acquired, protected, and enhanced, and 307 acres of vernal swales and pools would be restored within the historical distribution of these species. Preserving 21,400 acres of habitat may compensate for this impact because the affected habitat is not known to be occupied by these species. However, if undiscovered occurrences of these species are present in the affected modeled habitat, then this impact could result in a loss of habitat and habitat functions.

Under CM5, the preserved habitat would be managed specifically for the benefit of Hoover's spurge, Ahart's dwarf rush, hairy Orcutt grass, slender Orcutt grass, Ahart's paronychia, and Greene's tuctoria. Habitat enhancement and management is expected to compensate for the loss of individuals of these species and habitat functions resulting from the loss of one or more occurrences. Monitoring will be conducted to verify that the actions carried out under CM5 fully compensate for these adverse effects. If monitoring determines that the effects are not fully compensated for, then adaptive management will be implemented to ensure that there is no net loss of individuals or habitat functions.

Alternative 2 could also result in the loss of habitat and the temporary loss of habitat functions for five noncovered species that have occurrences in UPAs: Brandegee's clarkia, white-stemmed clarkia, adobe lily, rose mallow, and California satintail. Covered activities could potentially affect undiscovered occurrences of these species. Although the conservation measures and AMMs in the BRCP do not apply to noncovered special-status species, as described in Alternative 1, covered activities that affect occurrences and habitat of noncovered special status plants would be mitigated on a project-by-project basis for discretionary projects. Mitigation of any type is unlikely for impacts from projects that are not subject to discretionary review. In addition, ancillary benefits are expected to occur to these plant species as a result of the BRCP because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support these types of noncovered special-status plants.

NEPA Determination: Implementation of Alternative 2 would result in the loss of habitat and habitat functions for the following covered plants in the Plan Area: Hoover's spurge, Ahart's dwarf rush, hairy Orcutt grass, slender Orcutt grass, Ahart's paronychia, Greene's tuctoria, Ferris' milkvetch, and Butte County golden clover. Implementation of CM5 and AMMS as part of Alternative 2, as well as the acquisition, protection, and enhancement of habitat with equal or greater habitat function would minimize impacts covered plant species and impacts would be less than significant. Effects on noncovered species are expected to also be less than significant through project-specific mitigation and the ancillary benefits associated with the BRCP. This impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the loss of habitat and habitat functions for the following covered plants in the Plan Area: Hoover's spurge, Ahart's dwarf rush, hairy Orcutt grass, slender Orcutt grass, Ahart's paronychia, Greene's tuctoria, Ferris' milkvetch, and Butte County golden clover. Implementation of CM5 and AMMS as part of Alternative 2, as well as the acquisition, protection, and enhancement of habitat with equal or greater habitat function would minimize impacts covered plant species and impacts would be less than significant. Effects on noncovered species are expected to also be less than significant through project-specific mitigation and the ancillary benefits associated with the BRCP. This impact would be less than significant. No mitigation is required.

Impact BIO-27: Effects on Antioch Dunes and Sacramento anthicid beetles (NEPA: less than significant; CEQA: less than significant)

The effects on Antioch Dunes and Sacramento anthicid beetles were analyzed using the BRCP impact acreages on the herbaceous riparian river bar habitat natural community because these species are found on sand bars associated with this habitat.

Implementation of the BRCP conservation strategy could result in impacts on Antioch Dunes and Sacramento anthicid beetles if, as stated in CM4, riparian restoration that involves site clearing and grading takes place in gaps between existing riparian habitat. Such areas could contain habitat for anthicid beetles. The BRCP would protect up to 6,370 acres (CM1) and restore approximately 620 acres of riparian land cover types (CM4). Protected and restored areas would likely include areas of sandy banks and sandbars. In addition, CM4 provides for the management and enhancement of protected riparian habitat. These measures would provide for the protection and possible expansion of potential habitat for anthicid beetles in the Plan Area. Effects on riparian habitat would also be avoided and minimized with implementation of AMMs identified in Section 5.4.4 of the BRCP.

Alternative 2 would result in the permanent loss of 20 acres (1%) of potential habitat for anthicid beetle species within the Plan Area. These losses would result from permanent development projects within and outside the UPAs. No occurrences of anthicid beetles listed in the CNDDB (2013a) would be directly affected by development projects; however, unreported occurrences may be affected.

Recurring maintenance activities and work in conservation lands could result in temporary disturbances of anthicid beetle habitat.

Considering the small amount of potential habitat lost, incorporation of relevant AMMs for permanent development projects, and the BRCP's protection and restoration measures for riparian habitats that will benefit the species, the implementation of Alternative 2 would not significantly impact the Antioch Dunes and Sacramento anthicid beetles.

NEPA Determination: Implementation of Alternative 2 could result in habitat impacts on Antioch Dunes and Sacramento anthicid beetles, as well as the permanent loss of 20 acres of potential anthicid beetle habitat. Implementation of AMMs, and protection and restoration measures for riparian habitat that would benefit the species, would minimize these impacts. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 could result in habitat impacts on Antioch Dunes and Sacramento anthicid beetles, as well as the permanent loss of 20 acres of potential anthicid beetle habitat. Implementation of AMMs, and protection and restoration measures for riparian habitat that will benefit the species, would minimize these impacts. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-28: Effects on hardhead (NEPA: less than significant; CEQA: less than significant)

Under Alternative 2, the effects of new and replacement bridge projects would be the same as under Alternative 1.

The BRCP does not contain conservation measures that would be implemented in waterways used by hardhead. However, incorporation of relevant AMMs identified in Table 4-7 of the Plan would prevent potential significant indirect effects associated with implementation of the conservation strategy and conservation measures.

NEPA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance hardhead habitat. Nevertheless, bridge construction would have a minor but permanent effect on hardhead aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

CEQA Determination: The incorporation of relevant AMMs and the BRCP's protection and restoration measures would protect and enhance hardhead habitat. Nevertheless, bridge construction would have a minor but permanent effect on hardhead aquatic habitat. However, because of the limited extent of this impact, it would be less than significant. No mitigation is required.

Impact BIO-29: Effects on noncovered special-status and migratory birds (NEPA: less than significant; CEQA: less than significant)

The effects on noncovered birds were evaluated by summing the impacts on those natural communities identified in Table 6-4 as providing suitable habitat for the species. The areal extent of impacts on potential habitats for these species is presented in Table 6-7. As seen in Table 6-7, Alternative 2 would result in some amount of permanent habitat loss of natural communities that provide some element of habitat (nesting or foraging) for noncovered special-status birds. Implementation of the BRCP would protect up to 89,601 acres (CM1) and restore up to 815 acres (CM4) of natural communities in the Plan Area that could benefit noncovered birds. In addition, CM5 and CM6 provide for the management and enhancement of protected habitats over the life of the Plan. Considering the amount of potential habitat lost and the BRCP's protection and restoration measures, the implementation of Alternative 2 would not result in substantial adverse effects on noncovered special-status bird from habitat loss

Recurring maintenance activities within the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, water and irrigation canal maintenance, and vegetation management, may periodically affect noncovered bird and migratory bird behavior, including nesting as described under Alternative 1. As described under Alternative 1 permittees would assume responsibility for and comply with California Fish and Game Code and the MBTA for all activities that have a potential to result in the take of active bird nests and would be required to implement pre-construction surveys, agency designated avoidance and minimization measures, and the other generally required activities as described under Alternative 1. Compliance with the MBTA is mandatory; therefore, it is expected disturbances to noncovered special status birds and migratory birds would be reduced or avoided.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of natural communities that provide elements of nesting and foraging habitat for noncovered special-status birds. In addition, the BRCP's restoration, enhancement, and management actions, as well as recurring maintenance and construction activities within the Plan Area, could result in the disturbance of nesting noncovered birds and other nesting birds protected under the MBTA. Implementation of the BRCP under Alternative 2 would protect 89,601 acres and restore natural communities in the Plan Area, as well as provide for the management and enhancement of protected habitats in the Plan Area, which would reduce the severity of the impact. Furthermore, mandatory compliance with the MTBA and California Fish and Game Code would reduce this impact to a less-than-significant level. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of natural communities that provide elements of nesting and foraging habitat for noncovered special-status birds. In addition, the BRCP's restoration, enhancement, and management actions, as well as recurring maintenance and construction activities within the Plan Area, could result in the disturbance of nesting noncovered birds and other nesting birds protected under the MBTA. Implementation of the BRCP under Alternative 2 would protect 89,601 acres and restore natural communities in the Plan Area, as well as provide for the management and enhancement of protected habitats in the Plan Area, which would reduce the severity of the impact. Furthermore, mandatory compliance with the MTBA and California Fish and Game Code would reduce this impact to a less-than-significant level. No mitigation is required.

Impact BIO-30: Effects on bats (NEPA: less than significant; CEQA: less than significant)

Bats that are known to or that could occur within the Plan Area (pallid bat, silver-haired bat, western red-bat, hoary bat, western mastiff bat, and Yuma myotis) employ varied roost strategies, from solitary roosting in foliage of trees to colonial roosting in trees, caves, mines, and artificial structures such as tunnels, buildings, and bridges. Various roost strategies could include night roosts, maternity roosts, migration stopover, or hibernation. The natural community/land cover types used to assess effects on bat roosting habitat include oak woodland and savanna (all types) and riparian (all types except willow scrub). All undeveloped portions of the Plan Area would be suitable for foraging. There are no bat species covered by the BRCP.

Alternative 2 would result in the permanent loss of up to 11,659 acres of potential tree-roosting habitat in the Plan Area. These losses would result from permanent development projects within and outside the UPAs. In addition, bridge replacement and improvements could affect bats that utilize bridge weep holes and crevices for roosting.

Permanent development within 500 feet of bat roosting habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities if bats are present.

Recurring maintenance activities within and outside UPAs may periodically indirectly (through noise and visual disturbance) affect roosting bats. Bridge maintenance work and tree trimming and removal associated with recurring maintenance activities could directly impact roosting bats, including maternal roosts.

Covered activities on conservation lands could also indirectly affect bats during implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that may alter bat behavior.

Implementation of the BRCP conservation strategy would result in the protection of 26,141 acres (25%) of potential bat tree-roosting habitat under natural community protections (CM1). The protection of 35 acres of cliff habitat for American peregrine falcon may also benefit cave- and crevice roosting bat species. Also, the 178 acres of riparian restoration (CM4) would provide future benefits to tree-roosting bats. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

The management of up to 26,354 acres of potential bat roosting habitat in the Plan Area would be a benefit to bats in the long term. Implementation of AMM28 from the BRCP, which would require surveying for bats prior to conducting bridge replacement projects, would avoid affecting bridge roosting bats. Considering the long-term protection and management of natural communities in the Plan Area that would provide suitable roosting and foraging habitat for bats, significant impacts to bats would not occur.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of potential bat tree-roosting habitat in the Plan Area as a result of permanent development within and outside the UPAs, and bridge replacement and improvement projects could affect bats that use holes and crevices for roosting. In addition, permanent development within 500 feet of bat roosting habitat, as well as recurring maintenance activities within and outside UPAs, could affect roosting bats through visual and noise disturbances. The protection and management of potential bat roosting habitat under the BRCP conservation strategy would benefit bats in the Plan Area in the long term. Therefore, impacts on bats would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of potential bat tree-roosting habitat in the Plan Area as a result of permanent development within and outside the UPAs, and bridge replacement and improvement projects could affect bats that use week holes and crevices for roosting. In addition, permanent development within 500 feet of bat roosting habitat, as well as recurring maintenance activities within and outside UPAs could affect roosting bats through visual and noise disturbances. The protection and management of potential bat roosting habitat under the BRCP conservation strategy would benefit bats in the Plan Area in the long term. Therefore, impacts on bats would be less than significant. No mitigation is required.

Impact BIO-31: Effects on American badger (NEPA: less than significant; CEQA: less than significant)

The effects on American badger were analyzed using the BRCP analysis of effects on the grassland (except grassland with vernal swale complex) natural community type.

Alternative 2 would result in the permanent loss of at least 7,776 acres (11%) of potential habitat for American badger in the Plan Area. These losses would result from permanent development projects within and outside the UPAs. No known American badger records listed in the CNDDB would be directly affected by development projects; however, unreported occurrences of this species could be affected by permanent development.

Permanent development within 500 feet of American badger habitat could cause alterations in behavior through visual and noise disturbances associated with construction and normal ongoing activities.

Recurring maintenance activities within and outside UPAs may periodically indirectly (through noise and visual disturbance) affect American badgers.

Covered activities on conservation lands could also indirectly affect American badgers during the implementation of habitat restoration, enhancement, and management actions through visual and noise disturbances that may alter American badger behavior.

Implementation of the BRCP conservation strategy would result in the protection of 20,705 acres (30%) of potential American badger habitat in the Plan Area under natural community protections identified in CM1. In addition, CM5 and CM6 provide for the management and enhancement of protected habitat in the Plan Area.

The management of at least 20,705 acres (30%) of potential American badger habitat in the Plan Area under Alternative 2 would benefit American badger in the long term.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of potential American badger habitat in the Plan Area as a result of permanent development within and outside the UPAs. In addition, permanent development within 500 feet of American badger habitat, recurring maintenance activities within and outside UPAs, and covered activities on conservation lands could indirectly affect the species through visual and noise disturbances. The protection and management of potential American badger habitat under the BRCP conservation strategy would benefit American badger in the Plan Area in the long term. Impacts on American badger would be less than significant when considering the level of grassland conservation in the Plan Area. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of potential American badger habitat in the Plan Area as a result of permanent development within and outside the UPAs. In addition, permanent development within 500 feet of American badger habitat, recurring maintenance activities within and outside UPAs, and covered activities on conservation lands could indirectly affect the species through visual and noise disturbances. The protection and management of potential American badger habitat under the BRCP conservation strategy would benefit American badger in the Plan Area. Impacts on American badger would be less than significant when considering the level of grassland conservation in the Plan Area. No mitigation is required.

Impact BIO-32: Effects on migratory deer (NEPA: less than significant; CEQA: less than significant)

Effects on migratory deer in the Plan Area [Columbian black-tailed deer (*Odocoileus hemionus columbianus*)] were evaluated qualitatively and are included in a review of BRCP Figure 3-20 (Deer Herds and Habitat Ranges in the Plan Area) and various maps in the BRCP depicting the UPAs and transportation improvement projects. The information on deer herds presented here is adapted from the *Butte County General Plan 2030*. The County general plan identifies two types of migratory deer habitat: critical winter range areas are those that are critical to the survival of migratory deer herds during severe winter conditions; winter range areas are those that provide habitat suitable for winter conditions but are not critical during severe winter conditions.

The full buildout of the UPAs under Alternative 2 would allow some development within winter deer herd range and critical winter deer herd range but would require that development be planned according to the Deer Herd Migration Area Overlay in the County general plan (see Figure LU-4 in the County general plan). This overlay, which the general plan defines as a more specific regulation to the underlying planning designations, states that development in the winter deer herd migration area requires a minimum lot size of 20 acres and that development in the critical winter deer herd migration area requires a minimum lot size of 40 acres; however, development in these areas may be clustered at smaller lot sizes than these minimums in order to protect the deer herd areas, provided that the nondevelopment areas are protected under permanent conservation easements.

A review of BRCP Figure 2-2 in comparison to BRCP Figure 3-20 for the East Tehama deer herd shows that residential development is proposed within a small amount of critical winter deer habitat in the northeast portion of the Chico UPA, and scattered residential development is proposed within winter deer range along the eastern limits of the Chico UPA—in particular, a large area along the south side of Butte Creek and in the Foothill UPA north of SR 191.

A substantial amount of residential development is proposed within critical winter deer range for the Buck Mountain herd from buildout of the area west of Lake Oroville; a small amount of development is proposed within the lower elevation winter deer range.

For the Mooretown deer herd, a small amount of residential development is proposed within critical winter habitat for the Mooretown herd east of Oroville, and a large amount is proposed in lower elevation winter habitat in the Bangor UPA and the southeastern corner of the Oroville UPA.

The BRCP has established objectives to protect at least 40% of the critical winter range habitat and 20% of winter range habitat for the East Tehama, Bucks Mountain, and Mooretown deer herds, comprising blue oak savanna, blue oak woodland, live oak woodland, and mixed oak woodland, within 45 years. The BRCP states that these protected areas will primarily be large patches of oak

woodlands that have sufficient interior habitat and are adjacent or connected to other large parcels of native habitats.

The County general plan limits development within wintering deer habitat. This provision, along with the BRCP's commitment to protect large amounts of wintering deer habitat and the amount of wintering deer habitat east of the Plan Area, ensures that implementation of the BRCP would not result in significant adverse effects on migratory deer.

NEPA Determination: Implementation of Alternative 2 would allow some development within winter deer herd range and critical winter deer herd range but would require that development be planned according to the Deer Herd Migration Area Overlay in the County general plan. In addition, the BRCP has established objectives to protect at least 40% of the critical winter range habitat and 20% of winter range habitat for the East Tehama, Bucks Mountain, and Mooretown deer herds. Therefore, it is unlikely that there would be significant impacts on migratory deer in the Plan Area resulting from implementation of Alternative 2. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would allow some development within winter deer herd range and critical winter deer herd range, but would require that development be planned according to the Deer Herd Migration Area Overlay in the County general plan. In addition, the BRCP has established objectives to protect at least 40% of the critical winter range habitat and 20% of winter range habitat for the East Tehama, Bucks Mountain, and Mooretown deer herds. Therefore, it is unlikely that there would be significant impacts on migratory deer in the Plan Area resulting from implementation of Alternative 2. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-33: Effects on wildlife migration corridors (NEPA: less than significant; CEQA: less than significant)

The potential effects of Alternative 2 on wildlife corridors in the Plan Area were evaluated qualitatively using map data from the California Essential Habitat Connectivity (CEHC) Project (Spencer et al. 2010). This information was used to determine if buildout of any of the UPAs would result in barriers across natural lands that serve as known or potential wildlife corridors. The CEHC identified natural blocks of habitat across California and areas that potentially provide linkages—or Essential Connectivity Areas (ECAs)—between these blocks. ECAs are defined as lands likely to be important to wildlife movement between large, mostly natural areas at the statewide level. The ECAs form a functional network of wildlands that are considered important to the continued support of California's diverse natural communities.

Two ECAs occur within the Plan Area. The Orland Buttes/ Stone Valley/ Julian Rocks–Ishi Wilderness ECA crosses the Plan Area at its northwest corner. This ECA connects the Sierra Nevada foothills to the north of, and including a portion of, the Plan Area to the rolling grasslands west of the Plan Area and ultimately to the Coast Ranges. The North Table Mountain–Ishi Wilderness ECA originates northeast of the Plan Area, enters the Plan Area just east of Chico, and continues south through the foothills to the outskirts of Oroville. This ECA connects the higher elevation Cascades to the northeast to the foothills along the Plan Area's eastern boundary.

Full buildout of the UPAs within the Cascade and Sierra CAZs would occupy a large portion of the North Table Mountain–Ishi Wilderness ECA and would consequently adversely affect wildlife corridors, including the movement of migratory deer. Capacity enhancements on SR 99 would likely

create additional barriers to east–west wildlife movements through the northern portion of the Plan Area.

The BRCP's criteria for selecting lands for preservation include the following measures that contribute to maintaining wildlife corridors.

- Level of contribution for maintaining local and regional ecological processes.
- Level of connectivity provided between and among existing conserved habitat areas.
- Level of contribution for preserving natural environmental gradients.
- Level of contribution toward establishment of large units of conserved lands.

The BRCP also commits to establishing five ecological corridors that link natural habitat and agricultural lands that provide some wildlife value. Three of these corridors generally cross the Plan Area from east to west and would be at least 1.2 miles wide. The other two link areas from north to south along the western edge of the Plan Area. One, specifically designed for giant garter snake, would be 0.6 mile wide. The other, along the Sacramento River, would serve to maintain and enhance the connectivity of riparian and wetland habitats along the river. The BRCP commits to undertake enhancements to minimize the effects of barriers and habitat gaps that adversely affect the movement of covered and other native wildlife species when establishing and maintaining these corridors.

The BRCP's effects on wildlife corridors in general would be offset by the establishment of the five ecological corridors.

NEPA Determination: Full buildout of the UPAs under Alternative 2 could affect wildlife corridors within the Plan Area and could create barriers to wildlife movement. Implementation of the BRCP under this alternative would establish five ecological corridors linking natural habitat and agricultural lands that provide some wildlife value. BRCP implementation would also provide other area enhancements to minimize barriers and habitat gaps that affect the movement of covered and other native wildlife species. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Full buildout of the UPAs under Alternative 2 could affect wildlife corridors within the Plan Area and could create barriers to wildlife movement. Implementation of the BRCP under this alternative would establish five ecological corridors linking natural habitat and agricultural lands that provide some wildlife value. BRCP implementation would also provide other area enhancements to minimize barriers and habitat gaps that affect the movement of covered and other native wildlife species. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-34: Effects on wetlands and waters of the United States (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP would result in the protection of up to approximately 9,622 acres of wetlands (includes riparian habitat, agricultural wetlands, and wetlands within grasslands using the assumptions in BRCP Table 3-16), 38 acres (17% of pond acreage) of other waters (equivalent of 80 ponds), and 52 linear miles (2%) of streams in the Plan Area (CM1). Approximately 626 acres of wetlands and 189 acres of riparian that could be considered wetland would be restored under the conservation strategy and conservation measures (CM4). Activities to Improve Urban Stormwater

Quality (BRCP 5.4.4) would provide funding for existing and future programs to improve the quality of stormwater runoff entering waters of the United States. CM5 would provide for the long-term management and enhancement of protected habitat in the Plan Area.

Alternative 2 would result in the permanent loss of at most 796 acres (1%) of wetlands and 25 acres (11% of pond acreage) of other waters (equivalent of 52 ponds) in the Plan Area (Table 6-6). There would be no permanent loss of linear miles of stream because the BRCP includes a commitment to avoid impacts on streams.

Permanent development adjacent to wetlands and waters of the United States could result in alterations in local ground and surface waters and the introductions of pollutants that could adversely affect the functions and values of wetlands and waters.

Covered activities on conservation lands would generally avoid and minimize disturbances of wetlands and waters. AMM1 from the BRCP requires the identification of wetlands and waters within permanent development project footprints through conducting a wetland delineation according to the most recent version of U.S. Army Corps of Engineers *1987 Wetland Delineation Manual*, applicable regional supplement, and mapping standards guidelines. AMM4 requires that projects be designed to avoid and minimize impacts on wetlands and waters, and AMM6 requires the establishment of permanent habitat buffers along stream and riparian corridors within permanent development projects.

Recurring maintenance activities adjacent to wetland and waters of the United States could result in the inadvertent introduction of invasive plant species, the accidental release of chemical pollutants into wetlands and waters, and sedimentation resulting from ground disturbing activities that could adversely affect the functions and values of wetlands and waters.

Considering the amount of protection and restoration; relevant AMMs to be implemented during permanent development projects; and long-term management of wetland and waters of the United States in the Plan Area, Alternative 2 would not significantly impact wetlands and waters of the United States in the Plan Area.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 796 acres of wetlands and 25 acres of other waters in the Plan Area. In addition, permanent development and recurring maintenance activities occurring adjacent to wetlands and waters of the United States could result in alterations in local ground and surface waters and the introduction of pollutants and invasive plant species that could adversely affect the function of these waters. Covered activities on conservation lands would generally avoid and minimize disturbances of wetlands and waters. In addition, AMMs implemented under this alternative would help avoid and minimize impacts to wetlands and waters of the United States in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 796 acres of wetlands and 25 acres of other waters in the Plan Area. In addition, permanent development and recurring maintenance activities occurring adjacent to wetlands and waters of the United States could result in alterations in local ground and surface waters and introduction of pollutants and invasive plant species that could adversely affect the function of these waters. Covered activities on conservation lands would generally avoid and minimize disturbances of wetlands and waters. In addition, AMMs implemented under this alternative would help avoid and

minimize impacts to wetlands and waters of the United States in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-35: Effects on chaparral (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy could result in the protection of small patches of chaparral that occur adjacent to oak woodlands. In addition, CM5 would provide for the long-term management and enhancement of protected habitat in the Plan Area.

Alternative 2 would result in the permanent loss of at most 389 acres (5%) of chaparral in the Plan Area (Table 6-7), most of which (295 acres) would be in the Sierra Foothills CAZ. This natural community represents potential habitat for several wildlife and rare plant species.

Permanent development adjacent to chaparral could result in the introduction of invasive plant species that would be affect species composition in this natural community.

Recurring maintenance activities within and adjacent to chaparral could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

The relative amount of chaparral affected in the Plan area is small (5%) and this natural community is not considered to be rare within the region. Therefore, Alternative 2 would not significantly impact this natural community.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 389 acres of chaparral in the Plan Area. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb this natural community through the introduction of invasive plant species, ground disturbance, and trimming and removal of vegetation. However, implementation of the BRCP conservation strategy could result in the protection of small patches of chaparral and would provide for the long-term management and enhancement of protected habitat in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 389 acres of chaparral in the Plan Area. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb this natural community through the introduction of invasive plant species, ground disturbance, and trimming and removal of vegetation. However, implementation of the BRCP conservation strategy could result in the protection of small patches of chaparral and would provide for the long-term management and enhancement of protected habitat in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-36: Effects on coniferous forest (NEPA: less than significant; CEQA: less than significant)

Alternative 2 would result in the permanent loss of at most 9 acres (60%) of coniferous forest in the Plan Area (Table 6-7), all of which would be in the Sierra Foothills CAZ.

Permanent development adjacent to coniferous forest could result in the introduction of invasive plant species that would affect species composition of native plant within this natural community.

Recurring maintenance activities within and adjacent to coniferous forest could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels, all of which could alter the species composition of this natural community.

The amount of coniferous forest affected in the Plan area is small (9 acres) and this natural community is common within the region and managed and protected in eastern Butte County in the Plumas National Forest. Therefore, Alternative 2 would not significantly impact this natural community.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 9 acres of coniferous forest in the Plan Area. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb this natural community through the introduction of invasive plant species, ground disturbance, and trimming and removal of vegetation. However, coniferous forest is common within the region and protected in eastern Butte County. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 9 acres of coniferous forest in the Plan Area. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb this natural community through the introduction of invasive plant species, ground disturbance, and trimming and removal of vegetation. However, coniferous forest is common within the region and protected in eastern Butte County. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-37: Effects on oak woodland and savanna natural communities (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of up to 20,491 acres (22%) of oak woodland and savanna in the Plan Area (CM1). In addition, CM5 would provide for the long-term management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands could result in effects on individual oak trees. The restoration of vernal pools and other seasonal wetlands in oak savanna could indirectly affect oak trees through alterations in surface and subsurface hydrology; however, this affect would likely be minimal, would only affect individual trees, and would not likely alter the community structure substantially.

Alternative 2 would result in the permanent loss of at most 11,324 acres (12%) of oak woodland and savanna in the Plan Area (Table 6-7). These losses would result from permanent development projects within and outside the UPAs.

Permanent development adjacent to oak woodland and savanna could result in the introduction of invasive plant species and alterations in local ground and surface waters that could affect species composition of these natural communities.

Recurring maintenance activities within and adjacent to oak woodland and savanna could result in the inadvertent introduction of invasive plant species, removal and trimming of trees for utility and

transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels, any of which could directly affect individual oak trees and could alter the species composition of these natural communities.

Considering the amount of protection, relevant AMMs to be implemented during permanent development projects, and long-term management of 20,491 acres (22%) of oak woodland and savanna in the Plan Area, Alternative 2 would not significantly impact the oak woodland and savanna natural community.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 11,324 acres of oak woodland and savanna in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of invasive plant species, ground disturbance, and trimming and removal of vegetation. However, implementation of the BRCP conservation strategy would protect up to 20,491 acres of oak woodland and savanna in the Plan Area and would also provide for the long-term management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 11,324 acres of oak woodland and savanna in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of invasive plant species, ground disturbance, and trimming and removal of vegetation. However, implementation of the BRCP conservation strategy would protect up to 20,491 acres of oak woodland and savanna in the Plan Area and would also provide for the long-term management and enhancement of protected habitat in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-38: Effects on grassland natural communities (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of up to 34,841 acres (34%) of grassland in the Plan Area (CM1). In addition, CM5 would provide for the long-term management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands to restore riparian habitat could remove up to 613 acres of grassland if all riparian restoration takes place in this community. The restoration of vernal pool and other seasonal wetlands would permanently alter 307 acres of grassland. Also, habitat enhancement and management activities in conservation lands could result in periodic disturbances of grasslands.

Alternative 2 would result in the permanent loss of at most 9,185 acres (9%) of grassland in the Plan Area. These losses would result from permanent development projects within and outside the UPAs.

Permanent development adjacent to grassland could result in the introduction of invasive plant species and alterations in local ground and surface waters that could affect species composition of these natural communities and affect vernal pools and seasonal wetlands within grasslands.

Recurring maintenance activities in and adjacent to grasslands could result in the inadvertent introduction of invasive plant species, ground disturbance associated with utility maintenance and the establishment of fire breaks that could alter surface and subsurface hydrology, and the accidental release of vehicle oils and fuels, any of which could alter the species composition of these natural communities and water quality in vernal pools and other seasonal wetlands found in grasslands.

Considering the amount of protection, relevant AMMs to be implemented during permanent development projects, and long-term management of 34,841 acres (34%) of grassland in the Plan Area, Alternative 2 would not significantly impact the grassland natural community.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 9,185 acres of grassland in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb this natural community through the introduction of invasive plant species and water pollutants, ground disturbance, and establishment of fire breaks. Further, covered activities on conservation lands to restore riparian habitat could remove up to 613 acres of grassland if all riparian restoration takes place in this community. The restoration of vernal pool and other seasonal wetlands would permanently alter 307 acres of grassland. Also, habitat enhancement and management activities in conservation lands could result in periodic disturbances of grasslands. However, implementation of the BRCP conservation strategy would protect and provide for the long-term management of up to 34,841 acres of grassland in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 9,185 acres of grassland in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb this natural community through the introduction of invasive plant species and water pollutants, ground disturbance, and establishment of fire breaks. Further, covered activities on conservation lands to restore riparian habitat could remove up to 613 acres of grassland if all riparian restoration takes place in this community. The restoration of vernal pool and other seasonal wetlands would permanently alter 307 acres of grassland. Also, habitat enhancement and management activities in conservation lands could result in periodic disturbances of grasslands. However, implementation of the BRCP conservation strategy would protect and provide for the long-term management of up to 34,841 acres of grassland in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-39: Effects on riparian natural communities (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of up to 6,370 acres (29%) and restoration of up to 189 acres of riparian natural communities in the Plan Area (CM1 and CM4). In addition, CM5 would provide for the long-term management and enhancement of protected habitat in the Plan Area.

Alternative 2 would result in the permanent loss of at most 346 acres (1.5%) of riparian natural communities in the Plan Area. These losses would result from permanent development projects within and outside the UPAs.

Permanent development adjacent to riparian habitat could result in the introduction of invasive plant species and alterations in local ground and surface waters that could affect species composition of these natural communities.

Recurring maintenance activities within and adjacent to riparian natural communities could result in the inadvertent introduction of invasive plant species, removal and trimming of trees for utility and transportation maintenance, ground disturbance associated with utility maintenance, and the accidental release of vehicle oils and fuels, any of which could directly affect riparian vegetation.

Considering the amount of protection and restoration, relevant AMMs to be implemented during permanent development projects, and long-term management of 6,559 acres of riparian natural communities in the Plan Area, Alternative 2 would not significantly impact the riparian natural community in the Plan Area.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 346 acres of riparian natural communities in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of invasive plant species and water pollutants, ground disturbance, and tree trimming. However, implementation of the BRCP conservation strategy would protect up to 6,370 acres and restore up to 189 acres of riparian natural communities in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 346 acres of riparian natural communities in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of invasive plant species and water pollutants, ground disturbance, and tree trimming. However, implementation of the BRCP conservation strategy would protect up to 6,370 acres and restore up to 189 acres of riparian natural communities in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-40: Effects on wetland natural communities (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of up to 695 acres (2%) and restoration of up to 126 acres of wetland natural communities in the Plan Area (CM1 and CM4). In addition, CM5 would provide for the long-term management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands would generally avoid and minimize any disturbances of wetland natural communities through implementation of the BRCP's applicable AMMs. CM5 is the only conservation measure that could potentially affect the BRCP wetland natural communities.

Alternative 2 would result in the permanent loss of at most 48 acres (0.1%) of wetland natural communities in the Plan Area. These losses would result from permanent development projects within and outside the UPAs. Effects on wetlands that are under USACE jurisdiction are addressed in Impact BIO-34.

Permanent development adjacent to wetlands could result in alterations in local ground and surface waters and the introduction of pollutants that could adversely affect wetland function and values.

Recurring maintenance activities adjacent to wetland natural communities could result in the inadvertent introduction of invasive plant species, the accidental release of chemical pollutants into wetlands, and sedimentation resulting from ground disturbing activities, any of which could adversely affect wetland functions and values.

Considering the amount of protection and restoration, relevant AMMs to be implemented during permanent development projects, and long-term management of 821 acres of wetland natural communities in the Plan Area, Alternative 2 would not significantly impact the wetland natural communities in the Plan Area.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 48 acres of wetland natural communities in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of invasive plant species and water pollutants and through ground disturbance. However, implementation of the BRCP conservation strategy would protect up to 695 acres and restore up to 126 acres of wetland natural communities in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 48 acres of wetland natural communities in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of invasive plant species and water pollutants and through ground disturbance. However, implementation of the BRCP conservation strategy would protect up to 695 acres and restore up to 126 acres of wetland natural communities in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-41: Effects on aquatic natural communities (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of up to 52 linear miles (15%) of stream channel and 80 ponds (27%) in the Plan Area (CM1). The conservation strategy would provide funding support for existing stormwater management programs to reduce the load and concentrations of pollutants in urban runoff entering streams and rivers in the Plan Area. In addition, CM5 would provide for the long-term management and enhancement of protected habitat in the Plan Area.

Covered activities on conservation lands would entail installation of fish screens on water diversions, removal of barriers from channels that impede upstream and downstream movement of covered fish species, and placement of gravel in channel to replenish the supply of salmonid spawning gravels; these activities would permanently alter the structure of some aquatic habitats.

Alternative 2 would result in the permanent loss of at most 52 ponds (11%) in the Plan Area. These losses would result from permanent development projects within and outside the UPAs. Effects on waters of the United States are addressed in Impact BIO-34.

Permanent development adjacent to aquatic natural communities could result in alterations in local ground and surface waters and the introduction of pollutants that could adversely affect aquatic function and values.

Recurring maintenance activities in and adjacent to aquatic natural communities could result in the accidental release of chemical pollutants into waters and sedimentation resulting from ground-disturbing activities; such releases could adversely affect aquatic functions and values.

Considering the amount of protection, relevant AMMs to be implemented during permanent development projects, and long-term management of aquatic natural communities in the Plan Area, Alternative 2 would not significantly impact the aquatic natural communities in the Plan Area.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 52 ponds in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of water pollutants. Covered activities on conservation land could permanently alter the structure of some aquatic habitats. However, implementation of the BRCP conservation strategy would protect up to 52 linear miles stream channel and 80 ponds in the Plan Area, would provide for the long-term management and enhancement of aquatic natural communities in the Plan Area, and would provide funding support for existing stormwater management programs to reduce the load and concentrations of pollutants in urban runoff entering streams and rivers in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 52 ponds in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could disturb these natural communities through the introduction of water pollutants. Covered activities on conservation land could permanently alter the structure of some aquatic habitats. However, implementation of the BRCP conservation strategy would protect up to 52 linear miles stream channel and 80 ponds in the Plan Area, would provide for the long-term management and enhancement of aquatic natural communities in the Plan Area, and would provide funding support for existing stormwater management programs to reduce the load and concentrations of pollutants in urban runoff entering streams and rivers in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-42: Effects on agricultural land cover for native wildlife (NEPA: less than significant; CEQA: less than significant)

Implementation of the BRCP conservation strategy would result in the protection of up to 26,962 acres of agricultural lands (23,182 acres of riceland and 3,780 acres of irrigated pasture/irrigated cropland) in the Plan Area (19%). In addition, CM5 would provide for the long-term management and enhancement of protected agricultural lands in the Plan Area.

Covered activities on conservation lands could temporarily disturb agricultural lands but would ultimately improve these lands for use by covered wildlife species.

Alternative 2 would result in the permanent loss of at most 3,822 acres (3%) of agricultural lands in the Plan Area. These losses would result from permanent development projects within and outside the UPAs.

Permanent development adjacent to agricultural lands could result in alterations in local ground and surface waters that could affect agricultural practices and the land's value for use by covered and other native wildlife species.

Recurring maintenance activities adjacent to agricultural lands could result in the inadvertent introduction of invasive plant species that could degrade the habitat value of agricultural crops for native wildlife species.

Considering the amount of protection, relevant AMMs to be implemented during permanent development projects, and long-term management of 26,962 acres of agricultural lands, Alternative 2 would not significantly impact agricultural lands that provide habitat for native wildlife species.

NEPA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 3,822 acres of agricultural land in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could result in alterations in local ground and surface waters that could affect agricultural practices and the land's value for use by covered and other native wildlife species, as well as degrade the habitat value of agricultural land due to the introduction of invasive plant species. However, implementation of the BRCP conservation strategy would protect up to 26,962 acres of agricultural lands in the Plan Area, and would provide for the long-term management and enhancement of protected agricultural lands in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: Implementation of Alternative 2 would result in the permanent loss of up to 3,822 acres of agricultural land in the Plan Area as a result of permanent development projects within and outside the UPAs. In addition, permanent development and recurring maintenance activities in the Plan Area could result in alterations in local ground and surface waters that could affect agricultural practices and the land's value for use by covered and other native wildlife species, as well as degrade the habitat value of agricultural land due to the introduction of invasive plant species. However, implementation of the BRCP conservation strategy would protect up to 26,962 acres of agricultural lands in the Plan Area, and would provide for the long-term management and enhancement of protected agricultural lands in the Plan Area. In addition, relevant AMMs would be implemented during permanent development projects in the Plan Area. Therefore, this impact would be less than significant. No mitigation is required.

Alternative 3—Reduced Development/Reduced Fill

Alternative 3 is similar to Alternative 2 except that it uses the various general plan EIR reduced development alternatives as described in Chapter 2, *Proposed Action and Alternatives*, to create a single reduced development footprint. Covered activities under this alternative would be similar to those described in the BRCP but would be limited to the reduced development footprint for a

reduced permit term of 30 years. The reduced footprint and reduced land conservation would result in fewer built structures and less ground disturbance.

It is anticipated that under Alternative 3, fewer acres of natural communities would be conserved because reduced development would provide reduced funding for the conservation strategy. However, it is anticipated that the conservation measures would be the same because the reduction of fill would be achieved through the reduced development footprint of the Local Agencies' general plans rather than through modification of the conservation measures. Consequently, the impacts related to implementation of the conservation strategy and conservation measures would be the same as under Alternative 2.

Impact BIO-1: Effects on tricolored blackbird (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on tricolored blackbird would be similar to those under Alternative 2 but would result in permanent impacts on 9,033 acres (compared to 12,617 acres under Alternative 2) of modeled habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for tricolored blackbird under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for tricolored blackbird under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-2: Effects on yellow-breasted chat (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on yellow-breasted chat would be similar to those under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-3: Effects on bank swallow (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on bank swallow would be similar to those under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-4: Effects on western burrowing owl (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on western burrowing owl would be similar to those under Alternative 2 but would result in permanent impacts on 11,347 acres (compared to 14,496 acres under Alternative 2) of modeled habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for western burrowing owl under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for western burrowing owl under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-5: Effects on western yellow-billed cuckoo (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on western yellow-billed cuckoo would be similar to those under Alternative 2 but would result in permanent impacts on 13 acres (compared to 50 acres under Alternative 2) of modeled habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for western yellow-billed cuckoo under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for western yellow-billed cuckoo under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-6: Effects on greater sandhill crane (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on greater sandhill crane would be similar to those under Alternative 2 but would result in permanent impacts on 691 acres (compared to 1,764 acres under Alternative 2) of modeled habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for greater sandhill crane under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for greater sandhill crane under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-7: Effects on California black rail (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on California black rail would be similar to those under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-8: Effects on American peregrine falcon (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on American peregrine would be similar to those under Alternative 2 but would result in permanent impacts on 2,398 acres (compared to 3,759 acres under Alternative 2) of modeled foraging habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled foraging habitat for American peregrine under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled foraging habitat for American peregrine under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-9: Effects on Swainson's hawk (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on Swainson's hawk would be similar to those under Alternative 2 but would result in permanent impacts on 8,310 acres (compared to 11,312 acres under Alternative 2) of modeled habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for Swainson's hawk under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for Swainson's hawk under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-10: Effects on white-tailed kite (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on white-tailed kite would be similar to those under Alternative 2 but would result in permanent impacts on 12,334 acres (compared to 16,183 acres under Alternative 2) of modeled habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for white-tailed kite under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for white-tailed kite under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-11: Effects on bald eagle (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on bald eagle would be similar to those under Alternative 2 but would result in permanent impacts on 4,699 acres (compared to 6,277 acres under Alternative 2) of modeled nesting and seasonal foraging habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled nesting and seasonal foraging habitat for bald eagle under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled nesting and seasonal foraging habitat for bald eagle under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-12: Effects on giant garter snake (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on giant garter snake would be similar to those under Alternative 2 but would result in permanent impacts on 14 miles of movement habitat and 1,322 acres of modeled habitat (compared to 18 miles and 3,194 acres, respectively, under Alternative 2) in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of habitat for giant garter snake under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of habitat for giant garter snake under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-13: Effects on Blainville's horned lizard (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on Blainville's horned lizard would be the same as under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-14: Effects on western pond turtle (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on western pond turtle would be similar to those under Alternative 2 but would result in permanent impacts on 3,857 acres of modeled habitat, 5 linear miles of perennial stream habitat, and 21 ponds (compared to 4,606 acres, 5 linear miles, and 24 ponds, respectively, under Alternative 2) in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of habitat for western pond turtle under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of habitat for western pond turtle under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-15: Effects on foothill yellow-legged frog (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on foothill yellow-legged frog would be similar to those under Alternative 2 but would result in the loss of 1,069 acres of modeled habitat (compared to 1,189 acres under Alternative 2) in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for foothill yellow-legged frog under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for foothill yellow-legged frog under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required

Impact BIO-16: Effects on western spadefoot (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on western spadefoot would be similar to those under Alternative 2 but would result in the loss of 21 potential breeding ponds and 8,123 acres of the modeled western spadefoot habitat (non-pond breeding and upland) (compared to 22 ponds and 10,142 acres, respectively, under Alternative 2) in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of modeled habitat for western spadefoot under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for western spadefoot under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-17: Effects on Chinook salmon (spring- and fall-/late fall–run) and Central Valley steelhead (NEPA: less than significant; CEQA: less than significant)

Alternative 3 would result in the permanent alteration of 0.40 mile (0.3%) of spring-run Chinook habitat, 0.34 mile (0.2%) of fall-run Chinook salmon habitat, and 0.57 mile (0.3%) of steelhead habitat—slightly less than under Alternative 2. The same amount of critical habitat would be lost as under Alternative 1. All other effects would be the same as under Alternative 2. Overall, this would be a beneficial effect.

NEPA Determination: The resulting loss of habitat for Chinook salmon and Central Valley Steelhead under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of habitat for Chinook salmon and Central Valley Steelhead under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-18: Effects on Sacramento splittail (NEPA: less than significant; CEQA: less than significant)

The effects under Alternative 3 would be the same as those under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-19: Effects on green sturgeon (NEPA: less than significant; CEQA: less than significant)

Alternative 3 would result in the permanent alteration of 0.02 mile (0.04%) of green sturgeon habitat from construction of new or replacement bridges—less than under Alternative 2. All other effects would be similar to those under Alternative 2. Overall, effects on green sturgeon would be beneficial.

NEPA Determination: The resulting loss of habitat for green sturgeon under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of habitat for green sturgeon under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-20: Effects on river lamprey (NEPA: less than significant; CEQA: less than significant)

Alternative 3 would result in the permanent alteration of 0.02 mile (0.04%) of river lamprey habitat associated with construction of new and replacement bridges—less than under Alternative 2. All other effects would be the same as under Alternative 2.

NEPA Determination: The resulting loss of habitat for river lamprey under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of habitat for river lamprey under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-21: Effects on valley elderberry longhorn beetle (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on valley elderberry longhorn beetle would be similar to those under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-22: Effects on vernal pool crustaceans (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on modeled vernal pool crustacean habitat would be the same as under Alternative 2.

Alternative 3 would result in loss of three vernal pool tadpole shrimp occurrences (18% of those in the Plan Area), three vernal pool fairy shrimp occurrences (10% of those in the Plan Area), and three occurrences of California linderiella (60% of those in the Plan Area). The Plan includes a commitment to avoid affecting known occurrences of Conservancy fairy shrimp.

Alternative 3 would also result in the permanent loss of up to 313 acres (5%) of designated critical habitat for vernal pool fairy shrimp in the Plan Area, and up to 474 acres (2%) of designated critical habitat for vernal pool tadpole shrimp.

The effects of other covered activities on vernal pool crustaceans would be similar to those under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2 because not all mitigation and conservation actions for all vernal pool crustaceans would be implemented. Additionally, those mitigation actions that would be implemented would be on a case-by-case basis and would not be part of a large, interconnected regional conservation strategy; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-23: Effects on Red Bluff dwarf rush (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on Red Bluff dwarf rush would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-24: Effects on Butte County meadowfoam (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on Butte County meadowfoam would be similar to those under Alternative 2, but less modeled habitat would be affected. Alternative 3 would result in the loss of 294 acres of modeled primary habitat and 600 acres of modeled secondary habitat. Slightly less critical habitat for Butte County meadowfoam, 372.6 acres, would be affected under Alternative 3 than under Alternative 2.

NEPA Determination: The resulting loss of critical habitat and modeled primary and secondary habitat for Butte County meadowfoam under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of critical habitat and modeled primary and secondary habitat for Butte County meadowfoam under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-25: Effects on Butte County checkerbloom (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on Butte checkerbloom would be similar to those under Alternative 2, but less modeled habitat would be affected. Alternative 3 would result in the loss of 2,539 acres of modeled habitat.

NEPA Determination: The resulting loss of modeled habitat for Butte County checkerbloom under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for Butte County checkerbloom under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-26: Effects on other special-status plants (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on other special-status plants would be similar to those under Alternative 2, but less modeled habitat for Ferris' milkvetch and Butte County golden clover would be affected. Covered activities would result in the loss of 129 acres of modeled habitat for Ferris' milkvetch and the loss of 202 acres of modeled habitat for Butte County golden clover.

As described under Alternative 2, the conservation and avoidance and minimization measures in the BRCP do not apply to noncovered special-status species; however covered activities that affect occurrences and habitat of noncovered special status plants would be mitigated on a project-by-project basis for discretionary projects. Mitigation of any type is unlikely for impacts from projects that are not subject to discretionary review. In addition, ancillary benefits are expected to occur to these plant species as a result of the conservation strategy because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support these types of noncovered special-status plants.

NEPA Determination: The impact determination would be the same as Alternative 2; impacts would be less than significant.

CEQA Determination: The impact determination would be the same as Alternative 2; impacts would be less than significant.

Impact BIO-27: Effects on Antioch Dunes and Sacramento anthicid beetles (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on Antioch Dunes and Sacramento anthicid beetles would be the same as under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-28: Effects on hardhead (NEPA: less than significant; CEQA: less than significant)

The effects under Alternative 3 would be the same as those under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-29: Effects on noncovered special-status and migratory birds (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on noncovered birds would be similar to those under Alternative 2 but would affecting less habitat because the development footprint is expected to be smaller under this alternative when compared to Alternative 2. The impact acreages associated with the natural communities that provide the various habitats for these species are presented in Table 6-4.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

Construction activities; recurring maintenance activities; and BRCP restoration, enhancement, and management actions could adversely affect noncovered special-status nesting birds, as well as other birds protected under the MBTA. However, as described under Alternative 2 compliance with the MBTA and California Fish and Game Code would be required and pre-construction surveys, avoidance and minimization measures, and other actions to reduce disturbance to these species would be implemented.

NEPA Determination: The impact determination would be the same as Alternative 2; this impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; this impact would be less than significant. No mitigation is required.

Impact BIO-30: Effects on bats (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on bats would be similar to those under Alternative 2 but would result in permanent impacts on 10,278 acres (compared to 11,659 acres under Alternative 2) of potential tree roosting habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The impact determination would be the same as Alternative 2. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-31: Effects on American badger (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on American badger would be similar to those under Alternative 2 but would result in permanent impacts on 6,416 acres (compared to 7,776 acres under Alternative 2) of potential habitat in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The impact determination would be the same as Alternative 2. The impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2 The impact would be less than significant. No mitigation is required?

Impact BIO-32: Effects on migratory deer (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on migratory deer would be greatly reduced relative to those under Alternative 2. Alternative 3 would not affect critical winter deer habitat the Chico UPA and would reduce by approximately half the impacts on critical winter deer habitat for the Bucks Mountain deer herd west of Lake Oroville compared to Alternative 2. Impacts on the lower elevation winter deer habitat would also be reduced.

The conservation strategy under Alternative 3 would generally result in less protection than under Alternative 2; however, it is assumed that protection acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting impacts on habitat for migratory deer under this alternative is less than those under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting impacts on habitat for migratory deer under this alternative is less than those under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-33: Effects on wildlife migration corridors (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on wildlife migration corridors would be generally similar to those under Alternative 2, but Alternative 3 would result in less widespread development and consequently in less disruption of natural lands and wildlife corridors.

The conservation strategy for the development of ecological corridors is assumed to be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-34: Effects on wetlands and waters of the United States (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on wetlands and waters of the United States would be same as those under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2 because not all mitigation and conservation actions for all wetlands would be implemented. Additionally, those mitigation actions that would be implemented would be on a case-by-case basis and would not be part of a large, interconnected regional conservation strategy; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-35: Effects on chaparral (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on chaparral would be similar to those under Alternative 2 but would result in the loss of 369 acres (compared to 389 acres under Alternative 2) of chaparral in the Plan Area (Table 6-7).

NEPA Determination: The resulting loss of chaparral acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of chaparral acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-36: Effects on coniferous forest (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on coniferous forest would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-37: Effects on oak woodland and savanna natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on oak woodland and savanna would be similar to those under Alternative 2 but would result in the loss of 9,943 acres (compared to 11,324 acres under Alternative 2) of oak woodland and savanna in the Plan Area (Table 6-7).

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of oak woodland and savanna acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of oak woodland and savanna acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-38: Effects on grassland natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on grasslands would be similar to those under Alternative 2 but would result in the loss of 7,825 acres or 7.6% (compared to 9,185 acres or 8.9% under Alternative 2) of grasslands in the Plan Area (Table 6-7), a difference of less than 2%.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of grasslands acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of grasslands acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-39: Effects on riparian natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on riparian would be same as those under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-40: Effects on wetland natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on wetland natural communities would be same as those under Alternative 2.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that those resources subject to the same effects as under Alternative 2 would receive the same protection and restoration acreages.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-41: Effects on aquatic natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on aquatic natural communities would be similar to those under Alternative 2 but would result in the loss of 45 ponds (compared to 52 ponds under Alternative 2) in the Plan Area.

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of grasslands acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of grasslands acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-42: Effects on agricultural land cover for native wildlife (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on agricultural land cover would be similar to those under Alternative 2 but would result in the loss of 1,876 acres (compared to 3,822 acres under Alternative 2) of agricultural lands in the Plan Area (Table 6-7).

The conservation strategy under Alternative 3 would generally result in less protection and restoration than under Alternative 2; however, it is assumed that protection and restoration acreages for Alternative 3 would be scaled accordingly to the impact acreages.

NEPA Determination: The resulting loss of agricultural land cover acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of agricultural land cover acreage under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Alternative 4—Greater Conservation

Alternative 4 would be similar to Alternative 2 except that under Alternative 4, the conservation strategy would include the conservation of an additional 9,850 acres of grassland and 35,310 acres of riceland. Alternative 4 would include the same conservation measures as Alternative 2, and all other acreage protection targets for natural communities/land types would be the same as described under Alternative 2. Therefore, impact mechanisms for agricultural resources would be similar to those described for Alternative 2.

Impact BIO-1: Effects on tricolored blackbird (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on tricolored blackbird would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grasslands and an additional 3,920 acres of irrigated pasture and irrigated cropland that would increase the amount of protected foraging habitat for this species.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-2: Effects on yellow-breasted chat (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on yellow-breasted chat would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-3: Effects on bank swallow (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on bank swallow would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-4: Effects on western burrowing owl (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on western burrowing owl would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grassland, increasing the amount of protected foraging habitat for this species.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-5: Effects on western yellow-billed cuckoo (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on western yellow-billed cuckoo would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-6: Effects on greater sandhill crane (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on greater sandhill crane would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-7: Effects on California black rail (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on California black rail would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-8: Effects on American peregrine falcon (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on American peregrine falcon would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grassland, increasing the amount of protected foraging habitat for this species.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-9: Effects on Swainson's hawk (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on Swainson's hawk would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grassland, increasing the amount of protected foraging habitat for this species.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-10: Effects on white-tailed kite (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on white-tailed kite would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grassland, increasing the amount of protected foraging habitat for this species.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-11: Effects on bald eagle (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on bald eagle would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-12: Effects on giant garter snake (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on giant garter snake would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would increase protection of riceland by up to 35,310 acres, greatly increasing the amount of modeled giant garter snake habitat conserved in the Plan Area. This could constitute a beneficial effect.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-13: Effects on Blainville's horned lizard (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on Blainville's horned lizard would be the same as under Alternative 2.

The conservation strategy under Alternative 4 could potentially increase the amount of protected habitat for Blainville's horned lizard through the protection of an additional 9,850 acres of grasslands that could contain specific habitat elements for this species (e.g., bare and/or sandy soils).

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-14: Effects on western pond turtle (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on western pond turtle would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grassland that could contain ponds and suitable upland habitat for pond turtles.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-15: Effects on foothill yellow-legged frog (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on foothill yellow-legged frog would be the same as under Alternative 2.

The increased protection of grassland in the Cascade and Sierra Foothill CAZs under Alternative 4 could provide additional buffers to protect foothill yellow-legged frogs from disturbance and indirect effects.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-16: Effects on western spadefoot (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on modeled western spadefoot habitat would be the same as under Alternative 2.

The conservation strategy under Alternative 4 could potentially increase the amount of aquatic and upland habitat protected through the protection of an additional 9,850 acres of grasslands that could contain small vernal pools and ponds.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-17: Effects on Chinook salmon (spring- and fall-/late fall–run) and Central Valley steelhead (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-18: Effects on Sacramento splittail (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-19: Effects on green sturgeon (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-20: Effects on river lamprey (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-21: Effects on valley elderberry longhorn beetle (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on valley elderberry longhorn beetle would be the same as under Alternative 2.

The increased protection of grassland under Alternative 4 could increase protection of modeled valley elderberry longhorn beetle if protected areas are within 0.25 mile of riparian habitats and perennial streams, as defined in the BRCP valley elderberry longhorn beetle species model.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-22: Effects on vernal pool crustaceans (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on modeled vernal pool crustacean habitat would be the same as under Alternative 2.

The conservation strategy under Alternative 4 could potentially increase the amount of protected vernal pool crustacean habitat through the protection of an additional 9,850 acres of grasslands, if these grasslands contain small vernal pools that were not at the scale of mapping done for BRCP.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-23: Effects on Red Bluff dwarf rush (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the effects on Red Bluff dwarf rush would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-24: Effects on Butte County meadowfoam (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on Butte County meadowfoam would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-25: Effects on Butte County checkerbloom (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on Butte County checkerbloom would be similar to those under Alternative 2. The amount of protected modeled habitat may be greater than under Alternative 2 if additional grassland is protected where Butte County checkerbloom is present.

NEPA Determination: The resulting loss of modeled habitat for Butte County checkerbloom under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

CEQA Determination: The resulting loss of modeled habitat for Butte County checkerbloom under this alternative is less than that under Alternative 2, and thus would be less than significant. No mitigation is required.

Impact BIO-26: Effects on other special-status plants (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on other covered and noncovered special-status plants would be similar to those under Alternative 2. The amount of protected modeled habitat may be greater than under Alternative 2 if additional grassland is protected where Ferris' milkvetch or other noncovered grassland species are present.

NEPA Determination: The impact determination would be the same as Alternative 2. Impacts would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; impacts would be less than significant. No mitigation is required.

Impact BIO-27: Effects on Antioch Dunes and Sacramento anthicid beetles (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on Antioch Dunes and Sacramento anthicid beetles would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-28: Effects on hardhead (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-29: Effects on noncovered special status and migratory birds (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on noncovered special status birds and migratory birds would be the same as under Alternative 2. The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grasslands and an additional 3,920 acres of irrigated pasture and irrigated cropland that would increase the amount of protected habitat for species that use these habitats and this would be considered beneficial.

NEPA Determination: The impact determination would be the same as Alternative 2; this impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; this impact would be less than significant. No mitigation is required.

Impact BIO-30: Effects on bats (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on bats would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grasslands and an additional 3,920 acres of irrigated pasture and irrigated cropland that would increase the amount of protected foraging habitat for this species.

NEPA Determination: The impact determination would be the same as Alternative 2. Therefore, this impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2. Therefore, this impact would be less than significant. No mitigation is required.

Impact BIO-31: Effects on American badger (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on American badger would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would protect an additional 9,850 acres of grassland, increasing the amount of protected habitat for this species.

NEPA Determination: The impact determination would be the same as Alternative 2, less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2, less than significant. No mitigation is required.

Impact BIO-32: Effects on migratory deer (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on migratory deer would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-33: Effects on wildlife migration corridors (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on wildlife corridors would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would increase protected lands in the Plan Area by up to 35,310 acres more than under Alternative 2. These additional protections would likely contribute to the establishment of the five ecological corridors identified in the conservation strategy.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-34: Effects on wetlands and waters of the United States (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on wetlands and waters of the United States would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-35: Effects on chaparral (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on chaparral would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-36: Effects on coniferous forest (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on coniferous forest would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-37: Effects on oak woodland and savanna natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on oak woodland and savanna would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-38: Effects on grassland natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on grassland would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would increase grassland protection by 9,850 acres, which would have a beneficial effect on grassland communities.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-39: Effects on riparian natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on riparian natural communities would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-40: Effects on wetland natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on wetland natural communities would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-41: Effects on aquatic natural communities (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on aquatic natural communities would be the same as under Alternative 2.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

Impact BIO-42: Effects on agricultural land cover for native wildlife (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the effects on agricultural land cover would be the same as under Alternative 2.

The conservation strategy under Alternative 4 would increase riceland protection by up to 35,310 acres, greatly increasing the amount of agricultural lands conserved in the Plan Area.

NEPA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

CEQA Determination: The impact determination would be the same as Alternative 2; the impact would be less than significant. No mitigation is required.

6.2.4 Cumulative Analysis

Methods and Approach

The cumulative analysis for effects on biological resources is a qualitative evaluation using the past, present, and reasonably foreseeable future projects listed in Chapter 3, Section 3.3.2, under *Cumulative Impacts*; the Local Agencies' general plan EIR impact determinations for cumulative impacts, where applicable; and the impact determinations identified above for the various alternatives.

- Construction and operation of new flood control and water diversion facilities on the Sacramento River and the Feather River under control of DWR and USACE.
- Emergency activities.
- Ongoing agricultural land conversions (e.g., conversion of cropland to vineyard).
- Water transfers by various water districts within the County to water purveyors in other California counties.
- FERC relicensing to reoperate Oroville hydroelectric facilities.
- Implementation of Yuba Sutter HCP/NCCP.

This analysis assesses whether the covered activities would result in a cumulatively considerable incremental contribution that, when combined with past, present, and reasonably foreseeable future projects, would result in a cumulatively significant impact.

Cumulative Impacts

Alternative 1—No Action (No Plan Implementation)

The County and the Cities of Chico, Gridley, and Oroville determined in their respective general plans that loss of habitat for special-status species from development associated with implementation of those general plans would constitute a cumulatively considerable contribution to a cumulative impact on biological resources in the region. Under Alternative 1, individual projects would be expected to mitigate direct and indirect effects on biological resources. However, those projects would have limited or no ability to mitigate cumulative effects on those resources because the BRCP's conservation strategy would not be in place to coordinate mitigation and conservation throughout the Plan Area. Accordingly, the cumulative impacts on biological resources would remain significant.

Alternative 2—Proposed Action

Development projects and operations and maintenance activities covered under the Local Agencies' general plans and by the BRCP would contribute to cumulative effects on biological resources in the Plan Area in combination with past impacts. However, the BRCP is designed to be comprehensive, covering almost all the development and operations and maintenance activities in the Plan Area. The full implementation of the BRCP provides for the conservation and long-term management of covered species and their habitats to offset the direct, indirect, and cumulative effects of these activities and projects. The BRCP is intended to contribute to the recovery of covered species, an objective that exceeds mitigation for the effects of the covered activities, including mitigation for cumulative effects. In addition, the BRCP establishes maximum limits for impacts on some covered species habitats and natural communities that are less than impacts that would result from implementation of the general plan in the absence of the Plan. Species not covered by the BRCP (i.e., noncovered special-status species) would also benefit from the BRCP conservation strategy's approach to preserving and enhancing large contiguous blocks of natural habitats and agricultural lands in the Plan Area. Considering the limits on take set by the BRCP, the regional scale of the conservation strategy designed to address cumulative impacts on covered species and natural communities, long-term management and monitoring of conservation lands, and BRCP's contribution to species recovery, Alternative 2 would not result in a cumulatively considerable contribution to cumulative effects on biological resources.

Alternative 3—Reduced Development/Reduced Fill

The contribution of Alternative 3 to cumulative effects on biological resources in the Plan Area and region would be similar to that under Alternative 2. Alternative 3 would generally result in fewer impacts on covered species' habitats and natural communities, but it would also generally result in less protection. Because of its comprehensive approach to mitigation, conservation, and covered species recovery, Alternative 3 would not result in a cumulatively considerable contribution to cumulative effects on biological resources.

Alternative 4—Greater Conservation

The contribution of Alternative 4 to cumulative effects on biological resources in the Plan Area and region would be similar to that under Alternative 2. Alternative 4 would result in more beneficial effects on species that use grasslands and ricelands. Consequently, Alternative 4 would not result in a cumulatively considerable contribution to cumulative effects on biological resources.

6.3 References

Butte County. 2012. *Butte County General Plan 2030*. Adopted October 26, 2010. Amended November 6, 2012. Oroville, CA. Available: <http://www.buttegeneralplan.net/products/2012-11-06_GPA_ZO_Adopted/ButteCountyGP2030_Amended.pdf>. Accessed: February 25, 2013.

Butte County Association of Governments. 2012. *Butte Regional Conservation Plan—Balancing Growth and Conservation*. Preliminary Public Draft. November. Prepared by SAIC. Available: <http://www.buttehcp.com/Document/index.html>. Accessed: June 3, 2011.

California Department of Fish and Game. 2009. *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. November 24. California Natural Resources Agency. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/protocols_for_surveying_and_evaluating_impacts.pdf>. Accessed: July 7, 2013.

———. 2011. *Special Animals (898 taxa)*. January. Biogeographic Data Branch. California Natural Diversity Database. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf>. Accessed: July 7. 2013.

California Department of Fish and Wildlife. 2013a. California Natural Diversity Database, RareFind 3. Version 3.1.0 (April 2, 2013. update). Sacramento, CA.

———. 2013b. *Special Vascular Plants, Bryophytes, and Lichens List*. Natural Diversity Database. April. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPPlants.pdf>. Accessed: June 2013.

California Native Plant Society. 2013. *Inventory of Rare and Endangered Plants* (online edition, v7-13jun). Last revised: June 6, 2013. Available: <http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi>. Accessed: July 2013.

City of Biggs. 1998. *City of Biggs General Plan 1997–2015*. January 12. Biggs, CA. Prepared by Pacific Municipal Consultants. Chico, CA. Available: <http://www.biggsgeneralplan.com/documents/General_Plan.pdf>. Accessed: March 13, 2013.

City of Chico. 2011. *Chico 2030 General Plan*. April. Chico, CA. Available: <http://www.chico.ca.us/document_library/general_plan/documents/CompleteGeneralPlan.pdf>. Accessed: February 25, 2013.

City of Gridley. 2010. *2030 General Plan*. February 15. Gridley, CA. Available: <http://www.gridley.ca.us/city-departments/planning-department/documents>. Accessed: February 25, 2013.

City of Oroville. 2009. *Oroville 2030 General Plan*. Submitted June 2. Oroville, CA. Prepared by Design, Community, and Environment. Berkeley, CA, in association with Fehr & Peers Associates and Jones & Stokes Associates, Inc. Available: <http://www.cityoforoville.org/index.aspx?page=451#1>. Accessed: February 22, 2013.

Sommer. T. R., B. Harrell, M. Nobriga. 2005. Habitat Use and Stranding Risk of Juvenile Chinook Salmon on a Seasonal Floodplain. *North American Journal of Fisheries Management* 25(8):1493–1504.

Sommer. T. R., B. Harrell, M. Nobriga, R. Brown, P. Moyle, W. Kimmerer, and L. Schemel. 2001. California's Yolo Bypass: Evidence that Flood Control Can be Compatible with Fisheries, Wetlands, Wildlife, and Agriculture. *Fisheries* 26(8):6–16.

Spencer, W. D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J Strittholt, M. Parisi, and A Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a connected California*. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Association. Available: <http://www.dfg.ca.gov/habcon/connectivity/>. Accessed; July 2013.

———. 2013. *List of Endangered and Threatened Species That May Occur in Butte County*. Last revised: September 18, 2011. Available: <http://www.fws.gov/sacramento/es/spp_list.htm>. Accessed: April 19, 2013.