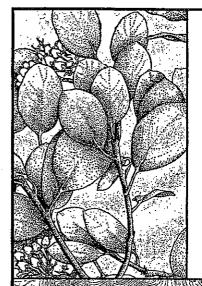
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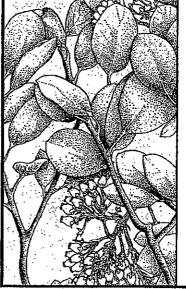


Biological Resources Survey Report

for the

Mammoth Bar Off-Highway Motor Vehicle Area Placer County, California





Prepared for:



U.S. Bureau of Reclamation

and



California Department of Parks and Recreation

Prepared by:



Main Jones & Stokes

February 2000

Biological Resource Report for the Mammoth Bar Off-Highway Motor Vehicle Area, Placer County, CA

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February 2000

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Executive Summary

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The Mammoth Bar Off-Highway Motor Vehicle Area, a unit of the Auburn State Recreation Area, proposes to expand the existing facility by 710 acres and to add about 7 miles of engineered trails. There will be a riparian setback zone in which no new trails will be allowed within 300 feet of the riverbank's high water mark, and in which existing trails to the Middle Fork American River would be closed and restored to natural habitats.

Jones & Stokes conducted a prefield investigation and field surveys to describe existing biological resources and evaluate potential impacts on biological resources from the proposed project. The purpose of the prefield investigation was to review existing information and to prepare lists of special-status plant and wildlife species known to occur or with potential to occur in the project area.

Jones & Stokes wildlife biologist Ed Whisler and botanist Petra Unger conducted field surveys at the project site on June 2, July 21, and July 30, 1999. Ed Whisler conducted a separate bird survey on July 3, 1999. The objectives were to map biological resources present at the site, to identify sensitive resources that could impose constraints upon the project, and to determine the potential of state and federally listed and other special-status species to occur on the site. The biologists, both on foot and in vehicles, compiled lists of plant and wildlife species observed, surveyed for special-status species, and consulted with park ranger Dave Collins on proposed vegetation management activities as well as on past and present management practices in the park.

Common and sensitive biological communities and special-status species were identified on the project site. The sensitive biological communities include valley and foothill riparian woodland, seasonal wetland, and seasonal drainage. No special-status plants were observed at the site during the 1999 field survey. One special-status wildlife species was encountered at the site, i.e., yellow-breasted chats (on the south side of the Middle Fork American River); additionally, valley elderberry longhorn beetle habitat (i.e., elderberry shrubs) was identified.

Biological resources that could be affected by project implementation include riparian woodlands, riverine habitat, seasonal drainages, serpentine and gabbroic special-status plants, valley elderberry longhorn beetle, yellow-breasted chat, special-status bats, and ringtails. Mitigation measures have been identified to avoid, minimize, or reduce potential impacts on biological resources.

Section 1. Introduction

The California Department of Parks and Recreation (DPR) is proposing to expand the Mammoth Bar Off-Highway Motor Vehicle Area (Mammoth Bar OHVA). The Bureau of Reclamation (Bureau) contracted with Jones & Stokes to prepare a biological resource report of the Mammoth Bar OHVA.

DESCRIPTION OF THE PROJECT AREA

Location

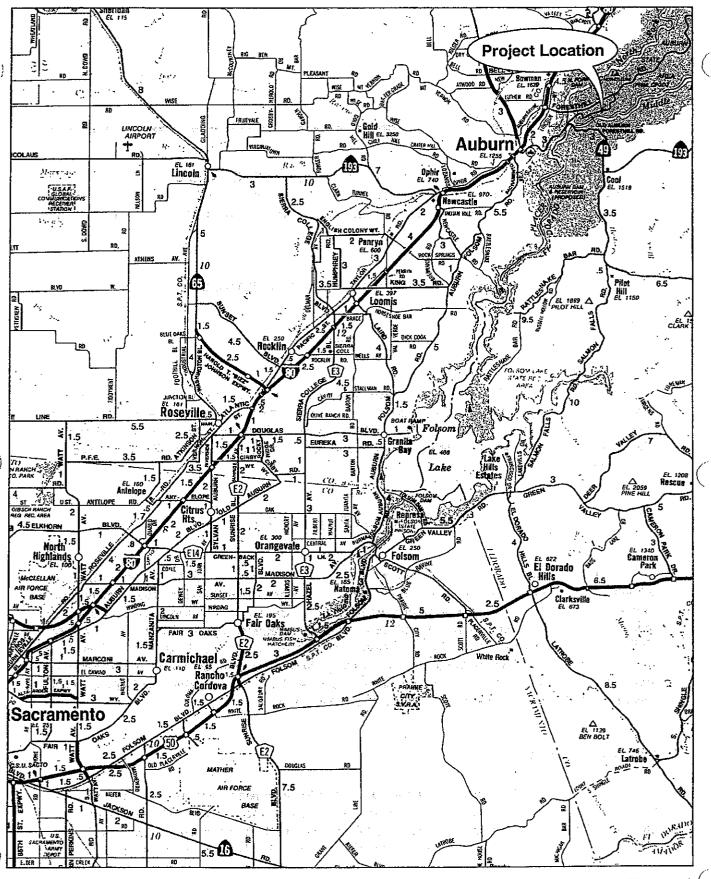
The Mammoth Bar OHVA is located in Placer County, approximately 2.5 miles east of Auburn (Figure 1). The existing 850-acre area is on the north side of the Middle Fork American River canyon. Elevations range from 600 feet to 1,536 feet. The proposed expansion of Mammoth Bar OHVA will add approximately 710 acres east of the existing area with elevations reaching approximately 1,900 feet.

Administrative Responsibilities

The Mammoth Bar OHVA is located in the Auburn State Recreation Area on federal land administered by the Bureau. Mammoth Bar OHVA is managed by DPR under a 1977 management agreement with the Bureau. The Auburn State Recreation Area General Plan identified off-highway vehicle (OHV) riding on designated trails as the major recreation opportunity at Mammoth Bar OHVA (California Department of Parks and Recreation 1978). More recently, the Interim Resource Management Plan prepared for the Bureau acknowledged OHV use and recommended that additional studies be completed to evaluate natural resources and health and safety concerns at Mammoth Bar OHVA (California Department of Parks and Recreation 1992).

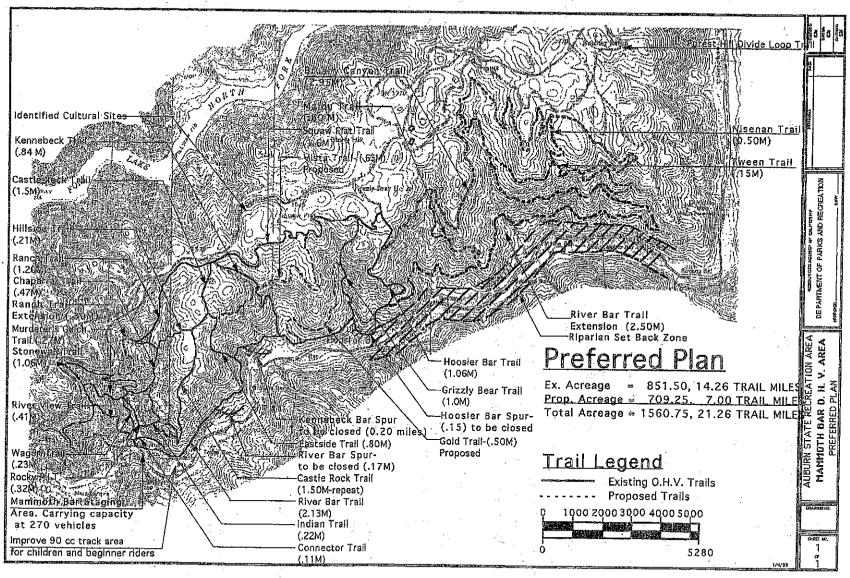
Previous Management

In the early 1980's there were an estimated 35 miles of unmanaged trails in the Mammoth Bar OHVA. DPR closed and rehabilitated trails and currently allows recreational use on 14 miles of trails and a moto-cross track (Figure 2). Recreational use records indicate approximately 20,000 OHV enthusiasts use Mammoth Bar OHVA annually; records for 1999 indicate use increased to



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Figure 1 (Mammoth Bar O.H.V. Area



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Figure 2
Preferred Plan for the Mammoth Bar O.H.V. Area

approximately 28,000 enthusiasts. The area is also used by hikers, mountain bikers, and river rafters. Currently:

- riding is permitted only on designated trails to reduce disturbance to natural resources,
- riding is restricted to daylight hours when personnel are available for patrol, and
- trails are closed temporarily during wet weather to prevent trail damage and reduce soil erosion.

Mammoth Bar OHVA is also required to comply with the new "red sticker" program. In response to air quality concerns, all OHVs and all-terrain vehicles manufactured after January 1, 1997 must comply with new emission standards to register under the existing green sticker registration program. All new vehicles that do not meet those emission standards will be required to register under the red sticker program and can only be ridden during limited seasons. The riding season for red sticker vehicles at Mammoth Bar OHVA is October 1 to May 31; it is anticipated that this will reduce OHVA recreation during the warm summer months.

Two established fuelbreaks extend along ridgebacks from the American River to the Old Foresthill Road. One fuelbreak is on the ridge leading down to Mammoth Bar and the other is on the ridge west of Brush Mountain Canyon. The fuelbreaks were established before creation of the Auburn State Recreation Area to reduce the potential spread of wildfire and to provide suppression crews with a safe area for direct and indirect suppression activities. In 1998, DPR and California Department of Forestry and Fire Protection treated approximately 600 acres to reduce fuel hazards. Approximately 300 acres of mature chaparral were uprooted with a chain and burned under a prescribed burn regimen.

Proposed Management

DPR is proposing to expand the current OHVA area by opening 710 additional acres and constructing approximately 7 miles of new trails in the expansion (Figure 2). The trails will be approximately 4 feet wide and constructed along slope contours. All existing riding requirements will apply to the expansion. Additionally, no new trails will be constructed in a riparian setback defined as the area within 300 feet of the high water mark. It is anticipated that additional vegetation management will be implemented to reduce fire hazards in both the existing and the proposed expansion areas.

SUMMARY OF RESULTS

Common and sensitive biological communities and special-status species were identified on the project site. The sensitive biological communities at the site include valley and foothill riparian woodland, seasonal wetland, and seasonal drainage. No special-status plants were observed at the site during the 1999 field survey. Special-status wildlife species at the site include valley elderberry longhorn beetle habitat (i.e., elderberry shrubs), yellow-breasted chats (on the south side of the Middle Fork American River), pale Townsend's big-eared bat, small-footed myotis, and ringtail.

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Data presented in this report were gathered during a prefield investigation and during onsite field visits.

PREFIELD INVESTIGATION

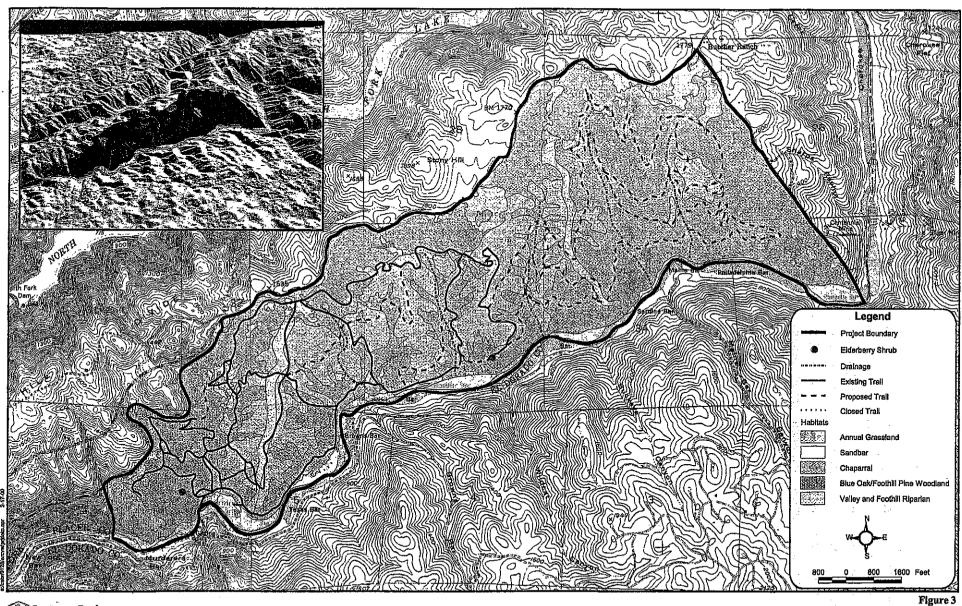
The purpose of the prefield investigation was to review existing information and to prepare lists of special-status plant and wildlife species known to occur or potentially occurring in the project area. Sources of existing information included a record search of the California Department of Fish and Game's (DFG's) Natural Diversity Database (NDDB) for the Auburn and Greenwood 7.5-minute topographic quadrangles; the California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Vascular Plants of California (Skinner and Pavlik 1994); materials provided by DPR, including a previously conducted botanical study of the site (Madeiros 1998); a memorandum including a list of special-status species potentially occurring at the site provided by the U.S. Fish and Wildlife Service (USFWS) (USFWS 1998) (Appendix A); and Jones & Stokes in-house file information including the Final Biological Data Report for the American River Watershed (Jones & Stokes 1996a). The biologists also reviewed the soils survey of Placer County to determine whether the project site includes soils capable of supporting special-status plant species. Prior to conducting the first field visit, the biologists also met with representatives from DPR and the Bureau to discuss the focus of the study and to identify any known concerns about the proposed expansion.

FIELD SURVEYS

Iones & Stokes wildlife biologist Ed Whisler and botanist Petra Unger conducted field surveys at the project site on June 2, July 21, and July 30, 1999. Ed Whisler conducted a separate bird survey on July 3, 1999. The objectives were to map biological resources present at the site, to identify sensitive resources that could impose constraints upon the project, and to determine the potential of state and federally listed and other special-status species to occur on the site. The biologists, both on foot and in vehicles, compiled lists of plant and wildlife species observed, surveyed for special-status species, and consulted with park ranger Dave Collins on proposed vegetation management activities as well as past and present management practices in the park.

Biological communities were mapped on two orthophotos of the site, provided by DPR, at a scale of approximately 1 inch = 400 feet. Biological community data were subsequently transferred to topographic maps in the office and digitized using AutoCAD. In addition to these surveys, three

point counts were conducted in the chaparral, blue oak/foothill pine, and riverine habitats in the existing and proposed expansion areas to obtain preliminary information on the avian species composition of these habitats. The avian point counts consisted of an observer recording all birds heard or seen from a single point for 5 minutes. Three counts were conducted in each habitat type identified above in the existing and proposed expansion area. This information was used to make a differential comparison between species counts in the existing OHVA and the undeveloped adjoining habitat.



∰ Jones & Stokes

Figure 3 Natural Communities and Trails at the Mammoth Bar OHVA Auburn State Recreation Area

This section describes the biological resources encountered at the site, followed by a discussion of special-status species occurring or with potential to occur at the site. Common and scientific names of plant and wildlife species mentioned in the text and observed at the site are provided in Appendices B and C.

BIOLOGICAL COMMUNITIES

Mammoth Bar OHVA is located along the northern bank of the Middle Fork American River which flows almost directly from east to west. The area therefore has a generally southern exposure and is dominated by biota adapted to a hot dry climate. Biological communities found at the site were classified based on the Guide to Wildlife Habitats in California (California Department of Fish and Game 1988). Seven major biological communities were identified at Mammoth Bar OHVA: blue oak/foothill pine, annual grassland, chaparral, valley and foothill riparian, sand bar, and riverine (Figure 3). Small polygons of disturbed areas such as roadsides and parking lots as well as small seasonal wetlands included in the grassland habitat of the upper canyon were not mapped as separate polygons. There are no activities planned at this time that would affect these resources. The locations of seasonal drainages are indicated in Figure 3. Table 1 provides acreages occupied by each community in the existing and proposed OHVA's. Each of the biological communities present at the site is briefly described below.

Table 1. Acreage of Biological Communities at the Existing and Proposed Expanded Mammoth Bar OHVA, Auburn State Recreation Area, Placer County

Biological Community	Acres Existing Area	Acres Proposed Area	Total
Blue oak/foothill pine	686	955	1641
Annual grassland	89	126	215
Chaparral	354	150	544
Valley and foothill riparian	13	24	20
Sand bar	45	. 24	69
Riverine	30	22	52

The biological communities in the existing area and proposed expansion area are very similar to each other. The annual grasslands occur mostly in the existing area, primarily in the fuel breaks. The blue oak/foothill pine occurs throughout both areas, while chaparral occurs mostly in the existing area. Valley and foothill riparian, riverine, and sand bars occur along the southern border in both areas.

Blue Oak/Foothill Pine Woodland

Blue oak/foothill pine woodland is the dominant biological community at the site (Table 1). The dominant plant species that characterize this community vary in association with elevation and topographic features such as drainages and ridge tops. Close to the American River and in the drainages and draws of the canyon, interior live oak is the dominant tree species in this community. Codominant trees include bay laurel and madrone. Typical understory shrubs are toyon, buckbrush, and poison oak. Much of the woodland is characterized by dense stands of trees forming a closed canopy.

At higher elevations towards the eastern edge of the park the oak woodland intergrades with foothill pine woodland, characterized by interspersed foothill pine. Blue oak woodland occurs along the ridge forming the Mammoth Bar OHVA's northern boundary. Other species of pine observed at the park include scattered ponderosa pine and sugar pine. Occasional Douglas-fir occurs in the cooler and moister canyon bottoms. Seasonal drainages traverse the oak/foothill pine woodland from north to south and drain into the Middle Fork American River (Figure 3). These drainages appear to qualify as "waters of the United States" and would likely be subject to Corps jurisdiction under Section 404 of the Clean Water Act (CWA).

Blue oak/foothill pine woodlands in the Mammoth Bar OHVA provide high-quality habitat for many wildlife species. Acorns are an important food resource for many wildlife species in the study area, including wild turkeys, California quail, acorn woodpeckers, white-breasted nuthatches, oak titmice, Western scrub jays, black-tailed deer, Western gray squirrels, and California ground squirrels. The abundant black-tailed deer are the primary prey species for mountain lions that are known to occur in the project area (Collins pers. comm.). Oak trees, especially blue oaks, also provide nest sites for cavity nesting birds, including ash-throated flycatchers, Western bluebirds, woodpeckers, nuthatches, titmice, and squirrels. Many other wildlife species were observed in the woodlands at Mammoth Bar OHVA, including Pacific-slope flycatchers, Bullock's orioles, lesser goldfinches, Bewick's wrens, and red-tailed hawks.

Annual Grassland

Annual grassland occurs on two fuel breaks in the existing park (Table 1, Figure 3). Smaller patches of annual grassland are present on the park's northern boundary along Foresthill Road and as open patches among the oak woodland described above (Figure 3). Species typical of annual

grassland include soft chess, ripgut brome, wild oats, clovers, and other annual herbs. Yellow starthistle is very common in the annual grassland and forms almost continuous stands in large areas of the fuel breaks. Rose-clover is also present in the fire breaks, probably as part of the seed mix planted in the area. The stands of yellow star-thistle in the fuel breaks displace more desirable native species. The staff at Mammoth Bar OHVA is currently implementing a prescribed burn approach to control yellow star thistle in the park (Collins pers. comm.). A few seasonal wetland areas associated with seeps in the annual grassland community occur along the northern perimeter of the park.

Annual grasslands in the study area provide breeding and foraging habitat and cover for many species observed using these grasslands including wild turkeys, California quail, mourning doves, redtailed hawks, barn swallows, California towhees, lesser goldfinches, house finches, western meadowlarks, coyotes, gray foxes, Botta's pocket gophers, California ground squirrels, black-tailed deer, and western fence lizards. Other wildlife species expected to occur in the study area grasslands include gopher snakes, Gilbert's skinks, northern alligator lizards, western kingbirds, and American crows.

Chaparral

Much of the chaparral on the project site (Table 1, Figure 3) is dominated by chamise which forms dense, almost impenetrable stands. Other more open areas, characterized by associations of manzanita and buckbrush with higher incidence of grasses and forbs, occur throughout the area.

Chaparral provides cover for several common shrub-dependent wildlife species, including California quail, wrentits, spotted towhees, and California towhees. Other wildlife species observed in the chaparral include Bewick's wrens, bushtits, Anna's hummingbirds, black-tailed deer, Botta's pocket gophers, gopher snakes, and coyotes. Because of the extreme density of most stands of chaparral, large mammals such as black-tailed deer and mountain lions use the OHV trails as movement corridors.

Valley and Foothill Riparian Habitat

Valley and foothill riparian habitat occurs as a narrow band along the bank of the American River (Table 1, Figure 3). Typical species of the riparian habitat at Mammoth Bar OHVA include white alder, sandbar willow, arroyo willow, red willow, and cottonwood. Occasional introduced trees such as black locust, fig, and tree of heaven are also present. Two elderberry shrubs were observed along the bank and in adjacent woodland.

The riparian habitat in the study area supports limited numbers of riparian-dependent wildlife because the vegetation is narrow and patchy. Despite this, however, it provides cover and foraging habitat for a variety of wildlife species, including belted kingfisher, downy woodpecker, Anna's

hummingbird, bushtits, Townsend's warblers, and lesser goldfinches. The patches of willows along the river provide cover for black-tailed deer.

Sand Bars

Sand bars occur along the banks of the American River, where frequent scouring keeps the substrate of sand or gravel mostly devoid of vegetation (Table 1, Figure 3). The sand and gavel bars along the river provide roosting and foraging sites for a variety of wildlife including raccoons, striped skunks, weasels, spotted sandpipers, killdeer, as well as tadpoles of Pacific chorus frog and western toads in the shallow water.

Riverine

Riverine habitat is represented by the Middle Fork American River which forms the southern boundary of the study area (Table 1, Figure 3). Due to the fast-moving nature of the river, the riverine habitat is characterized by open water and is devoid of vegetation. The American River is considered a "water of the United States" and is subject to Corps jurisdiction under Section 404 of the CWA.

Many wildlife species use the high-quality riverine habitat in the study area for wintering, breeding, foraging, rearing young, and during migration. Water birds such as common merganser, killdeer, spotted sandpiper, and belted kingfisher breed and rear their young along the river. Aerial feeding birds such as tree swallows, violet-green swallows, barn swallows, cliff swallows, and black phoebes feed on insects over the water during the spring, summer, and early fall. During the winter months, common mergansers, common goldeneyes, ospreys, and belted kingfishers forage and roost along the river.

SPECIAL-STATUS SPECIES

Special-status species are plants and animals that are legally protected under state and federal endangered species acts (ESA)s or other regulations, as well as species considered sufficiently rare by the scientific community to qualify for such listing. Special-status plants and animals fall into the following categories:

species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the Federal Register (FR) [proposed species]);

- species that are candidates for possible future listing as threatened or endangered under the federal ESA (61 FR 7596-7613, February 28, 1996);
- species listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (14 California Code of Regulations (CCR) 670.5);
- species that meet the definitions of rare, threatened or endangered under CEQA (State CEQA Guidelines, Section 15380);
- plants listed as rare or endangered under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 et seq.);
- plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (Lists 1B and 2 in Skinner and Pavlik 1994);
- plants listed by CNPS as plants about which more information is needed to determine their status, and plants of limited distribution (Lists 3 and 4 in Skinner and Pavlik 1994) which may be included as special-status species on the basis of local significance or recent biological information;
- animal species of special concern to DFG (Remsen 1978 [birds], Williams 1986 [mammals], and Jennings and Hayes 1994 [amphibians and reptiles]); and
- animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

DEFINITIONS OF SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are communities that are especially diverse, regionally uncommon, or of special concern to local, state and/or federal agencies. Elimination or substantial degradation of these communities would constitute a significant impact under CEQA. The valley and foothill riparian woodlands described above, the occurrences of seasonal wetlands in the annual grassland matrix, and the seasonal drainages traversing the oak woodland, would all qualify as sensitive natural communities.

SPECIAL-STATUS PLANTS

During the prefield investigation, Jones & Stokes reviewed the USFWS project list (Appendix A) and the NDDB. Twenty special-status plants were identified from these lists. Jones & Stokes evaluated each of the species and determined that suitable habitat was present for only 10

of these species (Table 2). Seven of these species (i.e., Stebbin's morning glory, Pine Hill ceanothus, Red Hill soaproot, Pine Hill flannelbush, El Dorado bedstraw, Layne's butterweed, and El Dorado mule ears) are limited to serpentine or Gabbroic soils. A review of the soil survey of Placer County for the project area revealed that most of the study area is characterized by Auburn, Sobrante and Boomer soils, intermixed with metamorphic rock outcrops. While the main mapping units are not characterized as serpentine or gabbroic substrates, some of the outcrops may be comprised of serpentine rocks and may therefore provide suitable habitat for special-status plant species (Madeiras 1998). Many of these outcrops are on very steep and inaccessible slopes.

Three other special-status plants (i.e., Nisenan manzanita, saw-toothed lewisia, and Stebbin's phacelia) could occur in dense, inaccessible stands of chaparral. No special-status plants were observed during the 1999 field visits conducted by Jones & Stokes. The 1998 surveys (Madeiras 1998) conducted during the spring and early summer of 1998 by staff and students of American River College indicated the presence of Red Hill soaproot at Mammoth Bar OHVA; however, none were seen during the 1999 field surveys. The search of DFG's NDDB for the project area did not reveal any known occurrences of special-status plants. Table 2 provides rating of the potential of plant species to occur in the park based on the habitat types present and the results of the field surveys.

The Carson Range rock cress, Truckee barberry, Donner Pass buckwheat, long-petaled lewisia, and Tahoe yellow cress are not likely to occur in the Mammoth Bar OHVA because they occur at higher elevations. There was no suitable habitat present in the Mammoth Bar OHVA for the Hispid bird's beak (alkaline meadows and playas), Plumas ivesia (vernal pools on volcanic substrates), Ahart's rush (vernal pool), legenere (vernal pool), and Sanford's arrowhead (freshwater marsh).

SPECIAL-STATUS WILDLIFE

A list of all special-status wildlife species that could occur in the project vicinity is presented in Table 3. Table 3 includes their legal status, distribution in California, habitat requirements, reasons for decline, and occurrence in the study area.

One special-status wildlife species, the yellow-breasted chat, was found adjacent to the study area, specifically along the south side of the Middle Fork American River during the 1999 field surveys (Table 3). Chats were also found in the same area during 1994 (Jones & Stokes file data). Although the chats were observed foraging and singing on the south side of the river, they could also forage on the north side of the river in the patches of riparian vegetation. It is unlikely that yellow-breasted chats would nest on the north side of the Mammoth Bar OHVA because the riparian vegetation is too narrow and naturally fragmented, limiting the amount of habitat required for nesting.

Suitable valley elderberry longhorn beetle (VELB) habitat (i.e., elderberry shrubs) was observed during the 1999 field surveys and during 1994 VELB surveys (Jones & Stokes 1995). Elderberry shrubs are the host plant for VELB, a species listed as threatened under the federal ESA. Two shrubs were found in blue oak/foothill pine woodland in the existing OHV area (Figure 3).

Table 2. Special-Status Plant Species with Potential to Occur at the Mammoth Bar OHV

Common Name Scientific Name	Status Fed/State/CNPS	Distribution	Habitat	Flowering Period	Potential to occur in the study area
Nisenan manzanita Arctostaphylos nissenana	SC/-/1B	El Dorado and Tuolumne Counties	Metamorphic substrates in chaparral and closed-cone coniferous forest	Feb-Mar	low; potential habitat present in rocky areas that were difficult to survey; none observed during field surveys
Stebbin's morning glory Calystegia stebbinsii	SC/E/1B	El Dorado and Nevada Counties	Chaparral and cismontane woodland on serpentine and gabbroic substrates	May-Jun	low; potential habitat present in rocky areas that were difficult to survey; none observed during field surveys
Pine Hill ceanothus Ceanothus roderickii	C/R/1B	El Dorado County	Chaparral and cismontane woodland, often on serpentine and gabbroic substrates	May-Jun	low; potential habitat present in rocky areas that were difficult to survey; none observed during field surveys
Red Hills soaproot Chloragalum grandiflorum	SC//1B	El Dorado, Placer and Tuolumne Counties	Gabbroic and serpentine substrates in northern mixed chaparral, serpentine chaparral, and foothill pine woodland	May-Jun	Possibly found by Madeiros in 1998; none observed in 1999; potential habitat present in rocky areas that were difficult to survey
Pine Hill flannelbush Fremontodendron decumbens	C/R/1B	El Dorado and Nevada Counties	Chaparral and cismontane woodland on serpentine and gabbroic substrates	Apr-Jun	low; potential habitat present in rocky areas that were difficult to survey; none observed during field surveys

Common Name Scientific Name	Status Fed/State/CNPS	Distribution	Habitat	Flowering Period	Potential to occur in the study area
El Dorado Bedstraw Galium californicum ssp. sierrae	SC/R/1B	El Dorado County	Restricted to gabbroic substrates in shaded spots in chaparral, cismontane	May-Jun	low, potential habitat present in rocky areas that were difficult to
			woodland and lower montane coniferous forest		survey; none observed during field surveys
Saw-toothed lewisia Lewisia serrata	SC//1B	El Dorado and Placer Counties	Broadleaf upland forest, lower montane coniferous forest, riparian forest	May-Jun	low, potential habitat present in rocky areas that were difficult to survey; none observed during field surveys
Stebbin's phacelia Phacelia stebbinsii	SC//1B	El Dorado and Placer Counties	Meadows, cismontane woodland, lower montane coniferous forest	Jun	low; potential habitat present in rocky areas that were difficult to survey; none observed during field surveys
Layne's butterweed Senecio layneae	PE/R/1B	El Dorado and Tuolumne Counties	Chaparral and cismontane woodland on serpentine and gabbroic substrates	Apr-Jul	low; potential habitat present in rocky areas that were difficult to survey; none observed during field surveys
El Dorado mule ears Wyethia reticulata	SC//1B	El Dorado County	Chaparral, cismontane woodland, lower montane coniferous forest, on clay or gabbroic substrates	May-Jui	low; potential habitat present in rocky areas that were difficult to survey; none observed during field surveys

Low potential: suitable habitat exists at Mammoth Bar OHVA, but species has not been observed during 1998 and 1999 surveys

State

R=listed as rare under the California Native Plant Protection Act. This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.

E=listed as endangered under the federal Endangered Species Act.

Federal

SC=species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.

C=species for which USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list, but issuance of the proposed rule is precluded.

PE=proposed for federal listing as endangered under the federal Endangered Species Act.

California Native Plant Society

1B=List 1B species: rare, threatened, or endangered in California and elsewhere.

Common Name and Scientific Name	Status * Federal/State	California Distribution	Habitats	Reason for Decline or Concern	Occurrence in Study Area
Spiny rhyacophilan caddisfly Rhyacophila spinata	SC/	Small tributaries of the American River, just below the Foresthill area	Well aerated riffles in clear, cold, swift streams	The historic distribution of this species is unknown, and thus the extent of decline or potential reasons for decline are also unknown	No suitable streams occur in the study area; not expected to occur in the study area
Valley elderberry longhorn beetle Desmocerus californicus dimorphus	T/	Streamside habitats below 3,000 feet through the Central Valley of California	Riparian and oak savanna habitats with elderberry shrubs; elderberry is host plant	Loss and fragmentation of riparian habitats	Suitable habitat (i.e., elderberry shrubs) occur along the Middle Fork American River in the Study Area
California red-legged frog Rana aurora draytoni	T/SSC	Found along the coast and coastal mountain ranges of California from Humboldt County to San Diego County; Sierra Nevada (mid-elevations [above 1,000 feet] from Butte County to Fresno County)	Permanent and semipermanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation and riparian species along edges; may estivate in rodent burrows or cracks during dry periods	Alteration of stream and wetland habitats, overharvesting (historically), habitat destruction, competition and predation by fish and bullfrogs	No records; no suitable stream or pond habitat occurs in the study area; the Middle Fork American River probably does not support this species in the study area
Foothill yellow-legged frog Rana boylii	SC/SSC	Occurs in the Klamath, Cascade, north Coast, south Coast, and Transverse Ranges; through the Sierra Nevada foothills up to approximately 6,000 feet (1,800 meters) south to Kern County	Creeks or rivers in woodlands or forests with rock and gravel substrate and low overhanging vegetation along the edge; usually found near riffles with rocks and sunny banks nearby	Reduced habitat quality from alteration of stream hydrology, predation by non-native aquatic fauna, habitat loss to urbanization	No recent occurrences in the study area; potential habitat occurs along the Middle Fork of the American River

Table 3. Continued

Common Name and Scientific Name	Status ^a Federal/State	California Distribution	Habitats	Reason for Decline or Concern	Occurrence in Study Area
Northwestern pond turtle Clemmys marmorata marmorata	SC/SSC	In California, range extends from Oregon border of Del Norte and Siskiyou Counties south along coast to San Francisco Bay, inland through Sacramento Valley, and on western slope of Sierra Nevada; range overlaps with that of southwestern pond turtle through the Delta and Central Valley to Tulare County	Woodlands, grasslands, and open forests; occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation	Loss and alteration of aquatic and wetland habitats, habitat fragmentation	No records; none observed during field surveys
Osprey Pandion haliaetus	/SSC	Nests along the north coast from Marin County to Del Norte County, east through the Klamath and Cascade Ranges, and the upper Sacramento Valley; important inland breeding populations at Shasta Lake, Eagle Lake, and Lake Almanor with small populations south through the Sierra Nevada; winters along the coast	Nests in snags or cliffs or other high, protected sites near the ocean, large lakes, or rivers with abundant fish populations	Vulnerable to human disturbance at nest sites, pesticide contamination; breeding range and populations increasing in many areas	Does not nest in the study area; probably an occasional visitor, especially during the winter
	,	from San Mateo County to San Diego County	1 N.		

Common Name and Scientific Name	Status ^a Federal/State	California Distribution	Habitats	Reason for Decline or Concern	Occurrence in Study Area
Bald eagle Haliaeetus leucocephalus	T/E	Nests in Siskiyou, Modoc, Trinity, Shasta, Lassen, Plumas, Butte, Tehama, Lake, and Mendocino Counties and in the Lake Tahoe Basin; reintroduced into central coast region; winter range includes the rest of California except southeastern deserts, very high altitudes in the Sierras, and east side of the Sierra Nevada south of Mono County; range expanding	In western North America, nests and roosts in coniferous forests within 1 mile of lakes, reservoirs, streams, or ocean	Nest sites vulnerable to human disturbance, pesticide contamination	Does not nest in the study area; probably an occasional visitor, especially during the winter
Cooper's hawk Accipiter cooperii	/SSC	Throughout California except high altitudes in the Sierra Nevada; winters in the Central Valley, southeastern desert regions, and plains east of the Cascade Range; permanent residents occupy rest of state	Nests primarily in riparian forests dominated by deciduous species; also nests in densely canopied forests from gray or foothill? pine-oak woodland up to ponderosa pine; forages in open woodlands	Human disturbance at nest sites, loss of riparian habitats (especially in the Central Valley); pesticide contamination	None observed during the field surveys; probably a winter visitor to the study area
Golden eagle Aquila chrysaetos	PR/SSC, FP	Foothills and mountains throughout California; uncommon nonbreeding visitor to lowlands such as the Central Valley	Nests in cliffs and escarpments or tall trees; hunts in annual grasslands, chaparral, and oak woodlands with abundant mammal populations	Habitat loss to urbanization; vulnerable to disturbance at nest sites	Does not nest in the study area; probably an occasional visitor

Common Name and Scientific Name	Status ^a Federal/State	California Distribution	Habitats	Reason for Decline or Concern	Occurrence in Study Area
American peregrine falcon Falco peregrinus anatum	/E		Nests and roosts on protected ledges of high cliffs, usually adjacent to lakes, rivers, or marshes that support large bird populations	Pesticide contamination; population recovering	Does not nest in the study area; probably an occasional visitor
•					
Yellow-breasted chat Icteria virens	/SSC	Uncommon migrant in California; nests in a few locations with appropriate habitat, such as Sweetwater and Weber Creeks, El Dorado County; Pit River, Shasta County; Russian River, Sonoma County; Little Lake Valley, Mendocino County; and upper Putah Creek, Yolo County	Nests in dense riparian habitat dominated by willow, alder, Oregon ash, tall weeds, blackberry vines, and grapevines	Loss of riparian breeding habitat	Observed on the south side of the Middle Fork American River during 1994 and 1999; probably nest on south side of river where riparian and woodland vegetation provides suitable nesting and foraging habitat

Common Name and Scientific Name	Status a Federal/State	California Distribution	Habitats	Reason for Decline or Concern	Occurrence in Study Area
Bell's sage sparrow Amphispiza belli belli	SC/SSC	Western Sierra foothills from El Dorado County south to Mariposa County; inner Coast Ranges from Shasta County southward,	Prefers chaparral habitats dominated by chamise	Unknown	Probably rare in Placer County; none observed during field surveys
		extending to vicinity of coast from Marin County to San Diego County; from southern San Benito County to San Bernardino County; absent from			
		innermost Coast Ranges and desert slopes of San Gabriel and San Bernardino Mountains	The second secon		
Fringed myotis Myotis thysanodes	SC/	Sierra Nevada, Klamath Mountains, Coast Ranges, and Transverse and Peninsular Ranges	Open woodlands	Unclear; possibly human disturbance	No known occurrences; potential along upper American River
Long-eared myotis Myotis evotis	SC/	Sierra Nevada, Klamath Mountains, Coast Ranges, and Transverse and Peninsular Ranges	Woodlands	Unclear; possibly human disturbance	No known occurrences; potential along upper American River
Small-footed myotis Myotis ciliolabrum	SC/	Sierra Nevada; south Coast, Transverse, and Peninsular Ranges; and the Great Basin	Open stands in forests and woodlands, as well as shrublands; uses caves, crevices, and abandoned buildings	Unclear; possibly human disturbance	No known occurrences; potential along upper American River

Table 3. Continued

Common Name and Scientific Name	Status ^a Federal/State	California Distribution	Habitats	Reason for Decline or Concern	Occurrence in Study Area
Long-legged myotis Myotis volans	SC/	Mountains throughout California	Most common in woodlands and forests above 4,000 feet, but occurs from sea level to 11,000 feet	Unclear; possibly human disturbance	No known occurrences; potential along upper American River
Pale Townsend's (=western) big- eared bat Plecotus townsendii pallescens	SC/SSC	Klamath Mountains, Cascades, Sierra Nevada, Central Valley, Transverse and Peninsular Ranges, Great Basin, and Mojave and Sonora Deserts	Mesic habitats; gleans insects from brush or trees and feeds along habitat edges	Unclear; possibly human disturbance	No known occurrences; potential along upper American River; most likely to occur east of the study area at higher elevations
Ringtail Basariscus astutas	/FP	Sierra Nevada, Coast Ranges, and Central Valley; upper and middle portions of Sacramento River, Feather River, and Bobelaine Sanctuary; potentially occurs in riparian woodlands in Chico area	Riparian forests, chaparral, brushlands, oak woodlands, and rocky hillsides	Loss and fragmentation of lowland riparian habitat	No records; potentially occurs in chaparral and woodland habitats of the study area

Federal

- SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking.
- T = listed as threatened under the federal Endangered Species Act.
- PR = Federally protected under the golden eagle protection act.

State

SSC = species of special concern in California.

E = listed as endangered under the California Endangered Species Act.

FP = fully protected under the California Fish and Game Code

The Middle Fork American River in the project area is considered suitable foothill yellow-legged frog habitat, although trout predation could be a limiting factor in the area. There are no recent occurrences of the foothill yellow-legged frog in the project vicinity, and no yellow-legged frogs were observed during the field surveys. If they occur in the area they would be associated with riverine, foothill riparian, and sand bar habitats.

The American River in the project area is marginal-quality northwestern pond turtle habitat because there are few basking sites in the area, the current is very swift, and the water temperature is very low. There are no pond turtle records for the American River in the Mammoth Bar OHVA. No pond turtles were observed during the 1999 field surveys, and are not expected to occur in the study area.

Four other special-status wildlife species are occasional visitors to the Mammoth Bar OHVA: osprey, bald eagle, golden eagle, and peregrine falcon. These species do not nest in the Mammoth Bar OHVA, but probably occur irregularly during winter or migration.

Cooper's hawk is a common nesting species in the Sierra foothills oak woodlands. The study area is suitable nesting and foraging habitat but none were seen during the field surveys. These hawks probably inhabit the study area in winter and during migration.

Although suitable habitat (i.e., chaparral) is present in the study area, Bell's sage sparrow is probably rare in Placer County and is unlikely to occur in the study area. No sage sparrows were observed during the field surveys.

Four special-status bats potentially occur in the Mammoth Bar OHVA: fringed myotis, long-eared myotis, small-footed myotis, and pale Townsend's big-eared bat, all of which tend to occur in woodland habitats. The fringed myotis, small-footed myotis, and Townsend's big-eared bats often roost in crevices in caves and abandoned buildings. The long-eared myotis roosts in buildings, crevices, under bark, and in snags. No caves or abandoned buildings were found in the study area. The fringed myotis and long-eared myotis generally occur at higher elevations in the Sierra Nevada where it is cooler. The long-legged myotis is unlikely to occur in the study area because they are rare below 4,000 feet. There is low potential for pale Townsend's big-eared bat and small-footed myotis to occur in the Mammoth Bar OHVA. No bat roosts were found during the field survey, although an intensive survey was not conducted. It is possible that a few of these bats roost in trees.

No suitable spiny rhyacophilan caddisfly habitat was found in the study area. The rhyacophilan caddisfly occurs in well-aerated riffles in clear, cold, and swift streams. The intermittent streams in the Mammoth Bar OHVA are unsuitable for the caddisfly.

No suitable California red-legged frog habitat was found in the Mammoth Bar OHVA. The study area lacks suitable streams, ponds, or wetlands that could support red-legged frogs.

The ringtail is a common small mammal in the Sierra foothills, occurring in chaparral, oak woodland, and riparian habitats. The study area is suitable breeding and foraging habitat. Ringtails are a fully protected mammal. Fully protected mammals may not be taken or possessed at any time.

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Section 4. Regulatory Considerations

This section summarizes the laws and regulations that apply to the proposed expansion of Mammoth Bar OHVA, including a brief explanation of the application of each law.

Clean Water Act, Section 404

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the placement of fill into "waters of the United States" under Section 404 of the Clean Water Act (CWA). Waters of the United States include lakes, rivers, streams and their tributaries, and wetlands. Wetlands are defined for regulatory purposes as areas "inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3, 40 CFR 230.3). Project proponents must obtain a permit from the Corps for all discharges of fill material into waters of the United States, including wetlands, before proceeding with a proposed action.

The Corps may either issue individual permits on a case-by-case basis or general permits on a program level. General permits are prior-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide Permits (NWPs) are a type of general permit issued to cover particular fill activities. All NWP activities must meet a general set of conditions in order for a permit to apply to a particular project, as well as specific conditions that apply to each NWP.

Executive Order 11990: Protection of Wetlands

Executive Order 11990 (May 24, 1977) directs all federal agencies to refrain from assisting in or giving financial support to projects that encroach on public or privately owned wetlands.

California Fish and Game Code, Sections 1601-1607

Under the California Fish and Game Code, Sections 1601-1607, DFG regulates projects that divert, obstruct, or change the natural flow or bed, channel or bank of any river, stream, or lake. Proponents of such projects must notify DFG and enter into a streambed alteration agreement with

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them. Sections 1601-1607 typically do not apply to drainages that lack a defined bed and banks, such as vernal swales. Section 1601 applies to public agencies, such as California Department of Parks and Recreation.

Federal Endangered Species Act

USFWS has jurisdiction over species listed as threatened or endangered under Section 9 of the federal Endangered Species Act (ESA). The act protects listed species from harm, or "take", which is broadly defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct". For any project with a federal component that affects a listed species, the federal agency must consult with the USFWS under Section 7 of the federal ESA. USFWS issues a Biological Opinion and, if the project does not jeopardize the continued existence of that species, issues an incidental take permit. When the project has no federal component, proponents of the project affecting a listed species must consult with the USFWS and apply for an incidental take permit under Section 10 of the federal ESA. Section 10 requires an applicant to submit a conservation plan that specifies project impacts and mitigation measures.

California Endangered Species Act

DFG has jurisdiction over species listed as threatened or endangered under Section 2080 of the California Fish and Game Code. Section 2080 prohibits the take of a species listed as threatened or endangered by DFG. The state definition of take is similar to the federal definition, except that Section 2080 does not prohibit indirect harm to listed species by way of habitat modification. Proponents of a project affecting a state-listed species must consult with DFG and enter into a management agreement and incidental take permit under Section 2081 or 2080.1. The California Endangered Species Act may not be applicable for this project because no state-listed plants or wildlife were found during field surveys and potential habitat for state-listed plants (Table 2) will be avoided.

California Environmental Quality Act

CEQA is the regulatory framework by which California public agencies identify and mitigate significant environmental impacts. A project will normally be considered to have a significant environmental effect if it will substantially affect a rare or endangered animal or plant species or the habitat of that species; substantially interfere with the movement of resident or migratory fish or wildlife; or substantially diminish habitat for fish, wildlife, or plants. The State CEQA Guidelines define rare, threatened, or endangered species as those listed under the federal and state ESA as well as any other species that meet the criteria given in State CEQA Guidelines' Section 15380. Other species and habitats may be designated as sensitive by the resource agencies or by local agencies, such

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

National Environmental Policy Act

The National Environmental Policy Act (NEPA) is the regulatory framework that requires federal agencies to disclose and consider the environmental implications of their actions. NEPA generally requires the preparation of an environmental impact statement (EIS) to ensure the accomplishment of the law's purpose. An EIS may be needed for this project.

Off-Highway Motor Vehicle Recreation Act of 1988

This act revised previous legislation and required the California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division (Division) to adopt soil loss standards and habitat protection plans and implement those standards and to monitor soils and wildlife habitat. This act and the revisions in the Public Resources code (PRC 5090) require that OHV recreation areas be maintained to sustain long-term use and that a soil survey must be completed and a wildlife habitat protection program be developed to sustain a viable wildlife species composition in the project area.

Section 5. Biological Resource Issues

This section identifies biological resource issues that may occur from the proposed expansion and management plan for Mammoth Bar OHVA.

EXPANSION OF OHV FACILITIES

Construction of an additional 7 miles of OHV trails would remove 3.4 acres of vegetation. Maintenance of a total of 21 miles of OHV trails, in the 1,560 acre area, would result in a 0.65% loss of vegetation.

Common Biological Communities

The response of common species of wildlife to recreation activities is variable and dependent on the species, the time of year, and frequency and proximity of the disturbance. Most studies that have investigated the effects of OHV activities have evaluated the response of white-tailed deer and mule deer (Colorado State Parks 1997). Additional studies have evaluated the response of wildlife to military training and roads and recreational trails. These studies and the point counts conducted at Mammoth Bar OHVA were used to evaluate impacts of OHV activities on wildlife.

The response of forest and grassland passerine birds depends on their habitat preference. Species that occur in the interior of these habitats are less abundant and occur at lower population densities near trails than away from trails. For these species (Western meadow lark, sparrows, nuthatches, and solitary vireo), the zone of influence along the trail was approximately 75 yards wide. Species with more general habitat requirements (e.g., American robin and jays) were not affected by the presence or activities along recreation trails (Miller et al. 1998).

The point count analysis for birds conducted at Mammoth Bar OHVA suggests that the bird species composition in the existing recreation area is similar to the bird species composition in the proposed expansion area (Table 4). This is not unexpected because human disturbance is limited to the trails and parking areas. Birds, especially small birds, are able to forage throughout most of the existing recreation area. Ground nesting and tree nesting birds would most likely place their nests away from the trails and parking area.

Slightly more bird species were observed in the existing OHVA compared to the proposed expansion area. In the chaparral, 13 species were observed in the existing area and 11 species were observed in the proposed area. Thirty-two bird species were observed in the existing area in the blue

Table 4. Bird Species Observed during Point Counts at Mammoth Bar O.H.V.A. Page 1 of 2

Species	Chaparral		Blue Oak/Foothill Pine		Riverine	
	Existing Area	Proposed Area	Existing Area	Proposed Area	Existing Area	Proposed Area
Common merganser		, e e			X	X
Turkey vulture	X	X	X	X	X	X
Red-tailed hawk			X	X		
Wild turkey			X			
California quail	x	X	X	X		
Killdeer					x	X
Spotted sandpiper					x	X
Mourning dove		ty a set	X	X		
Anna's hummingbird	X	X		X		
Belted kingfisher	er i grade. Majorita		•		X	X
Northern flicker	· X	ing sa	X	X		***************************************
Acom woodpecker	ak di saman di saman ka Kabupatèn di saman ka	en er en	\mathbf{X}	X		1 3D
Nuttall's woodpecker			X	X		
Downy woodpecker	o William		X			e de la gr
Ash-throated flycatcher	ar Todo More	in the state of th	X	X	ation of the parties of the contract of the co	erin (1996) filozofi en erin (1997) filozofi en erin (1996)
Pacific-slope flycatcher			X	X		•.•
Western woodpewee	y y y	in Sylven in Arthur 1997. The Arthur 1997.	x	X X	to Dominion to the second of t	
Tree swallow		a de di	· · · · · X		X	
Violet-green swallow		1974 - 1944 1971 - 1982 - 19		X	The graph of the second of the	\mathbf{X}
Barn swallow					X ,	X
C111 CO 11	en de				x	•
Western-scrub jay	X	X	X	X	Ĵ.	The state of the s

Chaparral		Blue Oak/F	Poothill Pine	Riv	erine	
Species	Existing Area	Proposed Area	Existing Area	Proposed Area	Existing Area	Proposed Area
American crow		· ·	X			
Oak titmouse	vin de	and the second	X	: : X		3
Bushtit	X	X	X	X		
White-breasted nuthatch)	X .,		
Bewick's wren	\mathbf{X}^{0}	x	$p_{\mathcal{F}_{\mathcal{F}_{\mathcal{F}_{\mathcal{F}_{\mathcal{F}}}}}}(k)$	X	the second second	
Wrentit	x	X			. The transfer	e de la composición dela composición de la composición dela composición de la composición de la composición dela composición dela composición de la composic
American robin	* -	en e	X		the East	V
European starling	en e		er in Granti. E. X oogra	X	e e e e e e e e e e e e e e e e e e e	4
Warbling vireo		à ·	X	*** : : : : : : : : : : : : : : : : : :	•	*.
Orange-crowned warbler	X			x	·	
Yellow warbler	-	+ 1 - 1 * 1 - 1 * 1 * 1 * 1 * 1 * 1 * 1 *		t		
Western tanager				X		
Black-headed grosbeak			X	x		en e
Lazuli bunting	X	e de	X			es de la companya de
Spotted towhee	X	,, X	x	X		•
California towhee	X	X	х	x	• •	
Dark-eyed junco			X	X		
Brewer's blackbird			X	X	•	·
Brown-headed cowbird			X	X	· · · · · · · · · · · · · · · · · · ·	
Northern oriole			X	X	•	
House finch		X	X		,	
Lesser goldfinch	x	X	X			

oak/foothill pine habitat and 28 species were observed in the proposed area. In the riverine habitat, nine species were observed in the existing area and eight species were observed in the proposed area. Based on these counts, the bird species composition is similar in both areas. It is difficult to make conclusions with one set of point counts. Additional point count or monitoring would be necessary to make firm conclusions regarding potential impacts and bird use in these areas.

Coyotes changed the extent of their home range in response to military training that included field personnel and mechanized equipment. The response of individual coyotes varied and was temporary. Most coyotes resumed use of their established home ranges after the military training ended (Gese et al. 1989).

Studies of the response of white-tailed and mule deer to OHV's have demonstrated that deer avoid trails during periods of high OHV use (weekends); however, they do not avoid trails during low or no use periods (weekdays) (Jones & Stokes 1996b). Studies at Hollister Hills State Vehicular Recreation Area showed there was no difference between the reproductive success of deer in the OHV area and deer outside of it (Timmerman 1995).

Park operating hours, seasonal changes in OHV recreation use, and restricting OHVs to trails will limit disturbance to wildlife. The response of wildlife to OHV activities is generally temporary and restricted to a zone of influence along the trail. Therefore, impacts on common wildlife could be considered less than significant under CEQA and NEPA because these common species are widely distributed and regionally abundant.

Special-Status Resources

Riparian woodland, riverine habitat, and seasonal drainages were found on or adjacent to Mammoth Bar OHVA and are considered sensitive biological resources. These biological resources will be protected by design measures or additional mitigation measures. No new trails will be constructed in the 300-foot riparian setback. Also, the existing trails to the river will be closed and restored to natural habitat; therefore, there would be no impacts on riparian woodland and riverine habitat. The Mammoth Bar OHVA may not need a CWA Section 404 permit if neither structures nor fill are to be placed in the streams, but this should be verified with the Corps. A streambed alteration agreement (Section 1601) with DFG may be needed if new trails are placed in or across the seasonal drainages (identified in Figure 3).

No Special-status plants were found in the Mammoth Bar OHVA, but they could occur on isolated rock outcrops where serpentine and Gabbroic substrates might exist. Potential impacts on special-status plants can be avoided because trails can be routed around these outcrops.

The elderberry shrub, which occurs in the Mammoth Bar OHVA, is the host plant for the valley elderberry longhorn beetle, a species listed as threatened under the federal ESA. To protect both shrub and beetle from removal and dust, Mammoth Bar OHVA proposes to avoid constructing new trails in a 300-foot riparian setback where elderberrys can occur; close trails to the river and

restore damaged habitat; and restrict OHV riding to trails. Additionally, Mammoth Bar OHVA will comply with the USFWS's VELB mitigation guidelines by ensuring that new trails be located at least 20 feet from the outer canopy of any elderberry shrubs. Mammoth Bar OHVA should confer with the USFWS to determine if additional protection measures are needed.

Yellow-breasted chats were found on the south side of the Middle Fork American River. Although it is unlikely that chats nest on the north side of the river, they could forage there. Mammoth Bar OHVA proposes to avoid constructing new trails in a 300-foot riparian setback. Existing trails to the river will be closed and natural habitat restored. Therefore, riparian habitat used by chats will be protected and impacts will be avoided.

Special-status bats and ringtails could occur in the Mammoth Bar OHVA. To minimize impacts on these species Mammoth Bar OHVA will allow riding only on designated trails and restrict riding to daylight hours when bats and ringtails are least active. Ringtails are a fully protected species. Construction and operation of the facility would not "take or possess" ringtails as described in the California Fish and Game Code. It is very unlikely that OHV traffic would result in direct mortality of a ringtail. Ringtails are active at night when the park is closed to OHV activity. If a ringtail was near a trail during the day, the noise from the motorcycle would disturb the animal it would move away from the trail. Additionally, there are no reported incidents of fatal accidents of ringtails in the existing project area.

Impacts on special-status biological resources from OHV recreation are summarized in Table 5.

PRESCRIBED BURNING

Prescribed burning is proposed for three areas to reduce fuel loads and minimize the spread and intensity of wildland fire. The burns are expected to shift dominant vegetative cover in the treated areas from dense woody shrub to annual and perennial grasses and forbs which will increase biological diversity, but could harm special-status plants. Because these plants are adapted to fires in the region, mitigation is not needed. As a precaution, however, Mammoth Bar OHVA should avoid conducting prescribed burns during the flowering period for these species (Table 2).

Biological Resource	Impact Mechanism	Protection Measures to Mitigate Impacts	Additional Potential Mitigation
Riparian woodland	Trail construction and continued use of existing trail	 No trails will be constructed in riparian setback Existing trails to river will be closed and habitat restored 	None
Riverine (American River)	Trail construction	No trails will be constructed in riparian setback	None
Seasonal drainages	Trail construction and use	- No trails will be constructed in riparian setback	- Obtain 404 permit from Corps (if needed) and Section 1601 Streambed Alteration Agreement from DFG and implement mitigation measures specified in permits
Serpentine and gabbroic special-status plants	Trail construction and use	 Rocky outcrops providing possible habitat for rare plants will be avoided by routing trails away from outcrops 	None
Serpentine and gabbroic special-status plants	Prescribed burns	- Because plants are fire- adapted, mitigation is probably not needed.	- Avoid prescribed burning when special- status plants are flowering (Table 2)
Valley elderberry longhorn beetle	Trail construction and use	 No trails will be constructed in riparian setback Existing trails to the river will be closed and habitat restored 	Ensure that new trails be located at least 20 feet from outer canopy of elderberry shrubs; confer with USFWS
Yellow-breasted chat	Trail construction and use	- No trails will be constructed in riparian setback	None
		 Existing trails to the river will be closed and habitat restored 	

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	Biological Resource	Impact Mechanism	Protection Measures to Mitigate Impacts	Additional Potential Mitigation
Sr ba	pecial-status ts and ringtails	Trail construction and use	 Red sticker regulations will restrict most OHV riding during the warm months when bats most active. 	None
			 Riding is only permitted on designated trails, minimizing areas disturbed by human activity 	
	· · · · · · · · · · · · · · · · · · ·		- Riding is restricted to daylight hours when these species are least active	
	•		- No trails will be constructed in the riparian setback	
			- Existing trails to the river will be blocked off and restored	And the second of the second o

Section 6. Further Recommended Studies for Off-Highway Vehicle Management

This section describes additional studies and plans that should be prepared for expansion of the Mammoth Bar OHVA. The studies are consistent with the Off-Highway Motor Vehicle Recreation Act of 1982 and regulations in the Public Resources Code, Section 5090.

New OHV areas will be managed to sustain long-term use (PRC 5090.02[c][1]). Projects funded by the Off-Highway Motor Vehicle Recreation Division (OHMVRD) must comply with the conservation standards identified in PRC 5090.35[b]:

- adopt a generic soil loss standard;
- prepare an inventory of wildlife populations and their habitats in the area; and
- prepare a wildlife protection program to sustain a viable species composition.

Additionally, the soils and wildlife habitat in each area must be monitored annually to determine if the soil loss standards and habitat protection plans are being met (PRC 5090.35[c]).

SOIL LOSS STANDARDS

The OHMVRD adopted a generic soil loss standard that states: "Off-highway motor vehicle areas and trails will be maintained in a condition that will allow for feasible rehabilitation by natural resource managers" (California Department of Parks and Recreation 1991). The trail construction guidelines described below will reduce accelerated erosion during trail construction and the monitoring guidelines will ensure the trails are maintained in a manner consistent with legislative direction and regulatory requirements.

Trail construction guidelines

After the location of the trails have been finalized:

Quantify impacts to seasonal drainages resulting from trail construction and obtain 404 and 401 permits from the Corps and Section 1601 streambed alteration agreement from DFG.

- Prepare a stormwater pollution prevention plan, in compliance with the National Pollutant Discharge Elimination System (NPDES), if trail construction equals or exceeds 5 acres of ground disturbance.
- Develop and implement an erosion control plan for trail construction.
- The following best management practices (BMPs) would be implemented during trail construction to control accelerated soil erosion, sedimentation, and adverse water quality impacts on receiving waters:
 - minimize the extent of vegetation and soil disturbance in constructing trails and facilities;
 - conduct project grading and other soil and vegetation disturbance activities during optimum conditions to minimize erosion, dust, and potential water quality impacts;
 - install permanent BMPs after construction; and
 - round off the tops of cut slopes to promote revegetation.

Soil loss monitoring

The proposed soil loss monitoring procedures for the Mammoth Bar OHVA is based on an assessment of revegetation potential, as defined in the PRC ("... restoration of... plant communities, and the plant covers comparable to those on surrounding lands or at least those which existed prior to off-highway motor vehicle use." section 5090.11). The following describes the steps to be used in the assessment.

- A DRP resource specialist will train staff to conduct trail condition surveys. The staff will be trained to identify different types of erosion, map them, and fill out standardized data sheets.
- Staff will inventory trails and map eroded/unvegetated areas. Features to be mapped include depths of incision/gully erosion within trail treads; sheet, rill, gully, and mass movement erosion of cut and fill slopes and other use areas; incision and headcutting of drainageways receiving runoff from trails and other use areas; and other use-related erosion areas.

- A DPR resource specialist will review the data collected by staff to determine which trail segments or erosion sites should be inspected in the field. Following the field evaluation, the erosion features will be prioritized for treatment. The priorities will be based on the severity of the erosion feature, cost, and the risk to other sensitive resources. The severity of the erosion feature will be rated considering the type (rill, sheet, sully, or mass movement) and extent (length, depth, width). The cost of rehabilitation (the PRC standard) will also be considered. It is assumed that the cost of rehabilitation increases geometrically as the severity of erosion feature increases. The risk will consider impacts on other sensitive resources (i.e., water quality, endangered species habitat) public safety, and the presence of material high erosion hazards that will exacerbate an existing problem.
- The list of priorities will be reviewed by the superintendent and submitted for funding.

Soil Loss Monitoring Schedule

Monitoring at Mammoth Bar OHVA will be conducted between September 1 and October 30 each year. The assessment will be completed by November 30 of each year.

Non-Attainment of Soil Loss Standard

In the event of non-attainment of the soil loss standard in a given part/segment of a recreation area, that part/segment be temporarily closed and repaired to prevent accelerated erosion until it is capable of meeting the standard (California Department of Parks and Recreation 1991).

When a trail or trail segment has been determined to be nearing a condition in which the potential for successful revegetation exceeds a cost:benefit ratio established for the expansion area; that trail or trail segment will be temporarily closed and repaired such that revegetation will be possible, after which it may be reopened to use.

WILDLIFE AND HABITAT STANDARDS

The Auburn State Recreation Area General Plan's policy is to manage and protect wildlife populations and their habitat.

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Wildlife Habitat Monitoring

Special-Status Species

Seven special-status wildlife species could occur in the project area: VELB, yellow-breasted chat, ringtail, small-footed myotis, and pale Townsend's big-eared bats. However, it is unlikely that these species will be affected by expansion of OHV recreation, as described in Sections 3 and 5.

Because VELB is a federally-listed species and the ringtail is a state fully protected species potential impacts on these species will be evaluated each year. The condition of all elderberry plants will be surveyed each year. Condition will describe the approximate size of the shrubs, presence of exit holes potentially used by VELB, and a qualitative comparison to the previous year's condition. All reported fatalities to the ringtail in the OHVA will be reported immediately to the California Department of Fish and Game, Region 2 Headquarters in Rancho Cordova, CA.

Common Species

Common species of birds are abundant and diverse in the area and they may be more sensitive to disturbance than mammals. Therefore, point counts will be conducted annually during the breeding season (April 1 to May 31) to assess potential impacts from OHV recreation. Permanent point count stations should be established in blue oak/foothill pine and chaparral habitats. Within each habitat type, three to five points should be established along OHV trails and an equal number at least 100 yards from the nearest OHV trail or road. The total number of each bird species observed or heard during a five minute observation period will be recorded for each point count station. The total number of bird species and number of individuals of each species along trails and away from trails will be compared to the previous year's counts and to longer-term trend data, as it is established. Data collected along OHV trails will be compared to data collected away from OHV trails. If there are substantial differences between successive years or in trends, additional evaluations will be conducted to determine if OHV activities or other factors are responsible for the observed changes. Appropriate management actions should be implemented to reduce adverse impacts that result from OHV activity.

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- Skinner, M. and B. Pavlik. 1994. California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California. February 1994. Special publication No.1. Fifth edition.
- Soil Conservation Service. 1980. Soil Survey of Placer County, California.. United States Department of Agriculture Soil Conservation Service in Cooperation with University of California Agricultural Experiment Station.

Timmerman, K. 1995. Effects of off-highway vehicles on seasonal home ranges and daily activity levels of black-tailed deer. Master of Science thesis for the Department of Biological Sciences at San Jose State University.

USFWS Field Supervisor. 1998. Memorandum dated February 12, 1998. Species lists for the Mammoth Bar OHVA Park Area Management Plan, Auburn State Recreation Area, Placer County, California. Sacramento, CA.

PERSONAL COMMUNICATIONS

Collins, Dave. Park Ranger. July 30, 1999. Field meeting.

Hong, Stuart. Landscape Architect. June 2, 1999. Field meeting.

Appendix A. List of Special-Status Species Identified by U.S. Fish and Wildlife Service

in reply refer to: 1-1-98-SP-0730

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office 3310 El Camino Avenue, Suite 130 Sacramento, California 95821-6340

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Centre

February 12, 19

Classification Folder LD.

Memorandum

To:

Thomas J. Aiken, Area Manager, Bureau of Reclamation, Folsom,

California

From:

Field Supervisor, Sacramento Fish and Wildlife Office, Fish and Wildlife

Service, Sacramento, California

Subject:

Species Lists for the Mammoth Bar OHV Park Area Management Plan, Auburn

State Recreation Area, Placer County, California

As requested by letter from your agency dated February 5, 1998, you will find attached lists of sensitive species that may be present in or may be affected by projects in the subject project area (see Attachment A). These lists fulfill the requirement of the Fish and Wildlife Service (Service) to provide species lists pursuant to section 7(c) of the Endangered Species Act of 1973, as amended (Act).

The Service used the information in your memo to locate the proposed project on a U.S. Geological Survey (USGS) 7.5 minute quadrangle map. The animal species on the Attachment A quad list[s] are those species we believe may occur within, or be affected by projects within, the USGS QUADS Auburn and Greenwood, where your project is planned.

Any plants on the Attachment A quad list[s] are those that have actually been observed in the project quad[s].

Some of the species listed in Attachment A may not be affected by the proposed action. A trained biologist or botanist, familiar with the habitat requirements of the listed species, should determine whether these species or habitats suitable for these species may be affected by the proposed action. For plant surveys, the Service recommends using the enclosed Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species (Attachment C).

Some pertinent information concerning the distribution, life history, habitat requirements, and published references for the listed species is available upon request. This information may be

helpful in preparing the biological assessment for this project, if one is required. Please see Attachment B for a discussion of the responsibilities Federal agencies have under section 7(c) of the Act and the conditions under which a biological assessment must be prepared by the lead Federal agency or its designated non-Federal representative.

Formal consultation, pursuant to 50 CFR § 402.14, should be initiated if you determine that a listed species may be affected by the proposed project. If you determine that a proposed species may be adversely affected, you should consider requesting a conference with our office pursuant to 50 CFR § 402.10. Informal consultation may be utilized prior to a written request for formal consultation to exchange information and resolve conflicts with respect to a listed species. If a biological assessment is required, and it is not initiated within 90 days of your receipt of this letter, you should informally verify the accuracy of this list with our office.

Candidate species are currently being reviewed by the Service and are under consideration for possible listing as endangered or threatened. Candidate species have no protection under the Endangered Species Act, but are included for your consideration as it is possible that one or more of these candidates could be proposed and listed before the subject project is completed. Should the biological assessment reveal that candidate species may be adversely affected, you may wish to contact our office for technical assistance. One of the potential benefits from such technical assistance is that by exploring alternatives early in the planning process, it may be possible to avoid conflicts that could otherwise develop, should a candidate species become listed before the project is completed.

Attachment A contains a section called *Species of Concern*. This term includes former category 2 candidate species and describes the taxa whose conservation status may be of concern to the Service and other Federal, State, and private conservation agencies and organizations.

If the proposed project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by the U.S. Army Corps of Engineers (Corps), a Corps permit will be required, pursuant to section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act. Impacts to wetland habitats require site specific mitigation and monitoring. You may request a copy of the Service's General Mitigation and Monitoring Guidelines or submit a detailed description of the proposed impacts for specific comments and recommendations. If you have any questions regarding wetlands, contact Mark Littlefield at (916) 979-2113.

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Please contact Jan Knight at (916) 979-2120 if you have any questions regarding the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of the section 7 office assistant at this address.

Wayne S. White

Attachments

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by Projects in the Following Selected Quads February 12, 1998

GREENWOOD QUAD: 526B Listed Species Birds American peregrine falcon, Falco peregrinus anatum (E) bald eagle, Haliaeetus leucocephalus (T) **Amphibians** California red-legged frog, Rana aurora draytonii (T) Fish delta smelt, Hypomesus transpacificus (T) Invertebrates valley elderberry longhorn beetle, Desmocerus californicus dimorphus (T) **Proposed Species** Fish Central Valley steelhead, Oncorhynchus mykiss (PE) Sacramento splittail, Pogonichthys macrolepidotus (PT) Species of Concern Mammals spotted bat, Euderma maculatum (SC) greater western mastiff-bat, Eumops perotis californicus (SC) small-footed myotis bat, Myotis ciliolabrum (SC) long-eared myotis bat, Myotis evotis (SC) fringed myotis bat, Myotis thysanodes (SC) long-legged myotis bat, Myotis volans (SC) Yuma myotis bat, Myotis yumanensis (SC) San Joaquin pocket mouse, Perognathus inomatus (SC) Birds tricolored blackbird, Agelaius tricolor (SC)

little willow flycatcher, Empidonax traillii brewsteri (SC)

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QUAD: 526B
 Species of Concern
   Birds
        California spotted owl, Strix occidentalis occidentalis (SC)
   Reptiles
        northwestern pond turtle, Clemmys marmorata marmorata (SC)
        California horned lizard, Phrynosoma coronatum frontale (SC)
   Amphibians
        foothill yellow-legged frog, Rana boylii (SC)
        western spadefoot toad, Scaphiopus hammondii (SC)
   Invertebrates
        Sagehen Creek goracean caddisfly, Goeracea oregona (SC)
        South Forks ground beetle, Nebria darlingtoni (SC)
        spiny rhyacophilan caddisfly, Rhyacophila spinata (SC)
                AUBURN
QUAD: 527A
 Listed Species
    Birds
        American peregrine falcon, Falco peregrinus anatum (E)
        bald eagle, Haliaeetus leucocephalus (T)
    Amphibians
        California red-legged frog, Rana aurora draytonii (T)
    Fish
        delta smelt, Hypomesus transpacificus (T)
    Invertebrates
        valley elderberry longhorn beetle, Desmocerus californicus dimorphus (1)
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GREENWOOD

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QUAD: 527A AUBURN
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Proposed Species

Fish

Central Valley steelhead, Oncorhynchus mykiss (PE)
Sacramento splittail, Pogonichthys macrolepidotus (PT)

Species of Concern

Mammals

spotted bat, Euderma maculatum (SC)
greater western mastiff-bat, Eumops perotis californicus (SC)
small-footed myotis bat, Myotis ciliolabrum (SC)
long-eared myotis bat, Myotis evotis (SC)
fringed myotis bat, Myotis thysanodes (SC)
long-legged myotis bat, Myotis volans (SC)
Yuma myotis bat, Myotis yumanensis (SC)
San Joaquin pocket mouse, Perognathus inomatus (SC)

Birds

tricolored blackbird, Agelaius tricolor (SC)
western burrowing owl, Athene cunicularia hypugea (SC)
little willow flycatcher, Empidonax traillii brewsteri (SC)
white-faced ibis, Plegadis chihi (SC)

Reptiles

northwestern pond turtle, Clemmys marmorata marmorata (SC)
California horned lizard, Phrynosoma coronatum frontale (SC)

Amphibians

foothill yellow-legged frog, Rana boylii (SC) western spadefoot toad, Scaphiopus hammondii (SC)

Invertebrates

Sagehen Creek goracean caddisfly, Goeracea oregona (SC)

(KEY:

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(E)	Endangered	Listed (in the Federal Register) as being in danger of extinction.
'n	Threatened	Listed as likely to become endangered within the foreseeable future.
(P)	Proposed	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C)	Candidate	Candidate to become a proposed species.
(SC)	Species of	Other species of concern to the Service.
	Concern	and the second of the second o
(*)	Extirpated	Possibly extirpated from this area.
	Critical Habitat	Area essential to the conservation of a species.

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Endangered and Threatened Species that May Occur in or be Affected by Projects in the Area of the Following California County or Counties February 12, 1998

PLACER COUNTY Listed Species Birds American peregrine falcon, Falco peregrinus anatum (E) Aleutian Canada goose, Branta canadensis leucopareia (T) bald eagle, Haliaeetus leucocephalus (T) Reptiles giant garter snake, Thamnophis gigas (T) **Amphibians** California red-legged frog, Rana aurora draytonii (T) Fish winter-run chinook salmon, Oncorhynchus tshawytscha (E) delta smelt, Hypomesus transpacificus (T) Lahontan cutthroat trout, Oncorhynchus (=Salmo) clarki henshawi (T) Invertebrates vernal pool tadpole shrimp, Lepidurus packardi (E) vernal pool fairy shrimp, Branchinecta lynchi (T) valley elderberry longhorn beetle, Desmocerus californicus dimorphus (T) **Plants** Truckee barberry, Berberis sonnei (E) Proposed Species Fish Central Valley steelhead, Oncorhynchus mykiss (PE) Sacramento splittail, Pogonichthys macrolepidotus (PT) Candidate Species Birds mountain plover, Charadrius montanus (C) **Amphibians** California tiger salamander, Ambystoma californiense (C)

Candidate Species

Amphibians

Species of Concern

Mammals

spotted bat, Euderma maculatum (SC)
greater western mastiff-bat, Eumops perotis californicus (SC)
California wolverine, Gulo gulo luteus (SC)
Sierra Nevada snowshoe hare, Lepus americanus tahoensis (SC)
Pacific fisher, Martes pennanti pacifica (SC)
small-footed myotis bat, Myotis ciliolabrum (SC)
long-eared myotis bat, Myotis evotis (SC)
fringed myotis bat, Myotis thysanodes (SC)
long-legged myotis bat, Myotis volans (SC)
Yuma myotis bat, Myotis yumanensis (SC)
San Joaquin pocket mouse, Perognathus inomatus (SC)
pale Townsend's big-eared bat, Plecotus townsendii pallescens (SC)
Pacific western big-eared bat, Plecotus townsendii townsendii (SC)
Sierra Nevada red fox, Vulpes vulpes necator (SC)

Birds

northern goshawk, Accipiter gentilis (SC)
grasshopper sparrow, Ammodramus savannarum (SC)
western burrowing owl, Athene cunicularia hypugea (SC)
American bittern, Botaurus lentiginosus (SC)
Swainson's hawk, Buteo Swainsoni (SC)
ferruginous hawk, Buteo regalis (SC)
lark sparrow, Chondestes grammacus (SC)
little willow flycatcher, Empidonax traillii brewsteri (SC)
white-faced ibis, Plegadis chihi (SC)
California spotted owl, Strix occidentalis occidentalis (SC)

Reptiles

northwestern pond turtle, Clemmys marmorata marmorata (SC) southwestern pond turtle, Clemmys marmorata pallida (SC)

Candidate Species

Reptiles

California horned lizard, Phrynosoma coronatum frontale (SC)

Amphibians

Mount Lyell salamander, Hydromantes platycephalus (SC) foothill yellow-legged frog, Rana boylii (SC) mountain yellow-legged frog, Rana muscosa (SC) western spadefoot toad, Scaphiopus hammondii (SC)

Fish

green sturgeon, Acipens er medirostris (SC) river lamprey, Lampetra ayresi (SC) Pacific lamprey, Lampetra tridentata (SC)

Invertebrates

Lake Tahoe benthic stonefly, Capnia lacustra (SC)
Sagehen Creek goracean caddisfly, Goeracea oregona (SC)
Shirttail Creek stonefly, Megaleuctra sierra (SC)
South Forks ground beetle, Nebria darlingtoni (SC)
spiny rhyacophilan caddisfly, Rhyacophila spinata (SC)

Plants

Carson Range rock-cress, Arabis rigidissima var. demota (SC)
Red Hills soaproot, Chlorogalum grandiflorum (SC)
hispid bird's-beak, Cordylanthus mollis ssp. hispidus (SC)
Donner Pass buckwheat, Eriogonum umbellatum var. torreyanum (SC)
Plumas ivesia, Ivesia sericoleuca (SC)
Ahart's rush, Juncus leiospermus var. ahartii (SC)
legenere, Legenere limosa (SC)
long-petaled lewisia, Lewisia longipetala (SC)
saw-toothed lewisia, Lewisia serrata (SC)
Stebbins' phacelia, Phacelia stebbinsii (SC)
Tahoe yellow-cress, Rorippa subumbellata (SC)

KEY:

243.75		"我来说,我看到这一样,我们就是一个事情,我的人就是一个事情,我们就是一个事情,我们就是一个事情,我们就是一个事情,我们就是一个事情,我们就是一个事情,我们就是
(E)	Endangered	Listed (in the Federal Register) as being in danger of extinction.
(T)	Threatened	Listed as likely to become endangered within the foreseeable future.
(P)	Proposed	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(C)	Candidate	Candidate to become a proposed species.
(SC)	Species of	Other species of concern to the Service.
	Concern	en e
(*)	Extirpated	Possibly extirpated from the area.
	Critical Habitat	Area essential to the conservation of a species.

Appendix B. Common and Scientific Names of Plant Species Observed at the Mammoth Bar OHVA

Common Name	Scientific Name
Agoseris	Agoseris sp.
Aira	Aira caryophyllea
Annual bur-sage	Ambrosia acanthicarpa
Arroyo willow	Salix lasiolepis
Baltic rush	Juncus balticus
Bedstraw	Galium sp.
Bicolored lupin	Lupinus bicolor
Bird's-foot fern	Paellea mucronata
Black locust	Robinia pseudoacacia
Black oak .	Quercus kelloggii
Blue wildrye	Elymus glaucus
Bluedicks	Dichelostemma capitatum
Bracken fern	Pteridium aquilinum
Brittlebush	Brickellia californica
Buck brush	Ceanothus cuneatus
Bush lupin	Lupinus albifrons
California bay laurel	Umbellularia californica
California brome	Bromus carinatus
California buckeye	Aesculus californica
California poppy	Eschscholzia californica
Canada thistle	Cirsium arvense
Centaury	Centaurium muhlenbergii
Chamise	Adenostoma fasciculatum
Chicory	Cichorium intybus

Common Name	Scientific Name
Clarkia	Clarkia sp.
Clustered dock	Rumex conglomeratus
Cocklebur	Xanthium strumarium
Coffeefern	Paellea andromaedifolia
Common monkeyflower	Mimulus guttatus
Cottonwood	Populus fremontii
Coyote bush	Baccharis pilularis
Curly dock	Rumex crispus
Description	3.6.1.1
Deergrass Deerweed	Muhlenbergia rigens
	Lotus scoparius
Dogtail grass	Cynosurus echinatus
Douglas fir	Pseudotsuga menziesii
Durango root	Datisca glomerata
Dutchman's pipe	Aristolochia californica
Edible fig	Ficus carica
Elderberry	Sambucus mexicana
English plantain	Plantago lanceolata
Everlasting	Gnaphalium californicum
Fiddleneck	Amsinckia menziesii var. intermedia
Foothill pine	Pinus sabiana
Foxtail barley	Hordeum jubatum
Fritillary	Fritillaria sp.
Greenleaf manzanita	Arctostaphylos manzanita
Hedge nettle	Stachys albens
Himalayan blackberyy	Rubus procerus
Horehound	Marrubium vulgare
Horseweed	Conyza canadensis
Indian paintbrush	Castilleja foliolosa

Common Name	Scientific Name
Interior live oak	Quercus wislizenii
Ithuriel's spear	Triteleia laxa
Jewelflower	Streptanthus sp.
Lacepod	Thysanocarpus curvipes
Lotus	Lotus humistratus
Madia	Madia minima
Madrone	Arbutus menziesii
Maidenhair fern	Andiantum jordanii
Medusahead	Taeniatherum caput-medusae
Melic grass	Melica imperfecta
Miner's lettuce	Claytonia perfoliata
Monardella	Monardella villosa
Monkeyflower	Mimulus cardinalis
Mountain misery	Chamaebatia foliolosa
Mountain prettyface	Triteleia ixioides
Mugwort	Artemisia douglasiana
Muleears	Wyethia mollis
Naked buckwheat	Eriogonum nudum
Narrow-leaved willow	Salix exigua
Nutsedge	Cyperus eragrostis
Orchard grass	Dactylis glomerata
Oregon ash	Fraximis latifolia
Pampas grass	Cortaderia jubata
Phacelia	Phacelia sp.
Plantain	Plantago erecta
Poison oak	Toxicodendron diversilobum
Ponderosa pine	Pinus ponderosa
Prickly lettuce	Lactuca serriola

Prickly sow-thistle Purple milkweed Asclepias cordifolia Red brome Red willow Red willow Red bud Redstem filaree Ripgut brome Rose clover Saint John's wort Salisify Tragopogon porrifolium Scrub oak Shortpod mustard Slender wild oat Smooth cat's ear Snakelily Dichelostemma volubile Snowberry Spanish broom Spanish lotus Spikemoss Squirreltail Elymus elymoides Stephanomeria Sulfur clover Tripolium sagor. Saint John's wort Hypericum perfoliatum Tragopogon porrifolium Quercus dumosa Hirschfeldia incana Rhus tridentata Slender wild oat Avena barbata Smooth cat's ear Hypochaeris glabra Dichelostemma volubile Snowberry Symphoricarpus albus Soft chess Bromus hordeaceus Spanish lotus Lotus purshiamus Spikemoss Selaginella sp. Squirreltail Elymus elymoides Stephanomeria sp. Sugar pine Pinus lambertiana Sulfur clover Trifolium campestre Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Cirstum occidentalis Tomcat clover Trifolium willdenovii	Common Name		Scientific Name
Purple milkweed Red brome Bromus madritensis ssp. rubens Red willow Salix laevigata Redbud Cercis occidentalis Redstem filaree Erodium cicutarium Ripgut brome Bromus diandrus Rose clover Trifolium hirtum Saint John's wort Hypericum perfoliatum Salsify Tragopogon porrifolium Scrub oak Quercus dumosa Shortpod mustard Hirschfeldia incana Skunkbrush Rhus tridentata Slender wild oat Avena barbata Smooth cat's ear Hypochaeris glabra Snakelily Dichelostemma volubile Snowberry Symphoricarpus albus Soft chess Bromus hordeaceus Spanish broom Spartium junceum Spanish lotus Lotus purshtamus Spikemoss Selaginella sp. Squirreltail Elymus elymoides Stephanomeria Stephanomeria sp. Sugar pine Pinus lambertiana Sulfur clover Trifolium campestre Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Cirsium occidentalis	Prickly sow-thistle	1 2 2 2	Sonchus asper
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Snowberry Soft chess Bromus hordeaceus Spanish broom Spanish lotus Lotus purshianus Spikemoss Spikemoss Selaginella sp. Squirreltail Elymus elymoides Stephanomeria Stephanomeria sp. Sugar pine Pinus lambertiana Sulfur clover Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Smooth cat's ear	• Long to the	Hypochaeris glabra
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Spanish lotus Lotus purshianus Spikemoss Selaginella sp. Squirreltail Elymus elymoides Stephanomeria sp. Sugar pine Pinus lambertiana Sulfur clover Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Soft chess	the way to the	Bromus hordeaceus
Spikemoss Squirreltail Squirreltail Elymus elymoides Stephanomeria sp. Sugar pine Pinus lambertiana Sulfur clover Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Spanish broom		Spartium junceum
Squirreltail Elymus elymoides Stephanomeria sp. Sugar pine Pinus lambertiana Sulfur clover Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Spanish lotus		Lotus purshianus
Stephanomeria Stephanomeria sp. Sugar pine Pinus lambertiana Sulfur clover Trifolium campestre Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Spikemoss		Selaginella sp.
Sugar pine Pinus lambertiana Sulfur clover Trifolium campestre Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Squirreltail		Elymus elymoides
Sugar pine Pinus lambertiana Sulfur clover Trifolium campestre Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Stephanomeria		Stephanomeria sp.
Tarweed Hemizonia fitchii Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Sugar pine		
Tarweed Holocarpha virgata Thistle Cirsium occidentalis	Sulfur clover		Trifolium campestre
Thistle Cirsium occidentalis	Tarweed		Hemizonia fitchii
Thistle Cirsium occidentalis	Tarweed		Holocarpha virgata
Tomcat clover Trifolium willdenovii	Γhistle		- *
~	Tomcat clover		Trifolium willdenovii

Common Name	Scientific Name	
Torilis	Torilis arvense	
Toyon	Heteromeles arbutifolia	
Turkey mullein	Eremocarpus setigerus	
Tree of heaven	Ailanthus altissimus	•
Valley oak	Quercus lobata	
Vinegar weed	Trichostema lanceolatum	
Virgin's bower	Clematis ligusticifolia	
Western morning-glory	Calystegia occidentalis	·
White alder	Alnus rhombifolia	and the second
White sweetclover	Melitlotus albus	
Wild carnation	Petrorhagia dubia	
Wild grape	Vitis californica	
Wild mock orange	Philadelphus lewisii	
Wild oat	Avena fatua	
Windmill pink	Clarkia unguiculata	April 1990
Witchgrass	Panicum capillare	· grangers
Woolly mullein	Verbascum thapsus	
Wooly sunflower	Eriophyllum lanatum	
Yarrow	Achillea millefolium	and the second second
Yellow star-thistle	Centaurea solstitialis	
Yellow watercress	Rorippa curvisiliqua	
Yerba santa	Eriodictyon californicum	

Appendix C. Common and Scientific Names of Wildlife Species Observed in the Study Area or Mentioned in the Text

Invertebrates

Valley elderberry longhorn beetle

Desmocerus californicus dimorphus

Amphibians

Western toad
Pacific chorus frog *
California red-legged frog
Foothill yellow-legged frog

Bufo boreas Pseudacris (Hyla) regilla Rana aurora draytoni Rana boylei

Reptiles

Northwestern pond turtle Western fence lizard * Gilbert's skink Northern alligator lizard Gopher snake

Clemmys marmorata
Sceloporus occidentalis
Eumeces gilberti
Gerrhonotus coeruleus
Pituophis melanoleucus

Birds

Turkey vulture*
Common goldeneye
Common merganser*
Osprey
Bald eagle
Cooper's hawk
Red-tailed hawk*
Golden eagle
American peregrine falcon
Wild turkey*
California quail*

Cathartes aura
Bucephala clangula
Mergus merganser
Pandion haliaetus
Haliaeetus leucocephalus
Accipiter cooperii
Buteo jamaicensis
Aquila chrysaetos
Falco peregrinus anatum
Meleagris gallopavo
Callipepla california

Killdeer* Spotted sandpiper* Mourning dove* Anna's hummingbird* Belted kingfisher* Acorn woodpecker* Nuttall's woodpecker* Downy woodpecker* Northern flicker* Western wood-pewee* Pacific-slope flycatcher* Black phoebe* Ash-throated flycatcher* Western kingbird* Cassin's (solitary) vireo* Warbling vireo* Western scrub-jay* American crow* Tree swallow* Violet-green swallow* Cliff swallow* Barn swallow* Oak titmouse* Bushtit* White-breasted nuthatch* Bewick's wren* House wren* Western bluebird* American robin* Wrentit* European starling* Orange-crowned warbler* Yellow warbler* Townsend's warbler* Yellow-breasted chat* Western tanager* Spotted towhee* California towhee* Bell's sage sparrow Song sparrow* Dark-eyed junco* Black-headed grosbeak* Lazuli bunting* Western meadowlark*

Charadrius vociferus Actitis macularia Zenaida macroura Calypte anna Ceryle alcyon Melanerpes formicivorus Picoides nuttallii Picoides pubescens Colaptes auratus Contopus sordidulus Empidonax difficilis Sayornis nigricans Myiarchus cinerascens Tvrannus verticalis · Vireo cassinii Vireo gilvus Aphelocoma californica Corvus brachyrhynchos Tachycineta bicolor Tachycineta thalassina Petrochelidon pyrrhonota Hirundo rustica Baeolophus inornatus Psaltriparus minimus Sitta carolinensis Thryomanes bewickii Troglodytes aedon Sialia mexicana Turdus migratorius Chamaea fasciata Sturnus vulgaris Vermivora celata Dendroica petechia Dendroica townsendi Icteria virens Piranga ludoviciana Pipilo maculatus Pipilo crissalis Amphispiza belli belli Melospiza melodia Junco hyemalis Pheucticus melanocephalus Passerina amoena Sturnella neglecta

Euphagus cyanocephalus

Brewer's blackbird*

Brown-headed cowbird*
Bullock's (northern) oriole*
House finch*
Lesser goldfinch*

Molothrus ater Icterus bullockii Carpodacus mexicanus Carduelis psaltria

Mammals

Long-eared myotis Fringed myotis Long-legged myotis Small-footed myotis Pale big-eared bat California ground squirrel* Western gray squirrel* Botta's pocket gopher* Coyote* Gray fox* Ringtail Raccoon Long-tailed weasel Striped skunk Mountain lion Black-tailed (mule) deer*

Myotis evotis Myotis thysanodes Myotis volans Myotis leibii Plecotus townsendii pallescens Spermophilus beecheyi Sciurus griseus Thomomys bottae Canis latrans Urocyon cinereoargenteus Bassariscus astutus Procyon lotor Mustela frenata Mephitis mephitis Felis concolor Odocoileus hemionus

^{*} wildlife species observed (including tracks and scat) during field surveys