TABLE OF CONTENTS

Page

List of Tables

List of Figures

List of Maps

7.6 Botanical and Wildlife Resources Affected Environment

This section describes the botanical and wildlife resources in the vicinity of the Middle Fork American River Project (MFP or Project). This includes identification of vegetation communities and wildlife habitats; federally listed rare, threatened, and endangered plant or wildlife species; other special-status plants and wildlife; game species; and noxious weeds. Information on federally listed threatened and endangered aquatic species is included in Section 7.5 – Fish and Aquatics Resources Affected Environment.

7.6.1 Information Sources

Information on botanical and wildlife resources is based on review of relevant information, extensive agency and stakeholder consultation, and field surveys conducted as part of the MFP relicensing process. A summary of agency and stakeholder consultation is provided in Section 14.0 – Consultation Documentation and in the Draft Biological Assessment/Biological Evaluation (BA/BE) (PCWA 2011a; Supporting Document [SD] C). Detailed descriptions of the MFP field survey methods and study results, including comprehensive maps of the location of terrestrial resources are provided in the following Technical Study Reports (TSR):

- TERR 1 – Vegetation Communities and Wildlife Habitat TSR (TERR 1 – TSR) (PCWA 2011b; SD B);
- TERR 2 – Special-status Plants TSR (TERR 2 – TSR) (PCWA 2011c; SD B).
- TERR 3 – Noxious Weeds TSR (TERR 3 – TSR) (PCWA 2011d; SD B);
- TERR 4 – Special-status Wildlife TSR (TERR 4 – TSR) (PCWA 2011e; SD B);
- TERR 5 – Bald Eagle TSR (TERR 5 – TSR) (PCWA 2011f; SD B); and
- TERR 6 – Special-Status Bats TSR (TERR 6 – TSR) (PCWA 2011g; SD B).

Extensive field surveys were conducted as part of the MFP relicensing process to document the location of terrestrial resources and their habitats in the vicinity of the MFP. These field surveys included completion of the following:

- Vegetation Communities and Wildlife Habitat Mapping;
- Avian Point Count and Area Search Surveys;
- Terrestrial Visual Encounter Surveys (TVES);
- Special-status Plants Surveys;
- Bald Eagle Wintering and Nesting Surveys;
- Northern Goshawk Surveys;

- Osprey Nest Surveys;
- Special-status Bats Surveys; and
- Noxious Weeds Surveys.

Provided below is a description of the affected environment for the MFP. This includes a summary of vegetation communities and wildlife habitats and a description of special-status plant and wildlife species known or potentially present in the vicinity of the MFP. A description of noxious weeds present in the vicinity of the MFP is also provided. Refer to Section 7.5 – Fish and Aquatic Resources Affected Environment for information on threatened or endangered aquatics species.

7.6.2 Vegetation Communities and Wildlife Habitats

At total of 24 vegetation communities/12 wildlife habitats are present in the vicinity of the MFP. Vegetation communities/wildlife habitats are classified based on the Classification and Assessment with LANDSAT of Visible Ecological Groupings (CalVeg) data for the Eldorado and Tahoe National Forests (ENF and TNF) (USDA-FS 2000) and California Wildlife Habitat Relationships (CWHR) habitats (CDFG 2010). Vegetation communities and wildlife habitats in the vicinity of the Project vary with increases in elevation. The higher elevations around French Meadows and Hell Hole reservoirs primarily have two mixed conifer communities—one dominated by white fir (*Abies concolor*) and the other dominated by sugar pine (*Pinus lambertiana*) and Jeffery pine (*Pinus jeffreyi*). These mixed conifer communities transition into stands dominated by Ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*) in the mid-elevations near Middle Fork Interbay. At the lower elevations near Ralston Afterbay and Oxbow Powerhouse, the surrounding habitat is dominated by canyon live oak (*Quercus chrysolepis*) woodland. Refer to Table 7.6-1 for a complete list of vegetation communities/wildlife habitats present in the vicinity of the MFP, as well as the acreage of each wildlife habitat type. Detailed information and vegetation community maps are provided in TERR 1 – TSR (PCWA 2011b; SD B), and maps and descriptions of wildlife habitats are provided in TERR 4 – TSR (PCWA 2011e; SD B). Additional information on the location of riparian habitat is described in Section 7.8 – Riparian Resources Affected Environment and AQ 10 – Riparian Resources (AQ 10 – TSR) (PCWA 2011h; SD B).

7.6.3 Special-status Plants

For the purposes of this document, special-status plants are defined as any plant granted protection by a federal, state, or local agency. This includes:

- Plant species granted status by United States Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (ESA) include threatened (FT) and endangered (FE), and candidates for listing as threatened (CFT) or endangered (CFE);

- Plant species designated by United States Department of Agriculture-Forest Service (USDA-FS) as Forest Service Sensitive (FSS) for the ENF and TNF;

- Plant species granted status by the California Department of Fish and Game (CDFG) under the California Endangered Species Act (CESA) include threatened (ST), endangered (SE), or candidates for listing under CESA; and

- Plant species addressed under the California Environmental Quality Act (CEQA). These include rare plant species (CR) and species included on California Native Plant Society (CNPS) Lists 1B (rare, threatened, or endangered in California and elsewhere), and 2 (rare in California but more common elsewhere).

The following section summarizes special-status plants known or potentially occurring in the vicinity of the MFP based on a literature and data review and on field surveys completed as part of MFP relicensing. Refer to Table 7.6-2 for the status of each species, a summary of life history requirements, and information on their presence in the vicinity of the MFP. Additional information on special-status plant species is provided in TERR 2 – TSR (PCWA 2011c; SD B).

7.6.3.1 Upland Special-status Plant Species

Four upland FSS plants—Brandegee's clarkia (*Clarkia biloba* ssp*. brandegeeae* [FSS, CNPS 1B.2]), Butte County fritillary (*Fritillaria eastwoodiae* [FSS, CNPS 3.2]), saw-toothed lewisia (*Lewisia serrata* [FSS, CNPS 1B.1]), and Stebbins' phacelia (*Phacelia stebbinsii* [FSS, CNPS 1B.2])—have been documented in the vicinity of the MFP.

Populations of all four plants have been documented in CNDDB (2010) and USDA-FS data (2006) in upland (i.e., non-riparian) areas in the steep, rocky river canyons within 200 feet of bypass rivers and streams and along the peaking reach. Refer to Map 7.6-1 for the location of these plants along the bypass reaches and the peaking reach.

In addition, Stebbins' phacelia was also identified within the study area around Project facilities during special-status plant surveys conducted for the relicensing of the MFP. In general, Stebbins' phacelia populations were found above approximately 2,500 feet above mean seal level (msl) within chaparral and oak woodland habitats with well-drained, rocky, granitic soils or in cracks in large granite outcroppings. Appropriate habitat for Stebbins' phacelia was especially prevalent along the shoreline of Hell Hole Reservoir, where 44 populations (estimated to include approximately 2.4 to 4.7 million individuals) were identified during special-status plant surveys conducted for the relicensing. Three other populations were also identified: two near Brushy Canyon (including approximately 200 individuals); and one near French Meadows Reservoir, consisting of one individual. During follow-up surveys conducted at new or existing gaging stations and trails to be added to the MFP, two additional Stebbins' phacelia populations, consisting of a total of four individuals, were documented in the vicinity of the Rubicon River Gage above Ellicott Bridge. In addition, a population of Stebbins' phacelia previously reported in the vicinity of Duncan Creek Diversion Pool was later

determined (during follow-up surveys conducted in August 2010) to be a common species of phacelia.

A description of Stebbins' phacelia, including preferred habitat and life history, is included in the Draft BA/BE (PCWA 2011a; SD C) developed for the MFP. Maps of Stebbins' phacelia populations in the vicinity of the MFP are provided in Maps 7.6-1a through 7.6-1e. Refer to Table 7.6-3 for a list of each Stebbins' phacelia population identified in the vicinity of the Project and the estimated size and number of individuals in each population. Table 7.6-4 provides the location of the population in proximity to routine operation and maintenance activities, as well as staging and construction areas associated with the modification of existing facilities or construction of new facilities. Additional information on and photographs of Stebbins' phacelia are provided in TERR 2 – TSR (PCWA 2011c; SD B).

A number of Stebbins' phacelia populations are located along the shoreline and within the existing flood pool of Hell Hole Reservoir. A schematic of specific elevations around Hell Hole Reservoir associated with the existing Project (No-Action Alternative) is provided below. Refer to Table 7.6-5 for a list of Stebbins' phacelia populations within different elevation ranges at Hell Hole Reservoir, including the area (in square feet and acres) and estimated number of individuals. These elevation ranges include:

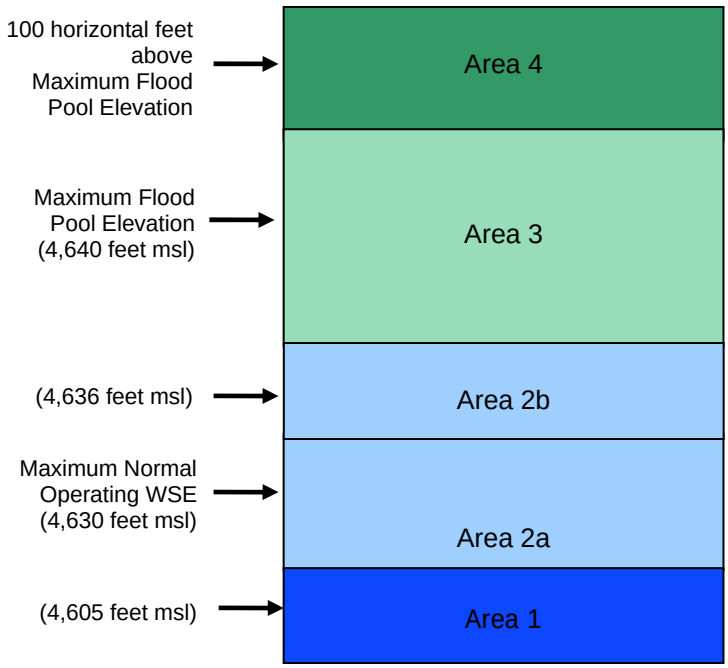
- **Area 1** includes those portions of special-status plant populations occurring at or below the current maximum normal operating water surface elevation (WSE) of 4,630 feet msl down to approximately 4,605 feet msl;

- **Area 2a** includes those portions of special-status plant populations occurring from the maximum normal operating WSE (4,630 feet msl) to 4,636 feet msl;

- **Area 2b** includes those portions of special-status plant populations occurring from 4,636 feet msl to the maximum flood pool elevation at 4,640 feet msl;

- **Area 3** includes those portions of special-status plant populations occurring from the maximum flood pool elevation (4,640 feet msl) to the upper limit of the study area; and

- **Area 4** includes those portions of the special-status plant populations intersecting Areas 1, 2, and/or 3 that extend beyond Area 3.



Under current operations, approximately 0.4 acre of habitat that support an estimated 9,000 to 18,000 Stebbins' phacelia individuals are located between reservoir elevation 4,605 feet msl and 4,630 feet msl (Area 1). Refer to Appendix C1c for an analysis of WSE's in Area 1 under existing conditions.

Approximately 2 acres of habitat that support an estimated 53,000 to 106,000 individuals are located within the current maximum normal operating WSE (4,630 feet msl to 4,636 feet msl) (Area 2a). Based on an analysis of reservoir elevation data, under existing conditions, plants in Area 2a are inundated during seven of the ten wet water years (for an average duration of 43 days per year), three of the six above normal water years (for an average duration of 14 days per year), one of the six below normal water years (for an average of 7 days per year), zero of the five dry water years, and zero of the six critical water years.

Approximately 5 acres of habitat, supporting an estimated 117,000 to 234,000 individuals, are located between WSE and the maximum flood pool elevation (4,636 feet msl and 4,640 feet msl) (Area 2b). Under current operations, areas above 4,636 feet msl are typically not inundated except during extreme spill events.

An additional 45.78 acres of habitat supporting an estimated 997,000 to 1,994,000 individuals exist within the study area (100 horizontal feet above current maximum flood pool elevation) (Area 3).

Refer to Table 7.6-5 and Maps 7.6-1d and 7.6-1e for a summary of the location and extent of Stebbins' phacelia populations around Hell Hole Reservoir.

Riparian Special-status Plant Species

Several special-status plants and mosses may occur in riparian habitats along bypass and peaking reaches associated with the MFP. However, special-status plant surveys were not conducted in these areas because it was determined in consultation with the resource agencies during study plan development that operations and maintenance of the MFP would not affect these areas. Special-status riparian plants and mosses potentially present include:

- Upswept moonwort *(Botrychium ascendens* [FSS, CNPS 2.3]);
- Common moonwort *(Botrychium lunaria* [FSS, CNPS 2.3]);
- Mingan moonwort *(Botrychium minganense* [FSS, CNPS 2.2]);
- Clustered lady's slipper *(Cypripedium fasciculatum* [FSS, CNPS 4.2]);
- Oregon fireweed *(Epilobium howelii* [CNPS 1B.2]); and
- Brook pocket moss *(Fissidens aphelotaxifulius* [FSS, CNPS 2.2]).

7.6.4 Special-status Wildlife

For the purposes of this document, special-status wildlife species are defined to include animals granted protection by a federal, state, or local agency. This includes:

- Wildlife species granted status by USFWS under the Federal ESA include threatened (FT) and endangered (FE), candidates for listing as threatened (CFT) or endangered (CFE);
- Wildlife species designated by USDA-FS as FSS for the ENF and TNF and Region 5 Management Indicator Species (MIS);
- Wildlife species granted status by the CDFG under the CESA include threatened (ST), endangered (SE), or candidates for listing under CESA (SC); and
- Other special-status resources considered in this document include USFWS Birds of Conservation Concern (BCC), California Species of Special Concern (CSC), and California Fully Protected Species (CFPS).

USDA-FS has also designated management areas for selected species that occur in the MFP. These include Riparian Conservation Areas (RCA) (addressed in Section 8.8 – Riparian Resources Environmental Effects); willow flycatcher habitats; Protected Activity Centers (PACs) for northern goshawk and California spotted owl; Home Range Core Areas (HRCAs) for California spotted owl; and Forest Carnivore Den Sites for American marten and Pacific fisher.

A total of 17 special-status wildlife species are known to occur in the vicinity of the MFP, and 20 special-status wildlife may potentially occur in the vicinity of the MFP based on a literature and data review and field surveys completed as part of MFP relicensing. The status and location of these species in the vicinity of the MFP is summarized below and organized to facilitate the impacts discussion provided in Section 8.6 – Botanical and Wildlife Resources Environmental Effects.

Refer to Table 7.6-6 for the status of each species, a summary of life history requirements, and information on their presence in the vicinity of the MFP. Detailed information and a map of the location of each species is provided in TERR 4 –TSR (PCWA 2011e; SD B); TERR 5 – TSR (PCWA 2011f; SD B); and TERR 6 – TSR (PCWA 2011g; SD B). Refer to the Draft BA/BE (PCWA 2011a; SD C) developed for the MFP for a brief description of the life history and habitat requirements, as well as pertinent USFWS biological opinions, recovery plans, or critical habitat designations for each federally listed species.

7.6.4.1 Special-status Bird Species

Bald Eagle

Bald eagle (*Haliaeetus leucocephalus* [FSS, FD, SE, CFP]) is the only federal or state listed wildlife species known to occur in the MFP vicinity. Project reservoirs and bypass and peaking reaches associated with the MFP provide aquatic foraging habitat for bald eagles. Large trees provide potential nesting or roosting structures. Bald eagles were observed in flight at Hell Hole Reservoir and at several locations along the Middle Fork American River and the Rubicon River. One active bald eagle nest is present near the confluence of Rubicon River and Hell Hole Reservoir. Refer to Figure 7.6-1 for an overview of bald eagle breeding chronology and sensitivity to human activities. Three bald eagle winter night roosts are present along the shoreline of Hell Hole Reservoir. Detailed bald eagle life history and habitat information is included in the Draft BA/BE (PCWA 2011a; SD C) developed for the MFP. Refer to the TERR 5 – TSR (PCWA 2011f; SD B) for detailed survey methods and results. Table 7.6-7 and Map 7.6-2 provide the location of bald eagle roosts and nests in relation to Project facilities and features, Project recreation facilities and features, and proposed new facilities.

Following the delisting of bald eagles by USFWS on June 28, 2007, USFWS issued the National Bald Eagle Management Guidelines (USFWS 2007) to provide recommendations for protection of bald eagles on private and public lands. The Guidelines recommend that certain activities be restricted within 660 feet of bald eagle nests, and also recommend modifying activities in the vicinity of bald eagle roosts. In addition, during the development of the Bald Eagle Management Plan (BEMP) (PCWA 2011i; SD A) for the MFP, resource agencies requested that a 0.25-mile activity buffer around the bald eagle nest be used for Project impact analyses. The bald eagle nest and roosts are located within 0.25 mile only one MFP Project facility, Hell Hole Reservoir. All other facilities are located more than 0.25 mile from the nest and roosts.

Other Aquatic Foraging Birds

MFP reservoirs and bypass and peaking reaches associated with the MFP provide aquatic foraging habitat for a number of special-status birds such as bald eagle, American white pelican (*Pelecanus erythrorhynchos* [CSC]), harlequin duck (*Histrioniucs histrionicus* [CSC]), and Vaux's swift (*Chaetura vauxi* [CSC]). Refer to Table 7.6-6 for the habitat requirements and status of these species. American white pelicans, which are a migrant species, were documented foraging in the vicinity of Hell Hole Reservoir during MFP relicensing studies. Vaux's swifts, which were seen foraging over French Meadows Reservoir during relicensing studies, could potentially breed in forest habitat in the vicinity of the MFP. Harlequin ducks breed along swift, shallow rivers of the Sierra Nevada, and could potentially occur in the MFP vicinity. However, there are no current records for this species in the vicinity of the MFP.

Osprey (*Pandion haliaetus*), although not a special-status species, was surveyed for as part of the MFP relicensing studies (TERR 4 – TSR [PCWA 2011e; SD B]). Ospreys are known to forage in large and medium Project reservoirs, and there are eight active nests including five nests at French Meadows Reservoir and three at Hell Hole Reservoir. Refer to TERR 4 – TSR (PCWA 2011e; SD B) for detailed survey methods and results. Table 7.6-7 and Map 7.6-3 provide the location of osprey nests in relation to Project facilities and features, Project recreation facilities and features, and proposed new facilities.

Other Raptors

In addition to bald eagles and osprey, a number of special-status raptors are known to occur in the vicinity of the MFP, including golden eagle (*Aquila chrysaetos* [CFP]), northern goshawk (*Accipiter gentilis* [FSS, CSC]), and California spotted owl (*Strix occidentalis occidentalis* [FSS, MIS, BCC, CSC]). Special-status raptors potentially occurring in the vicinity of the MFP include flammulated owl (*Otus flammeolus* [BCC]), great gray owl (*Strix nebulosa* [FSS, SE]), and American peregrine falcon (*Falco peregrinus anatum* [FD, BCC, SE]). Refer to Table 7.6-6 for a list of each special-status raptor and a summary of its status, habitat requirements, and potential for occurrence in the vicinity of the MFP.

USDA-FS data show a number of California spotted owl and northern goshawk nest sites, PACs, and HRCAs in the vicinity of MFP facilities. Additional information on nest sites, PACs, and HRCAs is provided below.

NORTHERN GOSHAWK

The USDA-FS has designated PACs for northern goshawk (FSS, CSC) in mixed conifer forests in the vicinity of the MFP. Forest habitat for northern goshawks is characterized by trees in the dominant and co-dominant crown classes averaging at least 24-inches diameter at breast height (dbh) and at least 70% tree canopy cover.

USDA-FS has defined desired conditions for northern goshawk PACs based on the Sierra Nevada Forest Plan Amendment (SNFPA) – Final Supplemental Environmental

Impact Statement (EIS) (USDA-FS 2004). PACs are designated surrounding all known and newly discovered northern goshawk breeding territories on national forest lands based on the location of the most recently documented nest site and the location(s) of alternate nests. If the actual nest site is not located, the PAC designation is based on the location of territorial adult birds or recently fledged juvenile goshawks during the fledgling dependency period (USDA-FS 2004). In addition, USDA-FS desired conditions state that the PAC should include either "the best available 200-acres of forested habitat in the largest continuous patches, or the largest possible patches of habitat within 0.5 mile of one another."

A description of northern goshawks including preferred habitat and life history, is included in the Draft BA/BE (PCWA 2011a; SD C) developed for the MFP. Refer to the TERR 4 – TSR (PCWA 2011e; SD B) for detailed survey methods and results. Table 7.6-7 and Map 7.6-4 provide the location of northern goshawk PACs and nests in relation to Project facilities and features, Project recreation facilities and features, and proposed new facilities.

CALIFORNIA SPOTTED OWL

The USDA-FS has identified PACs and HRCAs for California spotted owl in mixed conifer forests in the vicinity of the MFP. Forest habitat for California spotted owl is characterized by two or more tree canopy layers; trees in the dominant and co-dominant crown classes averaging 24-inches dbh or greater; and at least 70% tree canopy cover (including hardwoods).

USDA-FS has defined desired conditions for California spotted owl PACs based on the SNFPA – Final Supplemental EIS (USDA-FS 2004). PACs for California spotted owl in national forest lands are based on one of the following: the location of the most recent documented nest site or the most recent known roost site when a nest location remains unknown, or a central point based on repeated daytime detections, when neither nest or roost locations are known (USDA-FS 2004). Aerial photography interpretation and field verification are used as needed to delineate PACs. In addition, USDA-FS desired conditions state that each PAC should encompass "the best available 300 acres of habitat in as compact a unit as possible."

In addition to PACs, HRCAs were established surrounding each California spotted owl activity center detected after 1986. The size of the HRCA is calculated as 20% of the area of the sum of average breeding pair home range size (for each forest) plus one standard error. The HRCA includes the PAC as well as the best available California spotted owl habitat in the closest proximity (within 1.5 miles) to the activity center (USDA-FS 2001).

A description of California spotted owls, including preferred habitat and life history, is included in the Draft BA/BE (PCWA 2011a; SD C) developed for the MFP. Refer to TERR 4 – TSR (PCWA 2011e; SD B) for detailed survey methods and results. Table 7.6-7 and Map 7.6-5 provide the location of PACs, HRCAs, and nests in relation to

Project facilities and features, Project recreation facilities and features, and proposed new facilities.

RIPARIAN-NESTING SONGBIRDS

Three riparian-nesting songbirds are known to occur or may potentially occur in riparian habitat along Project reservoirs and bypass and peaking reaches associated with the MFP:

- Willow flycatcher *(Empidonax traillii brewsteri* [FSS, BCC, SE]);
- Yellow warbler *(Dendroica petechia brewsteri* [MIS, CSC]); and
- Yellow-breasted chat *(Icteria virens* [CSC]).

Yellow warbler and yellow-breasted chat were detected in riparian areas in the vicinity of MFP reservoirs (i.e., Ralston Afterbay, French Meadows, and Hell Hole) during surveys conducted for the relicensing. USDA-FS specifically defines willow flycatcher habitat (i.e., willow flycatcher planning areas) as wet or moist meadows supporting woody vegetation, particularly willows (USDA-FS 2004), with meadows 15 acres in size or greater given management emphasis. Only one area of habitat meeting this definition has been identified in the vicinity of the MFP, located approximately 3.5 miles to northeast of Hell Hole Reservoir.

Other Birds

In addition to raptors, riparian-nesting songbirds, and aquatic-foraging birds addressed previously in this section, several other special-status bird species may potentially occur in the vicinity of the MFP. These are birds that forage and/or breed in forested habitats in the vicinity of the MFP, and include sooty (blue) grouse (*Dendragapus obscurus* [MIS]), mountain quail (*Oreortyx pictus* [MIS]), calliope hummingbird (*Stellula calliope* [BCC]), Lewis' woodpecker (*Melanerpes lewis* [BCC]), Williamson's sapsucker (*Sphyrapicus thyroideus* [BCC]), hairy woodpecker (*Picoides villosus* [MIS]), black-backed woodpecker (*Picoides arcticus* [MIS]), olive-sided flycatcher (*Contopus cooperi* [BCC, CSC]), fox sparrow (*Passerella iliaca* [MIS]), and Cassin's finch (*Carpodacus cassinii* [BCC]). Refer to Table 7.6-6 for a list of each bird species and a summary of its status, habitat requirements, and potential for occurrence in the vicinity of the MFP.

7.6.4.2 Special-status Mammals

Special-status Bats

Three special-status bat species were detected during surveys conducted for TERR 6 – TSR (PCWA 2011g; SD B). These include:

- Pallid bat *(Antrozous pallidus* [FSS, CSC]);
- Western red bat *(Lasiurus blossevillii* [FSS, CSC]); and

- Townsend's big-eared bat *(Coynorhinus townsendii* [FSS, CSC]).

Two other special-status bats, spotted bat (*Euderma maculatum* [CSC]) and greater western mastiff bat (*Eumops perotis californicus* [CSC]) may potentially occur in the vicinity of the MFP.

Pallid bats, spotted bats, and greater western mastiff bats roost primarily in cliffs, caves, and rock crevices. Western red bats roost solitarily under tree foliage, while Townsend's big-eared bats prefer man-made structures, such as mines and buildlings. There are no documented special-status bat roosts in Project facilities and features or Project recreation facilities and features.

Open water habitats in the vicinity of the MFP (i.e., reservoirs and stream reaches) provide aquatic foraging habitat for special-status bat species. During relicensing studies for the MFP, pallid bats were detected foraging over French Meadows Reservoir, Middle Fork Interbay, Ralston Afterbay, and Duncan Creek and North Fork Long Canyon Creek diversion pools. Western red bats were detected foraging over all Project reservoirs and diversion pools; and Townsend's big-eared bats were detected foraging over French Meadows Reservoir, Hell Hole Reservoir, Ralston Afterbay, and North Fork Long Canyon Creek Diversion Pool.

A description of pallid bat, Western red bat, and Townsend's big-eared bat, including preferred habitat and life history, is included in the Draft BA/BE (PCWA 2011a; SD C) developed for the MFP.

Special-status Mesocarnivores

Three special-status mesocarnivores could potentially occur in the vicinity of the MFP. These include:

- American marten *(Martes americana* [FSS, MIS]);
- Pacific fisher (*Martes pennanti pacifica* [FC, FSS, candidate for listing as threatened under CESA [SCT], CSC]); and
- California wolverine *(Gulo gulo luteus* [FSS, ST, CFP]).

The USDA-FS has established buffer areas to protect breeding mesocarnivores, including American marten and Pacific fisher, on national forest lands (USDA-FS 2004). These buffers are delineated based on the location of natal (birthing) and maternal (kit-rearing) dens and include 100- and 700-acre buffers (respectively) consisting of the highest quality habitat in a compact arrangement surrounding the den sites. Habitat for these species includes dense mixed conifer–fir forests with mature trees (greater than 24-inches dbh).

While potential forest habitat for these species is present in the vicinity of the MFP, there are no documented mesocarnivore dens and no USDA-FS buffer areas near the

MFP. A description of special-status mesocarnivores, including preferred habitat and life history, is included in the Draft BA/BE (PCWA 2011a; SD C) developed for the MFP.

Game Species

Twenty game species occur in the vicinity of the MFP. Table 7.6-8 provides a list of these species, including resident and migratory game birds, game mammals (including fur-bearing mammals) potentially occurring in the vicinity of the MFP. Table 7.6-8 also includes a summary of habitat requirements and hunting regulations. The game species listed in Table 7.6-8 are common breeders and foragers primarily in forested habitats of the MFP. Eight of these species were observed during surveys conducted for the TERR 4 – TSR (PCWA 2011e; SD B), primarily in forested areas in the vicinity of French Meadows and Hell Hole reservoirs. These species are:

- Blue grouse (MIS);
- Mountain quail (*Oreotyx pictus* [MIS]);
- Band-tailed pigeon *(Columba fasciata)*;
- Coyote *(Canis latrans)*;
- Gray fox *(Urocyon cinereoargenteus)*;
- Black bear *(Ursus americanus)*;
- Mountain lion *(Felis rufus* [Specially Protected Mammal]); and
- Mule deer *(Odocoileus hemionus* [MIS]).

Mule deer are among the most visible and widespread game species in California. Two deer herds, the Blue Canyon mule deer herd and the Pacific mule deer herd are present in the Watershed. A State Game Refuge (Fish and Game Code §10825), intended primarily to protect habitat used by the Blue Canyon mule deer herd, extends from the west end of French Meadows Reservoir to the northwest portion of the Granite Chief Wilderness. The following habitat areas are important to mule deer in the Watershed:

- Summer range, which is characterized as upper elevation habitat that provides cover and foraging and fawning habitat, includes moist meadows, brush-fields, seeps and springs, and riparian areas.
    - Critical summer range is a subset of summer range that consists of areas believed to be especially critical to the life cycle of migratory deer.
    - Critical fawning areas include those portions of summer range believed to be crucial for species persistence and reproduction.

- Winter range is characterized as lower elevation habitat that provides foraging and cover. Subsets of winter range include:
    - Critical winter range, which includes areas believed to be especially critical to the life cycle of migratory deer; and
    - Key winter range, defined as the portion of the yearlong range where deer congregate in response to food and/or cover during severe winter weather conditions.
- Intermediate range includes portions of the range located between summer and winter ranges that are used during migration. Summer and intermediate range often overlap depending upon annual climatic variation, and so are discussed together where applicable.
- Holding areas are where large numbers of deer congregate prior to migration.

For the Blue Canyon mule deer herd, fawning areas are located along the north shore of Hell Hole Reservoir, approximately 0.5 mile east of French Meadows Powerhouse. Critical summer range habitat is present in the areas surrounding upper Hell Hole Reservoir and French Meadows Reservoir. Critical winter range habitat is present at Middle Fork Interbay and along Brushy Canyon Adit Road. Mule deer holding areas are present along the northwest shore of Hell Hole Reservoir. Migration routes are present in the vicinity of Hell Hole Reservoir and French Meadows Reservoir.

For the Pacific mule deer herd, only critical summer range habitat is present in the vicinity of the MFP, in the areas surrounding Hell Hole Reservoir. Table 7.6-7 and Maps 7.6-6a and 7.6-6b provide the location of mule deer habitats in relation to Project facilities and features, Project roads and trails, Project recreation facilities and features, and proposed new facilities.

Other Special-Status Mammals

In addition to bats, mesocarnivores, and game species addressed above, several other special-status mammals may potentially occur in the vicinity of the MFP. These are mammals that forage and/or breed in forested habitats in the vicinity of the MFP, and include Sierra Nevada mountain beaver or sewellel (*Aplodontia rufa californica* [CSC]), ringtail (*Bassariscus astutus* [CFP]), and northern flying squirrel (*Glaucomys sabrinus* [MIS]). Ringtail are known to occur in the vicinity of the MFP based on incidental reports from Placer County Water Agency (PCWA) personnel.

Refer to Table 7.6-6 for a list of each species and a summary of its status, habitat requirements, and potential for occurrence in the MFP.

7.6.4.3 Noxious Weeds

Noxious weeds are common and widespread in the vicinity of the MFP, with the greatest number and highest densities occurring near the lower-elevation Project

facilities (i.e., Ralston Afterbay and Middle Fork Interbay). The number and density of noxious weeds generally decreases in the vicinity of the higher-elevation, Project facilities such as French Meadows and Hell Hole reservoirs. Noxious weed species are present in the vicinity of Project facilities and features, as well as along bypass reaches and the peaking reach where no routine maintenance activities are implemented. Two USDA-FS priority noxious weed species, cheatgrass (*Bromus tectorum*) and Klamathweed (*Hypericum perforatum*), are particularly widespread throughout the American River watershed. Refer to the TERR 3 – TSR (PCWA 2011d; SD B) for detailed information on noxious weed populations within the MFP.

Priority noxious weeds (i.e., non-native or invasive plants) are those noxious weed species which ENF and TNF are focusing their forest-wide weed management efforts. Table 7.6-9 provides a list ENF and TNF priority noxious weed species that are present in the vicinity of the MFP. There are a total of 1,758.5 acres of priority noxious weed species in the vicinity of the MFP. Maps 7.6-7a–e provide the location of noxious weeds and MFP facilities Project facilities and features, Project roads and trails, Project recreation facilities and features, and proposed new facilities.

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TABLES

Table 7.6-1. Vegetation Communities and Wildlife Habitats in the Vicinity of the MFP.

Vegetation Community[1]	Wildlife Habitat[2]	Acreage in the MFP
Annual Grasses/Forbs	Annual Grass	2
Barren	Barren	53
Gray Pine	Blue Oak–Foothill Pine	2
Douglas-Fir–Pine	Douglas-Fir	160
Pacific Douglas-Fir		
Huckleberry Oak	Montane Chaparral	178
Lower Montane Mixed Chaparral		
Upper Montane Mixed Chaparral		
Black Oak	Montane Hardwood	277
Canyon Live Oak		
Interior Live Oak		
Interior Mixed Hardwoods		
Montane Mixed Hardwoods		
Mountain (Thinleaf) Alder	Montane Riparian	23
Cottonwood–Alder		
Mixed Riparian Hardwoods		
White Alder		
Willow		
Willow–Alder		
Ponderosa Pine	Ponderosa Pine	24
Mixed Conifer–Fir	Sierran Mixed Conifer	776
Mixed Conifer–Pine		
White Fir	White Fir	20
N/A	Urban	105
N/A	Water (Riverine and Lacustrine)	2,532
	TOTAL ACREAGE	**4,150**

[1]Vegetation community classification is based on the Classification and Assessment with LANDSAT of Visible Ecological Groupings (CalVeg) (USDA-FS 2000).

[2]Wildlife habitat classification is based on California Wildlife Habitat Relationships (CWHR) (CDFG 2010).

Table 7.6-2. Special-status Plant Species in the Vicinity of the MFP.

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
Special-status Plants Known to Occur Within the MFP during the Term of the New License							
Clarkia biloba ssp. *brandegeeae*	Brandegee's clarkia	FSS[2]	–	1B.2	May–July	Chaparral, cismontane woodland, often roadcuts. From 950 to 3,200 feet in elevation.	Known to occur in the vicinity of the MFP. Documented by CNDDB in rocky, upland areas along the MFAR river canyon.
Fritillaria eastwoodiae	Butte County fritillary	FSS[2]	–	3.2	March–May	Chaparral, cismontane woodland, lower montane coniferous forest (openings), wet and dry slopes red clay or sandy loam. From 100 to 5,000 feet in elevation.	Known to occur in the vicinity of the MFP. Documented by CNDDB in rocky, upland areas along the MFAR.
Lewisia serrata	Saw-toothed lewisia	FSS3	–	1B.1	May–June	Broad-leaved upland forest, lower montane coniferous forest, and riparian forest on mesic steep, nearly vertical cliffs and inner gorges. From 2,800 to 4,800 feet in elevation.	Known to occur in the vicinity of the MFP. Documented by USDA-FS and CNDDB in rocky, upland areas along Long Canyon Creek.
Phacelia stebbinsii	Stebbins' phacelia	FSS[3]	–	1B.2	June–July	Cismontane woodland and lower montane coniferous forest, and meadows and seeps. Found on dry, open rocky sites (bedrock outcrops, rubble, or talus) on ledges and moderate or steep slopes as well as inner gorges and near seeps on ENF and TNF. From 2,000 to 7,050 feet in elevation.	Known to occur in the vicinity of the MFP. A total of 49 populations (112 acres) were documented during the TERR 2 – Special-Status Plants surveys (PCWA 2009) and subsequent surveys in the vicinity of new gaging stations to be added to the MFP. Known populations include: ▪ Two small populations in the vicinity of Brushy Creek (approximately 200 individuals) ▪ Four individuals in the vicinity of the Rubicon River at Ellicott Bridge ▪ 1 individuals in the vicinity of French Meadows Reservoir ▪ 44 populations in the vicinity of Hell Hole Reservoir (approximately 2.4 to 4.7 million individuals) Additional populations are documented by USDA-FS and CNDDB in rocky, upland areas along the Rubicon River, Long Canyon Creek, and Duncan Creek.
Special-status Plants Potentially Occurring Within the MFP during the Term of the New License							
Allium tribracteatum	Three-bracted onion	FSS	–	1B.2	April–August	Chaparral, lower montane coniferous forest and upper montane coniferous forest. From 3,600 to 9,800 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Arctostaphylos nissenana	Nissenan manzanita	FSS	–	1B.2	February–March	Open, rocky ridges and acidic shale and slate soils in chaparral and closed-cone coniferous forests. Found in almost pure colonies on hard shale substrate primarily where other shrubs and trees are absent. From 1,450 to 3,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Astragalus webberi	Webber's milk-vetch	FSS	–	1B.2	May–July	Lower montane coniferous forest. From 2,400 to 3,700 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Campylopodiella stenocarpa	Flagella-like atractylocarpus	–	–	2.2	N/A	Cismontane woodlands. From 300 to 1,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

Table 7.6-2. Special-status Plant Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)							
Chlorogalum grandiflorum	Red Hills soaproot	–	–	1B.2	May–June	Cismontane woodland, chaparral, and lower montane coniferous forests on serpentine or gabbro soils. From 850 to 3,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. Several populations of Red Hills soaproot are documented by CNDDB in the vicinity of the MFP. These populations occur along PG&E powerline rights-of-way on the rocky ledge above the river canyon near Ralston Afterbay and near the confluence of the Rubicon River and Long Canyon Creek. These populations will not be affected by the Proposed Action (i.e., routine operation and maintenance of the MFP).
Balsamorhiza macrolepis var. *macrolepis*	Big-scale balsamroot	FSS	–	1B.2	March–June	Chaparral, cismontane woodland, valley and foothill grassland, and vernally moist meadows on sandstone, serpentine, or basalt outcrops. From 300 to 4,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Botrychium ascendens	Upswept moonwort	FSS	–	2.3	Fertile July–August	Lower montane coniferous forests near streams, grassy fields, meadows and seeps. From 4,800 to 7,300 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
Botrychium crenulatum	Scalloped moonwort	FSS	–	2.2	Fertile June–July	Lower and upper montane coniferous forests, bogs, fens, and moist meadows. From 4,900 to 10,800 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Botrychium lunaria	Common moonwort	FSS	–	2.3	August	Meadows and seeps, moist riparian areas, subalpine coniferous forest and upper montane coniferous forest. From 7,500 to 11,000 feet elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
Botrychium minganense	Mingan moonwort	FSS	–	2.2	July–September	Mesic areas in lower and upper montane coniferous forest, moist riparian areas, and meadows and seeps. From 4,000 to 6,700 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
Botrychium montanum	Mountain moonwort (western goblin)	FSS	–	2.1	July–September	Lower and upper montane coniferous forests, and meadows and seeps. From 4,500 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Bruchia bolanderi	Bolander's bruchia	FSS	–	2.2	N/A	Lower and upper montane coniferous forest, meadows, seeps, and fens in damp soils. From 4,000 to 9,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Calochortus clavatus var. *avius*	Pleasant Valley mariposa lily	FSS	–	1B.2	March–June	In openings, often south-facing slopes and ridgetops, of lower montane coniferous forests with Josephine silt loam and volcanic soils. From 1,000 to 6,300 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

Table 7.6-2. Special-status Plant Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)							
Cypripedium fasciculatum	Clustered lady's-slipper	FSS	–	4.2	March–August	Lower montane coniferous forest, serpentine seeps and streambanks. From 500 to 7,200 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
Cypripedium montanum	Mountain lady's-slipper	FSS	–	4.2	March–August	Broad-leaved upland and lower montane coniferous forests in moist areas or on dry shaded slopes with northern aspects and loam soils. From 600 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Epilobium howellii	Subalpine fireweed	FSS	–	4.3	July–August	Mesic areas in subalpine coniferous forest, wet meadows, fens, and mossy seeps. From 6,000 to 9,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Epilobium oreganum	Oregon fireweed		–	1B.2	June–September	Bogs, fens, meadows, small streams and ditches in lower and upper montane coniferous forests. From 1,600 to 8,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
Erigeron miser	Starved fleabane	FSS	–	1B.3	June–October	Upper montane coniferous forest, rocky soils. From 6,000 to 8,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Eriogonum tripodum	Tripod buckwheat	FSS	–	4.2	May–July	Chaparral, cismontane woodlands, often on serpentine outcroppings. From 650 to 5,250 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Eriogonum umbellatum var. *torreyanum*	Donner Pass buckwheat	FSS	–	1B.2	July–September	Upper montane coniferous forests, chaparral, and meadows. Volcanic and rocky soils. From 6,000 to 8,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Fissidens aphelotaxifolius	Brook pocket-moss	FSS	–	2.2	N/A	Lower and upper montane coniferous forest, rock, stream channels and waterfalls. From 6,500 to 7,200 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys. However, this species may occur along Project streams and bypass reaches.
Helodium blandowii	Blandow's bog-moss	FSS	–	2.3	N/A	Meadows, seeps, fens, and subalpine coniferous forest; damp soil. From 6,500 to 8,900 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Horkelia parryi	Parry's horkelia	FSS	–	1B.2	April–June	Chaparral, cismontane woodland on stony, disturbed sites with slightly acidic soils. From 250 to 3,600 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Ivesia aperta var. *aperta*	Sierra Valley mousetail	FSS	–	1B.2	June—September	Great Basin scrub, lower montane coniferous forest, meadows and seeps, pinyon and juniper woodland, vernal pools - vernally mesic, usually volcanic. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

Table 7.6-2. Special-status Plant Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)							
Ivesia aperta var. *canina*	Dog Valley mousetail	FSS	–	1B.1	June–August	Openings in lower montane coniferous forests and in meadows and seeps. Volcanic and rocky soils. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Ivesia sericoleuca	Plumas mousetail	FSS	–	1B.2	May–September	Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Ivesia webberi	Webber's mousetail	FC FSS		1B.1	May–July	Great Basin scrub, lower montane coniferous forest, in sandy or gravelly soils. From 4,500 to 7,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Lewisia cantelovii	Cantelow's lewisia	FSS	–	1B.2	May–October	Broadleaf upland, chaparral, cismontane woodlands, and lower montane coniferous forests. From 1,000 to 4,500 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Lewisia kelloggii ssp. *Hutchisonii*	Hutchison's lewisia (subspecies *hutchisonii*)	FSS	–	3.3	July–August	Decomposed granite and slate soils (volcanic soils), at the north sides of passes and ridge-tops from 5,200 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Lewisia kelloggii ssp. *Kelloggii*	Hutchison's lewisia (subspecies *kelloggii*)	FSS	–	–	July–August	Upper montane coniferous forest, rocky open ridges and granitic and volcanic balds. From 5,000 to 9,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Lupinus dalesiae	Quincy lupine	FSS	–	4.2	May–August	Lower and upper montane coniferous forests. From 3,000 to 8,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Meesia triquetra	Three-ranked hump moss	FSS	–	4.2	N/A	In acidic montane meadows. From 4,250 to 9,700 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Meesia uliginosa	Broad-nerved hump moss	FSS	–	2.2	N/A	Bogs, fens, and rock fissures, upper montane and subalpine coniferous forests, meadows and seeps in damp soil. From 4,250 to 9,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Mielichhoferia elongata	Elongate copper-moss	FSS		2.2	N/A	Cismontane woodland, rock with copper/heavy metals. From 1,500 and 4,250 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Monardella folletti	Follett's mountainbalm	FSS	–	1B.2	June–September	Lower montane coniferous forests in rocky, serpentine soils. From 1,650 to 6,550 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.

Table 7.6-2. Special-status Plant Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
Special-status Plants Potentially Occurring Within the MFP during the Term of the New License (continued)							
Navarretia prolifera ssp. *lutea*	Yellow bur navarretia	FSS	–	4.3	May–July	Chaparral, cismontane woodland. Dry rocky flats, often on Ledmount soils. Often on lava caps or other openings, rocky ridgelines, saddles, and eroding ephemeral drainages. From 2,300 to 5,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Ophioglossum pusillum	Northern adder's tongue	–	–	2.2	July	Margins of marshes and swamps and mesic areas of Valley and foothill grasslands. From 3,280 to 6,500 feet in elevation	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Packera layneae (Senecio layneae)	Layne's ragwort	FT FSS	SR	1B.2	April–July	Chaparral and cismontane woodland on rocky, gabbroic, serpentine or ultramafic soils. From 650 to 3,400 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Peltigera hydrothyria *(Hydrothyria venosa*)	Veined water lichen	FSS	–	–	N/A	Aquatic, in spring-fed streams with clear, cold water. From 1,150 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Penstemon personatus	Close-throated beardtongue	FSS	–	1B.2	June–September	Chaparral and upper and lower montane coniferous forests. From 3,400 to 7,000 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Pyrrocoma lucida	Sticky goldenweed	FSS	–	1B.2	July–October	Great Basin scrub, lower montane coniferous forest, and meadows and seeps. May grow in alkaline clays. From 2,250 to 6,250 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Rorippa subumbellata	Tahoe yellow cress	FC	SE	1B.1	May–September	Lower montane coniferous forests, meadows and seeps, sandy (granitic) lake margins. From 6,050 to 6,250 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Scutellaria galericulata	Marsh skullcap	–	–	2.2	June–September	Lower montane coniferous forest, marshes and swamps, meadows and seeps. From 0 to 6,900 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Tauschia howelli	Howell's tauschia	FSS	–	1B.3	June–August	Subalpine /upper montane coniferous forest, granitic, gravelly soils. From 5,500 to 8,500 feet in elevation.	The MFP is within the known geographic and elevation range of this species. This species was not observed during the TERR 2 special-status plant surveys.
Special-status Plants Unlikely to Occur Within the MFP during the Term of the New License							
Arabis rigidissima var. *demota*	Trinity Mountain rockcress	FSS	–	1B.2	August	Broad-leaved upland forest, and upper montane coniferous forest in rocky soils. From 7,500 to 8,500 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.
Draba asterophora var. *asterophora*	Lake Tahoe draba	FSS	–	1B.2	July–August	Subalpine coniferous forest and alpine boulder and rock fields in the high Sierra Nevada. From 8,000 to 11,500 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.
Draba asterophora var. *macrocarpa*	Cup Lake draba	FSS	–	1B.1	July–August	Subalpine coniferous forests and rock crevices. From 8,000 to 9,000 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.

Table 7.6-2. Special-status Plant Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	CNPS List	Blooming Period/Fertile	Habitat	Occurrence Notes
Special-status Plants Unlikely to Occur Within the MFP during the Term of the New License (continued)							
Lewisia longipetala	Long-petaled lewisia	FSS	–	1B.3	July–August	Alpine boulder and rock fields and subalpine coniferous forests, crevices in granitic rock. From 8,000 to 9,600 feet in elevation.	FERC Project boundaries are outside the known elevation range of this species.
Lomatium stebbinsii	Stebbins' lomatium	–	–	1B.1	March–May	Chaparral, lower montane coniferous forests, and yellow pine forests. Volcanic or gravelly soils. From 3,750 to 5,850 feet in elevation.	FERC Project boundaries are outside the known geographic range of this species. Known from the Stanislaus National Forest, per S. Durham (ENF botanist).
Sphaeralcea munroana	Munroe's desert mallow	–	–	2.2	May–June	Great Basin scrub, about 6,000 feet in elevation.	No appropriate habitat within FERC Project boundaries. Known only from Squaw Creek in Placer County only, to the north of the watershed.

LEGEND:

Federal Status
FT = Federal Threatened
FE = Federal Endangered
FC = Federal Candidate
FSS = Forest Service Sensitive

State Status
SR = listed by California as Rare
ST = California Threatened
SE = California Endangered

CNPS Status (California Native Plant Society)
1B = rare, threatened or endangered in California and elsewhere.
2 = rare in California but more common elsewhere.
3 = need more information
4 = plants of limited distribution; a watch list.
_.1 = Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)
_.2 = Fairly endangered in California (20-80% occurrences threatened)
_.3 = Not very endangered in California (<20% of occurrences threatened or no current threats known)

Table 7.6-3. Stebbins' Phacelia in the Vicinity of the MFP.

Scientific Name	Common Name	Polygon Identification Number[1]	Area[2]		Number of Individuals (estimated)[3]
			Square Feet	Acres	
Brushy Canyon Area					
Phacelia stebbinsii	Stebbins' phacelia	BC01	11,236	0.26	150
Phacelia stebbinsii	Stebbins' phacelia	BC02	26,703	0.61	40
Ellicott Bridge Area					
Phacelia stebbinsii	Stebbins' phacelia	EB01	—	—	3
Phacelia stebbinsii	Stebbins' phacelia	EB02	—	—	1
French Meadows Area					
Phacelia stebbinsii	Stebbins' phacelia	FM01	—	—	1
Hell Hole Area					
Phacelia stebbinsii	Stebbins' phacelia	HH01	25	—	2
Phacelia stebbinsii	Stebbins' phacelia	HH02	250	—	5
Phacelia stebbinsii	Stebbins' phacelia	HH03	600	0.012	25
Phacelia stebbinsii	Stebbins' phacelia	HH04	4	—	5
Phacelia stebbinsii	Stebbins' phacelia	HH05	25	—	5
Phacelia stebbinsii	Stebbins' phacelia	HH06	50	—	5
Phacelia stebbinsii	Stebbins' phacelia	HH07	35,038	0.80	17,500–35,000
Phacelia stebbinsii	Stebbins' phacelia	HH08	65,082	1.5	33,000–65,000
Phacelia stebbinsii	Stebbins' phacelia	HH09	126,886	2.9	63,000–127,000
Phacelia stebbinsii	Stebbins' phacelia	HH10	304,335	7.0	152,000–304,000
Phacelia stebbinsii	Stebbins' phacelia	HH14	93,831	2.2	47,000–94,000
Phacelia stebbinsii	Stebbins' phacelia	HH15	49,849	1.1	25,000–50,000
Phacelia stebbinsii	Stebbins' phacelia	HH17	3,902	0.09	2,000–4,000
Phacelia stebbinsii	Stebbins' phacelia	HH18	1,813	0.04	1,000–2,000
Phacelia stebbinsii	Stebbins' phacelia	HH19	21,313	0.49	11,000–21,000
Phacelia stebbinsii	Stebbins' phacelia	HH21	14,375	0.33	7,000–14,000
Phacelia stebbinsii	Stebbins' phacelia	HH22	62,334	1.4	31,000–62,000
Phacelia stebbinsii	Stebbins' phacelia	HH23	23,824	0.55	12,000–24,000
Phacelia stebbinsii	Stebbins' phacelia	HH24	244,131	5.6	122,000–244,000
Phacelia stebbinsii	Stebbins' phacelia	HH25	19,457	0.45	10,000–19,000
Phacelia stebbinsii	Stebbins' phacelia	HH26	71,357	1.6	36,000–71,000
Phacelia stebbinsii	Stebbins' phacelia	HH27	93,382	2.1	47,000–93,000
Phacelia stebbinsii	Stebbins' phacelia	HH28	167,013	3.8	83,000–167,000
Phacelia stebbinsii	Stebbins' phacelia	HH29	423,790	9.7	212,000–424,000
Phacelia stebbinsii	Stebbins' phacelia	HH30	358,404	8.2	179,000–358,000
Phacelia stebbinsii	Stebbins' phacelia	HH31	246,920	5.7	123,000–247,000
Phacelia stebbinsii	Stebbins' phacelia	HH32	82,348	1.9	41,000–82,000
Phacelia stebbinsii	Stebbins' phacelia	HH33	50,889	1.2	25,000–51,000
Phacelia stebbinsii	Stebbins' phacelia	HH34	399,123	9.2	200,000–399,000
Phacelia stebbinsii	Stebbins' phacelia	HH35	439,293	10	220,000–439,000
Phacelia stebbinsii	Stebbins' phacelia	HH36	11,224	0.26	6,000–11,000

Table 7.6-3. Stebbins' Phacelia in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Polygon Identification Number[1]	Area[2]		Number of Individuals (estimated)[3]
			Square Feet	Acres	
Hell Hole Area (continued)					
Phacelia stebbinsii	Stebbins' phacelia	HH37	1,413	0.03	500–1,000
Phacelia stebbinsii	Stebbins' phacelia	HH38	160,315	3.7	80,000–160,000
Phacelia stebbinsii	Stebbins' phacelia	HH39	17,919	0.41	9,000–18,000
Phacelia stebbinsii	Stebbins' phacelia	HH40	27,979	0.64	14,000–28,000
Phacelia stebbinsii	Stebbins' phacelia	HH41	891,483	20	446,000–891,000
Phacelia stebbinsii	Stebbins' phacelia	HH42	36,557	0.84	18,000–37,000
Phacelia stebbinsii	Stebbins' phacelia	HH43	17,561	0.40	9,000–18,000
Phacelia stebbinsii	Stebbins' phacelia	HH44	89,308	2.1	45,000–89,000
Phacelia stebbinsii	Stebbins' phacelia	HH45	48,850	1.1	24,000–49,000
Phacelia stebbinsii	Stebbins' phacelia	HH46	36,949	0.85	18,000–37,000
Phacelia stebbinsii	Stebbins' phacelia	HH47	95,286	2.2	48,000–95,000
Phacelia stebbinsii	Stebbins' phacelia	HH51	7,348	0.17	4,000–7,000
Phacelia stebbinsii	Stebbins' phacelia	HH52	11,585	0.27	6,000–12,000
	Totals:	**49 populations**	**4,891,359**	**111.7**	**2,427,000–4,849,000**

[1]Refer to Map TERR 2-2a through 2-2e for the location of each population within the study area. Only those populations associated with Project facilities and features are included.

[2]If the population extended beyond the survey area, the entire extent of the population is included.

[3]Number of individuals for polygons HH8 through HH52 was estimated assuming a density of 0.5 to 1.0 individuals per square foot. Numbers are rounded to the nearest thousand.

Table 7.6-4. Routine Maintenance Activities at Project Facilities and Features and Project Recreation Facilities where Stebbins' Phacelia is Present.

Project Facilities and Features / Project Recreation Facilities and Features Located Adjacent to Stebbins' Phacelia Populations	Vegetation Management				Pest Management				Sediment Management						Transportation System Management		Recreation Facility Maintenance	
									Small Diversions			Medium Reservoirs						
	Trimming by Hand	Trimming w/ Equipment	Herbicide Use	Fungicide Use	Noxious Weed Management[1]	Physical Rodent Control (snap traps)	Over-the-Counter Rodenticide Use	Rodenticide Use - Fumigants	Physical Removal w/Equipment	Interim Sediment Mgmt.	Contingency Sediment Mgmt.	Physical Removal w/Equipment	Sediment Augmentation	Sediment Disposal	Annual Maintenance	Periodic Maintenance	Annual Maintenance	Heavy Maintenance
Dams, Reservoirs, and Diversion Pools																		
Large Dams																		
2 populations (10,000 to 19,000 individuals) at Hell Hole Dam and Outlet Works (modified)	A		A		X			X										
Large Reservoirs																		
1 population (1 individual) at French Meadows Reservoir	**No Activities Implemented**																	
33 populations (XX individuals) at Hell Hole Reservoir	**No Activities Implemented**																	
Water Conveyance Systems																		
Removalble Sections and Portals																		
1 population (1 individual) at Duncan Creek - Middle Fork Tunnel Portal	A																	
Intakes and Gatehouses																		
1 population (33,000 to 65,000 individuals) at Hell Hole - Middle Fork Tunnel Gatehouse	A																	
Project Communication Lines and Powerlines																		
4 populations (221,000 to 440,000 individuals) at French Meadows Powerhouse and Switchyard to Hell Hole - Middle Fork Tunnel Gatehouse, Dormitory Facility, Operator's Cottages, and Hell Hole Powerhouse Communication Line/Powerline	A																	
Project Roads																		
2 populations (3,000 to 6,000 individuals) at French Meadows - Hell Hole Tunnel Portal Road	A	A													X	X		
3 populations (188,000 to 375,000 individuals) at French Meadows Powerhouse Road	A	A			X										X	X		
6 populations (47 individuals) at Hell Hole Dam Spillway Discharge Channel Road	A	A													X	X		
Project Recreation Facilities																		
1 population (63,000 to 127,000 individuals) at Hell Hole Campground (reduced)	A			I													X	X
~~1 population (86,500 to 172,000 individuals) at Upper Hell Hole Campground~~ (removed)																	~~X~~	~~X~~
1 population (47,000 to 94,000 individuals) at Hell Hole Vista	A			I													X	X
1 population (17,500 to 35,000 individuals) at Hell Hole Boat Ramp (enhanced)	A				X													
1 population (17,500 to 35,000 individuals) at Hell Hole General Parking Area and Hell Hole Boat Ramp Parking Area	A				X												X	X

[1]Indicates areas where manual and chemical treatment of target noxious weeds populations will be implemented. Manual and chemical treatments may be completed at other locations during the term of the license if new target noxious weeds populations are identified during inventory surveys.

Table 7.6-5. Location of Stebbin's Phacelia Populations in the Vicinity of Hell Hole Reservoir.

Area 1

Includes those portions of special-status plant populations occurring at or below the current maximum normal operating WSE of 4,630 feet msl down to approximately 4,605 feet msl

Species		Population Number[1]	Area[2]		Number of Individuals[3]
Scientific Name	Common Name		Square Feet	Acres	
Phacelia stebbinsii	Stebbins' phacelia	HH39	17,910	0.41	9,000 – 18,000
Total:			**17,910**	**0.41**	**9,000 – 18,000**

Area 2a

Includes those portions of special-status plant populations occurring from the maximum normal operating WSE (4,630 feet msl) to 4,636 feet msl

Species		Population Number[1]	Area[2]		Number of Individuals[3]
Scientific Name	Common Name		Square Feet	Acres	
Phacelia stebbinsii	Stebbins' phacelia	HH08	17	–	8 – 17
Phacelia stebbinsii	Stebbins' phacelia	HH10	3,404	0.08	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH15	393	0.01	200 – 400
Phacelia stebbinsii	Stebbins' phacelia	HH19	737	0.02	350 – 700
Phacelia stebbinsii	Stebbins' phacelia	HH21	922	0.02	450 – 900
Phacelia stebbinsii	Stebbins' phacelia	HH22	1,921	0.04	1,000 – 2,000
Phacelia stebbinsii	Stebbins' phacelia	HH23	356	0.01	200 – 400
Phacelia stebbinsii	Stebbins' phacelia	HH24	9,139	0.21	4,500 – 9,000
Phacelia stebbinsii	Stebbins' phacelia	HH25	9,476	0.22	4,500 – 9,000
Phacelia stebbinsii	Stebbins' phacelia	HH26	1,780	0.04	1,000 – 2,000
Phacelia stebbinsii	Stebbins' phacelia	HH27	208	0.00	100 – 200
Phacelia stebbinsii	Stebbins' phacelia	HH28	2,630	0.06	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH29	70	–	35 – 70
Phacelia stebbinsii	Stebbins' phacelia	HH30	3,117	0.07	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH31	3,257	0.07	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH32	3,708	0.09	2,000 – 4,000
Phacelia stebbinsii	Stebbins' phacelia	HH33	441	0.01	200 – 400
Phacelia stebbinsii	Stebbins' phacelia	HH34	150	–	100 – 200
Phacelia stebbinsii	Stebbins' phacelia	HH35	788	0.02	400 – 800
Phacelia stebbinsii	Stebbins' phacelia	HH36	4,822	0.11	2,500 – 5,000
Phacelia stebbinsii	Stebbins' phacelia	HH37	1,129	0.03	500 – 1,000
Phacelia stebbinsii	Stebbins' phacelia	HH38	2,049	0.05	1,000 – 2,000
Phacelia stebbinsii	Stebbins' phacelia	HH39	9	–	4 – 9
Phacelia stebbinsii	Stebbins' phacelia	HH40	412	0.01	200 – 400
Phacelia stebbinsii	Stebbins' phacelia	HH41	3,574	0.08	2,000 – 4,000
Phacelia stebbinsii	Stebbins' phacelia	HH42	13,417	0.31	6,500 – 13,000
Phacelia stebbinsii	Stebbins' phacelia	HH43	5,275	0.12	2,500 – 5,000
Phacelia stebbinsii	Stebbins' phacelia	HH45	10,251	0.24	5,000 – 10,000
Phacelia stebbinsii	Stebbins' phacelia	HH46	14,225	0.33	7,000 – 14,000
Phacelia stebbinsii	Stebbins' phacelia	HH47	10,049	0.23	5,000 – 10,000
Total:			**107,727**	**2.0**	**53,000 – 106,000**

Table 7.6-5. Location of Stebbin's Phacelia Populations in the Vicinity of Hell Hole Reservoir (continued).

Area 2b

Includes those portions of special-status plant populations occurring from 4,636 feet msl to the maximum flood pool elevation at 4,640 feet msl

Species		Population Number[1]	Area[2]		Number of Individuals[3]
Scientific Name	Common Name		Square Feet	Acres	
Phacelia stebbinsii	Stebbins' phacelia	HH08	4,909	0.11	2,500 – 5,000
Phacelia stebbinsii	Stebbins' phacelia	HH10	8,552	0.20	4,500 – 9,000
Phacelia stebbinsii	Stebbins' phacelia	HH15	4,878	0.11	2,500 – 5,000
Phacelia stebbinsii	Stebbins' phacelia	HH19	4,206	0.10	2,000 – 4,000
Phacelia stebbinsii	Stebbins' phacelia	HH21	3,723	0.09	2,000 – 4,000
Phacelia stebbinsii	Stebbins' phacelia	HH22	6,264	0.14	3,000 – 6,000
Phacelia stebbinsii	Stebbins' phacelia	HH23	4,012	0.09	2,000 – 4,000
Phacelia stebbinsii	Stebbins' phacelia	HH24	26,984	0.62	13,500 – 27,000
Phacelia stebbinsii	Stebbins' phacelia	HH25	9,972	0.23	5,000 – 10,000
Phacelia stebbinsii	Stebbins' phacelia	HH26	9,967	0.23	5,000 – 10,000
Phacelia stebbinsii	Stebbins' phacelia	HH27	6,002	0.14	3,000 – 6,000
Phacelia stebbinsii	Stebbins' phacelia	HH28	3,737	0.09	2,000 – 4,000
Phacelia stebbinsii	Stebbins' phacelia	HH29	1,081	0.02	500 – 1,000
Phacelia stebbinsii	Stebbins' phacelia	HH30	12,509	0.29	6,500 – 13,000
Phacelia stebbinsii	Stebbins' phacelia	HH31	6,734	0.15	3,500 – 7,000
Phacelia stebbinsii	Stebbins' phacelia	HH32	8,806	0.20	4,500 – 9,000
Phacelia stebbinsii	Stebbins' phacelia	HH33	2,924	0.07	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH34	3,265	0.07	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH35	3,690	0.08	18,500 – 37,000
Phacelia stebbinsii	Stebbins' phacelia	HH36	2,943	0.07	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH37	279	0.01	150 – 300
Phacelia stebbinsii	Stebbins' phacelia	HH38	1,829	0.04	1,000 – 2,000
Phacelia stebbinsii	Stebbins' phacelia	HH40	1,576	0.04	1,000 – 2,000
Phacelia stebbinsii	Stebbins' phacelia	HH41	11,247	0.26	5,500 – 11,000
Phacelia stebbinsii	Stebbins' phacelia	HH42	9,671	0.22	5,000 – 10,000
Phacelia stebbinsii	Stebbins' phacelia	HH43	5,816	0.13	3,000 – 6,000
Phacelia stebbinsii	Stebbins' phacelia	HH45	9,872	0.23	5,000 – 10,000
Phacelia stebbinsii	Stebbins' phacelia	HH46	10,567	0.24	5,500 – 11,000
Phacelia stebbinsii	Stebbins' phacelia	HH47	12,272	0.28	6,000 – 12,000
Total:			**198,290**	**5.0**	**117,000 – 234,000**

Table 7.6-5. Location of Stebbin's Phacelia Populations in the Vicinity of Hell Hole Reservoir (continued).

Area 3

Includes those portions of special-status plant populations occurring from the maximum flood pool elevation (4,640 feet msl) to the upper limit of the study area

Species		Population Number[1]	Area[2]		Number of Individuals[3]
Scientific Name	Common Name		Square Feet	Acres	
Phacelia stebbinsii	Stebbins' phacelia	HH08	60,155	1.38	30,000 – 60,000
Phacelia stebbinsii	Stebbins' phacelia	HH10	157,092	3.61	78,500 – 157,000
Phacelia stebbinsii	Stebbins' phacelia	HH15	36,009	0.83	18,000 – 36,000
Phacelia stebbinsii	Stebbins' phacelia	HH19	16,370	0.38	8,000 – 16,000
Phacelia stebbinsii	Stebbins' phacelia	HH21	9,693	0.22	5,000 – 10,000
Phacelia stebbinsii	Stebbins' phacelia	HH22	53,958	1.24	27,000 – 54,000
Phacelia stebbinsii	Stebbins' phacelia	HH23	19,372	0.44	9,500 – 19,000
Phacelia stebbinsii	Stebbins' phacelia	HH24	133,628	3.07	67,000 – 134,000
Phacelia stebbinsii	Stebbins' phacelia	HH25	9	0.00	5 – 9
Phacelia stebbinsii	Stebbins' phacelia	HH26	58,783	1.35	29,500 – 59,000
Phacelia stebbinsii	Stebbins' phacelia	HH27	86,712	1.99	43,500 – 87,000
Phacelia stebbinsii	Stebbins' phacelia	HH28	81,216	1.86	40,500 – 81,000
Phacelia stebbinsii	Stebbins' phacelia	HH29	104,403	2.40	52,000 – 104,000
Phacelia stebbinsii	Stebbins' phacelia	HH30	157,382	3.61	78,500 – 157,000
Phacelia stebbinsii	Stebbins' phacelia	HH31	184,850	4.24	92,500 – 185,000
Phacelia stebbinsii	Stebbins' phacelia	HH32	64,727	1.49	32,500 – 65,000
Phacelia stebbinsii	Stebbins' phacelia	HH33	45,630	1.05	23,000 – 46,000
Phacelia stebbinsii	Stebbins' phacelia	HH34	206,916	4.75	103,500 – 207,000
Phacelia stebbinsii	Stebbins' phacelia	HH35	135,118	3.10	67,500 – 135,000
Phacelia stebbinsii	Stebbins' phacelia	HH36	3,388	0.08	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH38	37,041	0.85	18,500 – 37,000
Phacelia stebbinsii	Stebbins' phacelia	HH40	25,917	0.59	13,000 – 26,000
Phacelia stebbinsii	Stebbins' phacelia	HH41	169,159	3.88	84,500 – 169,000
Phacelia stebbinsii	Stebbins' phacelia	HH42	13,468	0.31	6,500 – 13,000
Phacelia stebbinsii	Stebbins' phacelia	HH43	6,470	0.15	3,000 – 6,000
Phacelia stebbinsii	Stebbins' phacelia	HH44	7,269	0.17	3,500 – 7,000
Phacelia stebbinsii	Stebbins' phacelia	HH45	25,295	0.58	12,500 – 25,000
Phacelia stebbinsii	Stebbins' phacelia	HH46	12,157	0.28	6,000 – 12,000
Phacelia stebbinsii	Stebbins' phacelia	HH47	67,556	1.55	34,000 – 68,000
Phacelia stebbinsii	Stebbins' phacelia	HH51	5,672	0.13	2,800 – 5,600
Phacelia stebbinsii	Stebbins' phacelia	HH52	8,848	0.20	4,500 – 9,000
Total:			**1,994,262**	**45.78**	**997,000 – 1,994,000**

Table 7.6-5. Location of Stebbin's Phacelia Populations in the Vicinity of Hell Hole Reservoir (continued).

Area 4

Includes those portions of the special-status plant populations intersecting Areas 1, 2, and/or 3 that extend beyond Area 3.

Species		Population Number[1]	Area[2]		Number of Individuals[3]
Scientific Name	Common Name		Square Feet	Acres	
Phacelia stebbinsii	Stebbins' phacelia	HH10	135,286	3.1	67,500 – 135,000
Phacelia stebbinsii	Stebbins' phacelia	HH15	8,569	0.2	4,500 – 9,000
Phacelia stebbinsii	Stebbins' phacelia	HH21	37	0.00	18 – 37
Phacelia stebbinsii	Stebbins' phacelia	HH22	191	0.00	95 – 191
Phacelia stebbinsii	Stebbins' phacelia	HH24	74,379	1.71	37,000 – 74,000
Phacelia stebbinsii	Stebbins' phacelia	HH23	84	0.00	42 – 84
Phacelia stebbinsii	Stebbins' phacelia	HH26	826	0.02	413 – 826
Phacelia stebbinsii	Stebbins' phacelia	HH27	460	0.01	230 – 460
Phacelia stebbinsii	Stebbins' phacelia	HH28	79,429	1.82	40,000 – 80,000
Phacelia stebbinsii	Stebbins' phacelia	HH29	318,235	7.31	159,000 – 318,000
Phacelia stebbinsii	Stebbins' phacelia	HH41	707,499	16.24	354,000 – 707,000
Phacelia stebbinsii	Stebbins' phacelia	HH40	74	0.00	37 – 74
Phacelia stebbinsii	Stebbins' phacelia	HH30	185,394	4.26	92,500 – 185,000
Phacelia stebbinsii	Stebbins' phacelia	HH31	52,078	1.20	26,000 – 52,000
Phacelia stebbinsii	Stebbins' phacelia	HH32	5,108	0.12	2,500 – 5,000
Phacelia stebbinsii	Stebbins' phacelia	HH33	1,895	0.04	1,000 – 2,000
Phacelia stebbinsii	Stebbins' phacelia	HH35	299,696	6.88	150,000 – 300,000
Phacelia stebbinsii	Stebbins' phacelia	HH34	188,789	4.33	94,000 – 188,000
Phacelia stebbinsii	Stebbins' phacelia	HH38	119,396	2.74	59,500 – 119,000
Phacelia stebbinsii	Stebbins' phacelia	HH44	82,039	1.88	41,000 – 82,000
Phacelia stebbinsii	Stebbins' phacelia	HH45	3,432	0.08	1,500 – 3,000
Phacelia stebbinsii	Stebbins' phacelia	HH47	5,409	0.12	2,500 – 5,000
Phacelia stebbinsii	Stebbins' phacelia	HH51	1,676	0.04	1,000 – 2,000
Phacelia stebbinsii	Stebbins' phacelia	HH52	2,737	0.06	1,500 – 3,000
Total:			**2,272,717**	**52.17**	**1,136,500 – 2,273,000**

[1]Refer to Maps 7.6-1d through e for the location of each population within the study area. Only those populations associated with Project facilities and features are included.

[2]Includes only the portion of the population that falls between the specified elevations.

[3]Numbers of individuals for polygons HH7 through HH52 were estimated assuming a density of 0.5 to 1.0 individuals per square foot. Numbers are rounded to the nearest thousand.

Table 7.6-6. Special-status Wildlife Species in the Vicinity of the MFP.

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
Special-status Wildlife Known to Occur in the Vicinity of the MFP					
Dendragapus obscurus	sooty (blue) grouse	MIS	—	Occurs in open, medium to mature-aged stands of fir, Douglas-fir, and other conifer habitats, interspersed with medium to large openings, and available water. Found in the Sierra Nevada up to 11,000 feet in elevation.	Known to occur within the study area. Detected in snag located along the north shore of Hell Hole Reservoir.
Oreortyx pictus	mountain quail	MIS	—	Typically found in most major montane habitats California from mid- to high-elevations. Found seasonally in open, brushy stands of conifer and deciduous forest and woodland, and chaparral.	Known to occur within the study area. Detected at numerous locations along Hell Hole Reservoir.
Pelecanus erythrorhynchos	American white pelican	—	CSC	In California, now nests only at large lakes in Klamath Basin, especially Clear Lake National Wildlife Refuge. It is common to abundant on nesting grounds April to August (sometimes March to September). Migrant flocks pass overhead almost any month, but mainly in spring and fall throughout the state, especially in southern California.	Known to occur within the study area. Seven individuals were detected flying over Hell Hole Reservoir.
Accipiter gentilis	northern goshawk	FSS	CSC	Prefers middle to high elevation, mature, dense conifer forests for foraging and nesting. Casual in foothills during winter, northern deserts in pinion-juniper woodland, and low elevation riparian habitats.	Known to occur within the study area. Detected at South Fork Long Canyon Diversion Dam. Northern goshawk nests and associated PACs intersect with FERC Project boundaries at the following locations: French Meadows Reservoir; Duncan Creek Diversion Dam; South Fork Long Canyon Diversion Dam; Brushy Canyon Adit and Access Road; Middle Fork-Ralston Tunnel
Aquila chrysaetos	golden eagle	—	CFP	Grasslands and early successional stages of forest and shrub habitats for foraging up to 11,500 feet. Secluded cliffs with overhanging ledges or large trees in open areas with unobstructed views for nesting.	Known to occur within the study area. Detected during TERR 5 bald eagle surveys approximately 1 mile downstream of Middle Fork Interbay. Known from the Tahoe National Forest.
Haliaeetus leucocephalus	bald eagle	FD (7/10/08) FSS BCC	SE CFP	Local winter migrant to various California lakes. Most of the breeding population is restricted to more northern counties. Regular winter migrants to the region. Usually not found at high elevations in the Sierra.	Known to occur within the study area. Numerous bald eagle detections were made at Hell Hole Reservoir during TERR 5 bald eagle surveys, including one nest sighting at the upper end of Hell Hole Reservoir. Also detected during TERR 5 surveys along the MFAR, the Rubicon River, and Ralston Afterbay. Records for this species include Hell Hole Reservoir; Ralston Afterbay; MFAR approximately 3 miles downstream of the Ralston Afterbay Dam; Gerle Creek Divide Reservoir; Rubicon River approximately 2 miles downstream of the confluence with the South Fork Rubicon River; Pilot Creek near its confluence with the Rubicon River; and Otter Creek near its confluence with the MFAR. In addition, a bald eagle was observed in the summer of 2006 at Hell Hole Reservoir (Ransom pers. comm., 2007)
Pandion haliaetus [1]	osprey	—	—	Breeds in northern California, associated strictly with large fish-bearing waters, primarily in ponderosa pine and mixed conifer habitats.	Known to occur within the study area. Active nests detected during nest surveys along the north shore of upper and lower Hell Hole Reservoir, south shore Hell Hole Reservoir, north shore French Meadows Reservoir, near French Meadows Dam, and 3 miles downstream of French Meadows Reservoir. Individuals detected at Hell Hole Reservoir, French Meadows Reservoir, and Big Meadows Campground.
Strix occidentalis occidentalis	California spotted owl	FSS MIS BCC	CSC	Resides in dense, old growth, multi-layered mixed conifer, redwood, Douglas-fir, and oak woodland habitats, from sea level up to approximately 7,600 feet.	Known to occur within study area. California spotted owl nests and associated PACs intersect with FERC Project boundaries at the following locations: French Meadows Reservoir; North and South Fork Long Canyon Diversion Dams; Middle Fork Interbay; French Meadows- Hell Hole Tunnel; Hell Hole-Middle Fork Tunnel; Interbay Dam Road; Brushy Canyon Adit and Access Road; Middle Fork-Ralston Tunnel.
Chaetura vauxi	Vaux's swift	—	CSC	Prefers redwood and Douglas-fir habitats with nest sites in large, hollow trees and snags, especially tall, burned-out stubs. Forages over moist terrain and habitats, preferring rivers and lakes.	Known to occur within the study area. A large flock was detected at French Meadows Reservoir.
Picoides villosus	hairy woodpecker	MIS	—	Inhabits mixed conifer and riparian deciduous habitats from sea level to 9,000 feet in elevation.	Known to occur within the study area. Detected at Hell Hole Reservoir, South Fork Long Canyon Diversion Dam, and French Meadows Reservoir.
Contopus cooperi	olive-sided flycatcher	BCC	CSC	Uncommon to common, summer resident in a wide variety of forest and woodland habitats below 9,000 feet throughout California exclusive of the deserts, the Central Valley, and other lowland valleys and basins. Nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine forests.	Known to occur within the study area. Detected at French Meadows Reservoir.

Table 7.6-6. Special-status Wildlife Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
Special-status Wildlife Known to Occur in the Vicinity of the MFP (continued)					
Dendroica petechia brewsteri	yellow warbler	MIS	CSC	Breeds in riparian woodlands from coastal and desert lowlands up to 8,000 feet in the Sierra Nevada. Also breeds in montane chaparral, open ponderosa pine, and mixed conifer habitats with substantial amounts of brush.	Known to occur within study area. Detected at Hell Hole Reservoir and French Meadows Reservoir.
Icteria virens	yellow-breasted chat	—	CSC	Uncommon summer resident and migrant in coastal California and in foothills of the Sierra Nevada, up to approximately 4,800 feet in valley foothill riparian habitat. Also occurs east of the Sierra Nevada in desert riparian habitats, along coast of northern California east to Cascades, locally south of Mendocino Co. In southern California, breeds locally on the coast and very locally inland. Nests in dense shrubs along streams or rivers.	Known to occur within study area. Detected at Ralston Picnic Area.
Antrozous pallidus	pallid bat	FSS	CSC	Inhabits grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Typically roosts in caves, crevices, or mines. Requires open habitat for foraging.	Known to occur within study area. Detected during TERR 6 special-status bat surveys at French Meadows Dam and Outlet Works, Ralston Afterbay Dam, Middle Fork Interbay Dam, North Fork Long Canyon Diversion Dam, and French Meadows Powerhouse and Penstock and Butterfly Valve House. Data from W. Clevenger's 2003 study includes occurrences of this species in the Vicinity of French Meadows Reservoir and on Duncan Creek upstream of the Duncan Creek Diversion (Clevenger 2005).
Corynorhinus townsendii	Townsend's big-eared bat	FSS	CSC	Found in all but alpine and subalpine habitats; most abundant in mesic habitats. Requires caves, mines, tunnels, buildings, or other man-made structures for roosting. This species is extremely sensitive to disturbance and may abandon a roost if disturbed.	Known to occur within study area. Detected during TERR 6 special-status bat surveys at French Meadows Dam and Outlet Works, Ralston Afterbay Dam, North Fork Long Canyon Diversion Dam, French Meadows Powerhouse and Penstock and Butterfly Valve House, and the upper end of Hell Hole Reservoir.
Lasiurus blossevillii	Western red bat	FSS	CSC	Occurs from British Columbia to South America. In California, occurs from Shasta County to the Mexican border west of the Sierra crest. Roosts solitarily in foliage in forests and woodlands from sea level up through mixed coniferous forest. In California known to roost in cottonwood and willow.	Known to occur within study area. Detected during TERR 6 special-status bat surveys at French Meadows Dam and Outlet Works, Ralston Afterbay Dam, Middle Fork Interbay Dam, North and South Fork Long Canyon Diversion Dams, French Meadows Powerhouse and Penstock and Butterfly Valve House, and the upper end of Hell Hole Reservoir.
Bassariscus astutus	ringtail	—	CFP	Found in most forest and shrub habitats in close association with rock and/or riparian areas, usually not more than .6 miles from water. Dens in hollow trees, snags, or other cavities.	Known to occur in the study area from incidental observations of PCWA field personnel.
Odocoileus hemionus	mule deer	MIS	—	Common to abundant, yearlong resident or elevational migrant with a widespread distribution through most of California, except in deserts and intensively farmed areas without cover. Prefers a mosaic of various-aged vegetation that provides woody cover, meadow and shrubby openings, and free water.	Known to occur within study area. Detected at Hell Hole Reservoir and French Meadows Reservoir.
Special-status Wildlife Potentially Occurring in the Vicinity of the MFP					
Histrionicus histrionicus	harlequin duck	—	CSC	Historic breeding grounds include west slope of the Sierra Nevada along shores of swift, shallow rivers.	Potential (rare) migrant or resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Falco peregrinus anatum	American peregrine falcon	FD BCC	SE CFP	Very uncommon breeding resident and uncommon as a migrant. Breeds in woodlands, forests, coastal habitats, and riparian areas near wetlands, lakes, rivers, or other water on high cliffs, banks, dunes, or mounds. Active nesting sites are known along the coast, in the Sierra Nevada, and in the mountains of northern California. Migrants occur along the coast and the western Sierra Nevada in spring and fall.	Potential resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Otus flammeolus	flammulated owl	BCC	—	Generally associated with montane forested habitats with brushy understory. Uses woodpecker holes or natural tree cavities for nest sites. Known from northeastern California and the northern Sierra Nevada.	Potential summer (breeding) resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Strix nebulosa	great gray owl	FSS	SE	Nests in old-growth coniferous forests and forages in montane meadows. Distribution includes high elevations of the Sierra Nevada and Cascade Ranges from 4,500 to 7,500 feet.	Potential migrant in appropriate habitat. Great gray owls are not known to breed in the Vicinity of study area boundaries. Breeding populations in California are concentrated in Del Norte, Humboldt, Siskiyou, and Modoc counties, with smaller, isolated breeding populations also occurring in the central Sierra Nevada. The nearest CNDDB record is 30 miles south near Leoni Meadows in the ENF (CNDDB 2007).

Table 7.6-6. Special-status Wildlife Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
Special-Status Terrestrial Wildlife Potentially Occurring in the Vicinity of the MFP (continued)					
Cypseloides niger	black swift	BCC	CSC	Nests in moist crevices or caves, or on cliffs near waterfalls in deep canyons. Forages widely over many habitats; seems to avoid arid regions.	Potential summer (breeding) resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Known to occur in the watershed. A CNDDB report for this species includes Grouse Creek, a tributary to the North Fork of the Middle Fork American River (CNDDB 2007).
Stellula calliope	calliope hummingbird	BCC	—	Summer breeder in mixed brushland, forest edges and openings. Nests are typically built in conifers, near cones or knots.	Potential migrant or summer resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Melanerpes lewis	Lewis' woodpecker	BCC	—	Permanent resident, or migratory resident in the uppermost reaches of its range. Inhabits Ponderosa pine forests at higher elevations, while riparian woodlands dominated by cottonwoods are preferred at lower elevations.	Potential migrant or resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Sphyrapicus thyroideus	Williamson's sapsucker	BCC	—	Found in ponderosa pine forests and open coniferous forests in the Sierra Nevada and Cascades mountain ranges in California.	Potential year-round resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Picoides arcticus	black-backed woodpecker	MIS	—	Found predominantly in fir and lodgepole pine forest habitats from 6,000 to 9,500 feet in elevation. Typically forages in snags, dying or insect-infested trees. Prefers relatively large trees for foraging and nest site.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Empidonax traillii (brewsteri)	willow flycatcher	FSS BCC	SE	Wet meadow and montane riparian habitats from 2,000 to 8,000 feet. Most often occurs in broad, open river valleys or large mountain meadows with lush growth of shrubby willows.	Potential summer (breeding) resident in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Passerella iliaca	fox sparrow	MIS	—	Breeds commonly in mountains of California, in dense montane chaparral and brushy understory of other wooded, montane habitats. Less common in winter east of Cascade Range and Sierra Nevada than elsewhere in state. Found in winter in dense brush habitats, including understories of open forests, throughout foothills and lowlands, except in southern deserts.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Carpodacus cassinii	Cassin's finch	BCC	—	Resident of higher mountain ranges in California in tall, open coniferous forests, with nearby wet meadows and grassy openings for foraging.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Euderma maculatum	spotted bat	—	CSC	Habitats range from arid deserts and grasslands through mixed conifer forests up to 10,600 feet. Prefers sites with adequate roosting habitat, such as cliffs. Often limited by the availability of cliff habitat. Feeds over water and along marshes.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Known to occur in the watershed. Data from W. Clevenger's 2003 study includes an occurrence of this species in the TNF. No GPS information is available for this record (Clevenger 2005).
Eumops perotis californicus	greater western mastiff bat	—	CSC	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, chaparral, desert scrub, and urban areas. Typically roosts in caves, crevices, or other rock formations. Requires open areas for foraging. Found mostly below 4,000 feet in elevation in the lower and upper desert scrub near cliffs, preferring rugged canyons with abundant crevices.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Aplodontia rufa californica	Sierra Nevada sewellel (mountain beaver)	—	CSC	Occurs in dense riparian and open brushy stages of most forest types. Deep, friable soils are required for burrowing along cool, moist microclimates. Live in burrows located in or near deep soils near streams and springs. Typical habitat in the Sierra is montane riparian.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Recorded occurrence east of Duncan Peak.
Glaucomys sabrinus	northern flying squirrel	MIS	—	Found in coniferous habitats from ponderosa pine through lodgepole pine forests and riparian-deciduous forests of the North Coast, Klamath, Cascade, Sierra Nevada Ranges, and the Warner Mountains from 5,000 to 8,000 feet in elevation.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species.
Gulo gulo luteus	California wolverine	FSS	ST CFP	Mixed conifer, red fir, and lodgepole habitats, and probably sub-alpine conifer, alpine dwarf shrub, wet meadow, and montane riparian habitats. Occurs in the Sierra Nevada from 4,300 to 10,800 feet. Majority of recorded sightings are found above 8,000 feet elevation.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. However, this species is extremely rare in California.
Martes americana (sierrae)	American marten (Sierra marten)	FSS MIS	—	Optimal habitats are various mixed evergreen forests with more than 40% crown closure and large trees and snags for den sites. Most commonly found in red fir and lodgepole pine forests between 4,000 and 10,600 feet elevation.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Known to occur within the watershed. A CNDDB report (polygon) for this species includes portions of Duncan Creek Diversion Road.

Table 7.6-6. Special-status Wildlife Species in the Vicinity of the MFP (continued).

Scientific Name	Common Name	Federal Status	State Status	Habitat	Occurrence Notes
Special-Status Terrestrial Wildlife Potentially Occurring in the Vicinity of the MFP (continued)					
Martes pennanti (pacifica)	Pacific fisher	FC FSS	SCT CSC	Suitable habitat consists of large areas of mature, dense forest such as red fir, lodgepole pine, ponderosa pine, mixed conifer, and Jeffery pine forests with snags and greater than 50% canopy closure. Known from 4,000 to 8,000 ft elevations in the Sierra National Forest.	May occur in appropriate habitat. Study area boundaries are within the known geographic and elevational range of this species. Two recorded occurrences in the Vicinity of French Meadows Reservoir, including one occurrence ~ 1 mile east of French Meadows Reservoir, near the Forest Service Station. However, this species is now thought to be absent from the central Sierra Nevada (Zielinski et al. 2005).
Special-Status Terrestrial Wildlife Unlikely to Occur in the Vicinity of the MFP					
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT FPD	—	Elderberry shrubs throughout the Central Valley and foothills below 3,000 feet elevation.	Unlikely to occur. Elderberry shrubs were not detected in recent surveys conducted below 3,000 feet in elevation
Branta canadensis leucopareia	Aleutian Canada goose	FD	—	(wintering) Winters on lakes and inland prairies. Forages on natural pasture or that cultivated to grain; loafs on lakes, reservoirs, ponds.	Unlikely to occur. Study area boundaries are outside the known geographic and elevational range of this species.
Centrocercus urophasianus	greater sage-grouse	MIS	CSC	Most commonly occurring in a combination of sagebrush, perennial grassland or wet meadow habitats, and water. Also found in bitterbrush and alkali desert scrub habitats. Found in northeastern California, ranging from the Oregon border along the east side of the Cascade Range and Sierra Nevada to northern Inyo County.	Unlikely to occur. Study area boundaries are outside the known geographic range of this species.
Buteo swainsoni	Swainson's hawk	FSS	ST	Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Riparian woodlands, juniper-sage flats, and oak woodlands for nesting. Grasslands and agricultural areas for foraging.	Unlikely to occur. Study area boundaries are outside the known geographic range of this species.
Athene cunicularia hypugaea	western burrowing owl	—	CSC	Year-long resident of open, dry grassland and desert habitats and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats up to 5,300 feet.	Unlikely to occur. Study area boundaries are outside the known geographic and elevational range of this species.
Vulpes vulpes necator	Sierra Nevada red fox	FSS	ST	Occurs throughout the Sierra Nevada at elevations above 7,000 feet in forests interspersed with meadows or alpine forests. Open areas are used for hunting, and forested habitats are used for cover and reproduction. Known from the higher elevations of the Sierra National Forest.	Unlikely to occur. Study area boundaries are outside the known elevational range of this species.

LEGEND:

Federal Status
FT = Federal Threatened
FE = Federal Endangered
FC = Federal Candidate
FPD = Federal Proposed for Delisting
FD = Delisted Species
FSS = Forest Service Sensitive
MIS = Management Indicator Species

State Status
SR = California Rare
ST = California Threatened
SE = California Endangered
SCT = Candidate for listing as California Threatened
SCE = Candidate for listing as California Endangered
CFP = California Fully Protected
CSC = California Species of Special Concern

[1]At the time the TERR 4 – TSP (PCWA 2011e; SD B) was developed in 2007, osprey were considered CSC by the CDFG. When CDFG revised the CSC bird list in 2008, osprey were no longer included. However, because osprey were included as a special-status species in the TERR 4 – TSP in agreement with the Terrestrial Working Group (TWG), they are regarded as such for the purposes of this report.

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features.

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Dams, Reservoirs, and Diversion Pools									
Large Dams									
French Meadows Dam and Outlet Works (modified)									
Hell Hole Dam and Outlet Works (modified)									
Medium Dams									
Middle Fork Interbay Dam and Outlet Works (modified)									
Ralston Afterbay Dam and Outlet Works									
Small Dams									
Duncan Creek Diversion Dam (modified)							X	X	
North Fork Long Canyon Diversion Dam (modified)									
South Fork Long Canyon Diversion Dam (modified)						X		X	
Large Reservoirs									
French Meadows Reservoir			X						
Hell Hole Reservoir	X	X	X						
Medium Reservoirs									
Middle Fork Interbay									
Ralston Afterbay									
Small Diversion Pools									
Duncan Creek Diversion Pool (modified)								X	
North Fork Long Canyon Diversion Pool (modified)									
South Fork Long Canyon Diversion Pool (modified)						X		X	

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Water Conveyance Systems									
Tunnels									
Duncan Creek - Middle Fork Tunnel									
French Meadows - Hell Hole Tunnel									
Hell Hole - Middle Fork Tunnel									
Middle Fork - Ralston Tunnel									
Ralston – Oxbow Tunnel									
Diversion Pipes and Drop Inlets									
North Fork Long Canyon Diversion Pipe and Drop Inlet						X			
South Fork Long Canyon Diversion Pipe and Drop Inlet						X		X	
Surge Shafts and Adits									
Brushy Canyon Adit						X		X	
Hell Hole - Middle Fork Tunnel Surge Shaft and Tank						X			
Middle Fork - Ralston Tunnel Surge Shaft and Tank									
Removable Sections and Portals									
Duncan Creek - Middle Fork Tunnel Portal			X						
French Meadows - Hell Hole Tunnel Removable Section									
Hell Hole - Middle Fork Tunnel Removable Section									
Middle Fork - Ralston Tunnel Removable Section									
North Fork Long Canyon Crossing Removable Section									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Water Conveyance Systems (continued)									
Intakes and Gatehouses									
Duncan Creek - Middle Fork Tunnel Intake							X	X	
French Meadows - Hell Hole Tunnel Gatehouse			X						
French Meadows - Hell Hole Tunnel Intake									
Hell Hole - Middle Fork Tunnel Gatehouse									X
Hell Hole - Middle Fork Tunnel Intake									
Middle Fork - Ralston Tunnel Intake and Gatehouse									
Ralston - Oxbow Tunnel Intake									
Penstocks and Valve Houses									
French Meadows Powerhouse Penstock and Butterfly Valve House									
Middle Fork Powerhouse Penstock and Butterfly Valve House									
Ralston Powerhouse Penstock and Butterfly Valve House									
Powerhouses, Switchyards, and Substations									
French Meadows Powerhouse and Switchyard									
Hell Hole Powerhouse									
Hell Hole Substation									
Middle Fork Powerhouse and Upper and Lower Switchyards									
Ralston Powerhouse and Switchyard									
Oxbow Powerhouse and Switchyard									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Gaging Stations and Weirs									
Stream Gages and Weirs									
Duncan Creek near French Meadows (USGS Gage No. 11427700) (interim)[7]							X	X	
Duncan Creek below Diversion Dam (USGS Gage No. 11427750)							X		
Middle Fork American River at French Meadows (USGS Gage No. 11427500)									
Middle Fork American River at French Meadows Dam (new)[8]									
Rubicon River at Hell Hole Dam Spillway (HHDS) (new)[8, 2]									
Rubicon River below Hell Hole Dam (USGS Gage No. 11428800) (interim)[7]									
Rubicon River at Hell Hole Dam (new)[8]									
North Fork Long Canyon Creek below Diversion Dam (USGS Gage No. 11433085) (interim)[7]									
North Fork Long Canyon Creek below Diversion Dam (NFLCC) (new)[8]									
South Fork Long Canyon Creek below Diversion Dam (USGS Gage No. 11433065) (interim)[7]						X		X	
South Fork Long Canyon Creek below Diversion Dam (SFLCC) (new)[8]						X	X	X	
Middle Fork American River below Interbay Dam (USGS Gage No. 11427770) (interim)[7]									
Middle Fork American River above Middle Fork Powerhouse (USGS Gage No. 11427760)									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Gaging Stations and Weirs (continued)									
Stream Gages and Weirs (continued)									
Middle Fork American River below Interbay Dam (MFARIB) (new)[8]									
Middle Fork American River near Foresthill (USGS Gage No. 11433300)									
Middle Fork American River at Ralston Afterbay Dam (new)[8]									
Rubicon River above Ralston Powerhouse (RRRP) (existing, added to MFP)[9]									
North Fork American River above American River Pump Station (NFARPS) (new)[8]									
Rubicon River above Ellicott Bridge (RREB) (existing, added to MFP)[9]									
Diversion Gages									
Duncan Creek Diversion Tunnel (DCDT) (new)[8]							X	X	
North Fork Long Canyon Creek Diversion Tunnel (USGS Gage No. 11433080) (modified)									
South Fork Long Canyon Creek Diversion Tunnel (USGS Gage No. 11433060) (modified)						X		X	
Reservoir Gages									
French Meadows Reservoir (USGS Gage No. 11427400)									
French Meadows Reservoir Staff Gage									
Hell Hole Reservoir (USGS Gage No. 11428700)									
Hell Hole Reservoir Staff Gage									
Middle Fork Interbay Reservoir									
Ralston Afterbay Reservoir									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Gaging Stations and Weirs (continued)									
Powerhouse Gages									
French Meadows Powerhouse (USGS Gage No. 11427200)									
Middle Fork Powerhouse (USGS Gage No. 11428600)									
Ralston Powerhouse (USGS Gage No. 11427765)									
Oxbow Powerhouse (USGS Gage No. 11433212)									
Oxbow Powerhouse Penstock (OXBPP) (new)[8]									
Leakage Weirs									
French Meadows Dam Leakage Weirs Nos. 1–6									
Hell Hole Dam Leakage Weir									
Project Communication Lines and Powerlines									
French Meadows Area									
French Meadows Dam Generator Building to French Meadows Dam Outlet Works Powerline									
French Meadows Dam Generator Building to French Meadows Dam Spillway Gates Powerline									
Hell Hole Area									
French Meadows Powerhouse to French Meadows Powerhouse Penstock and Butterfly Valve House Communication Line/Powerline									
French Meadows Powerhouse and Switchyard to Hell Hole - Middle Fork Tunnel Gatehouse, Dormitory Facility, Operator's Cottages, and Hell Hole Powerhouse Communication Line/Powerline									X
Dormitory and Cottages Water Supply Tank Powerline									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Project Communication Lines and Powerlines (continued)									
Hell Hole Area (continued)									
Hell Hole Powerhouse to Rubicon River Gage below Hell Hole Dam Communication Line/Powerline									
Hell Hole Dam Spillway Crest Gates Control Building Communication Line/Powerline (new)[8]									
Middle Fork Interbay Area									
Middle Fork Powerhouse to Middle Fork Powerhouse Butterfly Valve House Communication Line/Powerline									
Middle Fork Powerhouse Butterfly Valve House to Radio Repeater near Hell Hole - Middle Fork Tunnel Surge Tank (underground) Communication Line/Powerline						X			
Middle Fork Powerhouse to Middle Fork - Ralston Tunnel Intake and Gatehouse Communication Line/Powerline									
Middle Fork Powerhouse to Middle Fork American River Gage above Middle Fork Powerhouse Communication Line/Powerline							X		
Ralston – Oxbow Area									
Ralston - Oxbow Tunnel Intake to Ralston Powerhouse Communication Line									
Ralston Powerhouse to Ralston Powerhouse Butterfly Valve House Communication Line/Powerline									
Ralston Afterbay Dam Generator Building to Ralston - Oxbow Tunnel Intake Communication Line/Powerline									
Oxbow Powerhouse to Ralston Afterbay Dam Generator Building Communication Line/Powerline									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Photovoltaic Poles and Powerlines									
Photovoltaic Poles and Powerline at Duncan Creek Gage near French Meadows							X	X	
Photovoltaic Pole and Powerline at Duncan Creek Gage below Diversion Dam							X		
Photovoltaic Pole and Powerline at Duncan Creek Gage at Diversion Tunnel (new)[8]							X	X	
Photovoltaic Pole and Powerline at Middle Fork American River Gage at French Meadows									
Photovoltaic Pole and Powerline at Middle Fork American River Gage above Middle Fork Powerhouse									
Photovoltaic Pole and Powerline at Middle Fork American River Gage below Interbay Dam (new)[8]									
Photovoltaic Pole and Powerline at North Fork Long Canyon Creek Gage below Diversion Dam									
Photovoltaic Pole and Powerline at North Fork Long Canyon Creek Gage below Diversion Dam (new)[8]									
Photovoltaic Pole and Powerline at South Fork Long Canyon Creek Gage below Diversion Dam						X		X	
Photovoltaic Pole and Powerline at South Fork Long Canyon Creek Gage below Diversion Dam (new)[8]						X	X	X	
Photovoltaic Pole and Powerline at Rubicon River Gage above Ralston Powerhouse (existing, added to MFP)[10]									
Photovoltaic Pole and Powerline at Middle Fork American River Gage near Foresthill									
Photovoltaic Pole and Powerline at North Fork American River Gage above American River Pump Station (new)[8]									
Photovoltaic Pole and Powerline at Rubicon River Gage above Ellicott Bridge (existing, added to MFP)[10]									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Microwave Reflectors and Radio Towers									
Passive Microwave Reflector Station above Middle Fork Interbay									
Radio Communications Tower near French Meadows - Hell Hole Tunnel Gatehouse			X						
Radio Communications Tower and Repeater near Hell Hole - Middle Fork Tunnel Surge Shaft and Tank						X			
Passive Microwave Reflector Station above Ralston Afterbay									
Disposal Areas									
Duncan Diversion Dam Sediment Disposal Area							X	X	
North Fork Long Canyon Crossing Sediment Disposal Area						X			
Middle Fork Interbay Sediment Disposal Area									
Ralston Ridge Sediment Disposal Area									
Sediment Augmentation Areas									
Middle Fork Interbay Augmentation Areas (new)									
Junction Bar Augmentation Area (new)									
Indian Bar Augmentation Area (existing, added to MFP)[10]									
Ancillary Facilities									
French Meadows Dam Generator Building									
French Meadows Dam Staging Area									
Dormitory Facility									
Dormitory and Cottages Water Supply Tank									
Hell Hole Staging Areas									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Ancillary Facilities (continued)									
Operator Cottages and Shop									
Hell Hole Dam Spillway Crest Gates Control Building (new)[8]									
Ralston Afterbay Dam Generator Building									
Storage Building at Middle Fork - Ralston Tunnel Surge Shaft and Tank									
~~Ralston Afterbay Sediment Removal Access Point~~ (converted)[11]									
Project Fences									
Slope Fences									
French Meadows Powerhouse Penstock Rock Fence									
French Meadows Powerhouse Slope Fence									
Long Canyon Crossing Slope Fence									
Middle Fork Powerhouse Upper Switchyard Slope Fence									
Middle Fork Interbay Dam Slope Fence									
Ralston Powerhouse Penstock and Butterfly Valve House Slope Fences									
Ralston Powerhouse Slope Fence									
Oxbow Powerhouse Slope Fence									
Public Safety Fences									
Dormitory Facility Barrier Fence									
Hell Hole Dam General Parking Area Barrier Fence									
North Fork Long Canyon Crossing Removable Section Barrier Fence									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Project Roads									
Duncan Creek Area									
Duncan Creek Diversion Intake Road							X	X	
Duncan Creek Diversion Dam Road							X	X	
Duncan Creek Diversion Pool Road							X	X	
French Meadows Area									
Duncan Creek - Middle Fork Tunnel Portal Road			X						
French Meadows - Hell Hole Tunnel Gatehouse Road			X				X		
French Meadows Dam Outlet Works and South Leakage Weir Road									
French Meadows Dam Staging Area and Spillway West Access Road									
French Meadows Spillway East Access Road									
French Meadows Dam North Leakage Weir Road									
French Meadows Campground Water Supply Facility Access Road							X		X
Hell Hole Area									
Hell Hole Dam and Powerhouse Road									
Rubicon River Gage below Hell Hole Dam Road									
Hell Hole Dam Leakage Weir Road									
Hell Hole Dam Spillway Northern Access Point Road									
French Meadows - Hell Hole Tunnel Portal Road									X
French Meadows Powerhouse Road			X						X
Hell Hole - Middle Fork Tunnel Gatehouse Road									X
Dormitory Facility Road									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Project Roads (continued)									
Hell Hole Area (continued)									
Operator Cottages and Shop Road									
Spur on North Side of Operator Cottages									
Spur on South Side of Operator Cottages									
Hell Hole Dam Spillway Discharge Channel Road Spur to Communication Line/Powerline									
Hell Hole Dam Spillway Discharge Channel Road									
Big Meadows Campground Water Supply Facility Access Road						X			X
Hell Hole Dam Spillway Gates Road (new)[8]									
Long Canyon Area									
North Fork Long Canyon Diversion North Road									
North Fork Long Canyon Diversion South Road									
North Fork Long Canyon Diversion Drop Inlet Road									
South Fork Long Canyon Diversion and Drop Inlet Road						X	X	X	
South Fork Long Canyon Diversion and Drop Inlet Cutoff Road						X	X	X	
South Fork Long Canyon Diversion Drop Inlet Access Road						X	X	X	
North Fork Long Canyon Crossing Removable Section North Road									
North Fork Long Canyon Crossing Removable Section South Road									
Middle Meadows Group Campground Water Supply Facility Access Road						X	X	X	

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Project Roads (continued)									
Middle Fork Interbay Area									
Middle Fork Interbay Dam Road				X			X		
Middle Fork Interbay Dam to Powerhouse Road									
Middle Fork Powerhouse Butterfly Valve House Road									X
Middle Fork Powerhouse Penstock and Butterfly Valve House Road							X		
Middle Fork Powerhouse Upper Switchyard Road									
Ralston-Oxbow Area									
Brushy Canyon Adit Road						X			
Ralston Powerhouse Butterfly Valve House Road									
Ralston Afterbay Dam and Access Road									
Indian Bar Access Road									
Oxbow Powerhouse Road									
Ralston - Oxbow Tunnel Intake Road									
Ralston Afterbay Private Boat Ramp Road									
Ralston Afterbay Dam and Access Point Road									
~~Ralston Afterbay Sediment Removal Access Point~~ (converted)[11]									
Project Trails									
Duncan Creek Area									
Duncan Creek Diversion Dam North Trail							X	X	
Duncan Creek Diversion Dam South Trail								X	
Photovoltaic Poles and Powerline to Duncan Creek Gage near French Meadows Trail							X	X	

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Project Trails (continued)									
Duncan Creek Area (continued)									
Duncan Creek Gage near French Meadows Trail							X	X	
Duncan Creek Gage below Diversion Dam Trail							X		
Long Canyon Area									
North Fork Long Canyon Creek Gage below Diversion Dam Trail (new)[8]									
South Fork Long Canyon Creek Gage below Diversion Dam Trail (new)[8]						X	X	X	
Middle Fork Interbay Area									
Middle Fork American River Gage above Middle Fork Powerhouse Trail							X		
Passive Microwave Reflector Station above Middle Fork Interbay Trail									
Middle Fork American River Gage below Interbay Dam Trail (new)[8]									
Ralston Afterbay Area									
Passive Microwave Reflector Station above Ralston Afterbay Trail									
Rubicon River Gage above Ralston Powerhouse Trail (existing, added to MFP)[9]									
North Fork American River Gage above American River Pump Station Trail (new)[8]									
Project Recreation Facilities and Features									
Duncan Creek Area									
Duncan Creek Diversion Primitive Recreation Site (new)							X	X	
French Meadows Area									
Ahart Campground (enhanced)									X
Coyote Group Campground									X
Poppy Campground (reduced)						X	X		X
French Meadows Campground									X

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Project Recreation Facilities and Features (continued)									
French Meadows Area (continued)									
Gates Group Campground									X
Lewis Campground								X	X
French Meadows Picnic Area									
French Meadows Boat Ramp (enhanced)									
French Meadows Dump Station						X			X
~~McGuire Picnic Area and Beach~~ (converted)[12]									
McGuire Group Campground (new)									X
McGuire Boat Ramp and Associated Parking (modified)									X
Hell Hole Area									
Big Meadows Campground						X			X
Hell Hole Campground (reduced)									X
~~Upper Hell Hole Campground~~ (removed)									
Hell Hole Vista									X
Hell Hole Boat Ramp (enhanced)									
Hell Hole General Parking Area and Hell Hole Boat Ramp Parking Area									
Ralston Afterbay Area									
Ralston Picnic Area (reduced)									
Ralston Picnic Area Cartop Boat Ramp									
Ralston Afterbay Sediment Removal Access Point Boat Ramp (new)[13]									
Indian Bar Rafting Access and General Parking (enhanced)									

Table 7.6-7. Raptor Nests and Roosts and USDA-FS Land Allocations and Important Habitat in Relation to Project Facilities and Features and Recreation Facilities and Features (continued).

Project Facilities and Features	Raptor Nests and Roosts					USDA-FS Land Allocations and Important Habitats			
	Bald Eagle Nest[1]	Bald Eagle Night Roost[1]	Osprey Nest[2]	CSO Nest[3]	NOGO Nest[3]	CSO PAC[4]	CSO HRCA[5]	NOGO PAC[4]	Important Mule Deer Habitat[6]
Project Recreation Facilities and Features (continued)									
Long Canyon Area									
Middle Meadows Group Campground						X	X	X	
Project Recreation Facility Water Supplies									
Dolly Creek Water Supply						X		X	X
French Meadows Campground Water Supply							X		X
Big Meadows Campground Water Supply						X			X
Middle Meadows Group Campground Water Supply						X	X	X	

[1]Within ¼ mile of bald eagle nests or night roosts.

[2]Within 500 feet of osprey nests.

[3]Within 500 feet of a California spotted owl or northern goshawk nest.

[4]Within an established California spotted owl or northern goshawk protected activity center (PAC).

[5]Within an established California spotted owl home range core area (HRCA).

[6]Within a mule deer important habitat (fawning area, holding areas, and winter and summer critical ranges).

[7]Existing gage to remain in place until infrastructure modification is complete.

[8]This facility or feature will be constructed under the Proposed Action.

[9]Existing gage or trail now required for Project operation or maintenance.

[10]Existing facility that has been added to the Project.

[11]Converted to Ralston Afterbay Sediment Removal Access Point Boat Ramp.

[12]This facility will be converted to the McGuire Group Campground.

[13]This facility replaces the Ralston Afterbay Sediment Removal Access Point.

Table 7.6-8. Game Species of the Middle Fork American Watershed.

Species	Status	Habitat	General Season	Bag Limit	Possession Limit	Hunting Restrictions
Resident Game Birds						
Blue grouse (*Dendragapus obscurus*)	MIS	Uncommon to common permanent resident at middle to high elevations. Occurs in open, medium to mature aged stands of fir, Douglas-fir, and other conifer habitats, interspersed with medium to large openings, and available water.	The second Saturday in September extending for 31 consecutive days	2 blue grouse per day	Double the daily bag limit	Hunting license is required. No use of motor vehicles to drive birds toward target. No use of mammal (or imitation) as blind. No take of nests or eggs. No use of practice dogs on birds outside of season. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Wild turkey (*Meleagris gallopavo*)	None	Found mostly in deciduous riparian, oak, and conifer-oak woodlands. Prefers rugged, hilly terrain with low to intermediate canopy, interspersed with numerous grass/forb openings, near water.	Fall season - the second Saturday in November extending for 16 consecutive days Spring Season - the last Saturday in March extending for 37 consecutive days	Fall Season: 1 either-sex turkey per day. Spring Season: 1 bearded turkey per day	Fall Season: 1 per season Spring Season: 3 per season	Hunting license is required. No use of motor vehicles to drive birds toward target. No use of mammal (or imitation) as blind. No take of nests or eggs. No use of practice dogs on birds outside of season. Must use ten-gauge shotgun or smaller, and no shot size larger than No. 2.
Mountain quail (*Oreotyx pictus*)	MIS	Common to uncommon resident, found typically in most major montane habitats of the state. Found seasonally in open, brushy stands of conifer and deciduous forest, woodland, and chaparral.	Early Season -the second Saturday in September through the Friday prior to the third Saturday in October. General Season - the third Saturday in October extending through the last Sunday in January	10 quail in any combination of species per day 10 quail in any combination of species per day	Double the daily bag limit Double the daily bag limit	Hunting license is required. No use of motor vehicles to drive birds toward target. No use of mammal (or imitation) as blind. No take of nests or eggs. No use of practice dogs on birds outside of season. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
California Quail (*Callipepla californica*)	None	Common, permanent resident of low and middle elevations. Found in shrub, scrub, and brush, open stages of conifer and deciduous habitats, and margins of grasslands and croplands.	The third Saturday in October through the last Sunday in January	10 quail in any combination of species per day	Double the daily bag limit	Hunting license is required. No use of motor vehicles to drive birds toward target. No use of mammal (or imitation) as blind. No take of nests or eggs. No use of practice dogs on birds outside of season. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Migratory Game Birds						
Wilson's snipe (*Gallinago delicata*)	None	Prefers wet areas with organic soil and without tall vegetation. One of the most abundant shorebirds in North America, it is a resident of central and northeastern California.	The third Saturday in October extending for 107 days	8 per day	Double the daily bag limit	Hunting license and state duck tag are required. No use of motor vehicles to drive birds toward target. No use of mammal (or imitation) as blind. No take of nests or eggs. No use of practice dogs on birds outside of season. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Band-tailed pigeon *(Columba fasciata)*	None	Common resident in hardwood and hardwood-conifer habitats. Inhabits lower slopes of major mountain ranges of the state.	The third Saturday in December extending for 9 consecutive days	2 per day	Double the daily bag limit	Hunting license and state duck tag are required. No use of motor vehicles to drive birds toward target. No use of mammal (or imitation) as blind. No take of nests or eggs. No use of practice dogs on birds outside of season. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.

Table 7.6-8. Game Species of the Middle Fork American Watershed (continued).

Species	Status	Habitat	General Season	Bag Limit	Possession Limit	Hunting Restrictions
Migratory Game Birds (continued)						
Mourning dove (*Zenaida macroura*)	None	Open woodlands, grasslands, croplands, open hardwood, hardwood-conifer, riparian, low elevation conifer, and deserts all provide adequate habitat. Requires a nearby water source.	Sept. 1-15 and from the second Saturday in November extending for an additional 45 days	10 doves of any species per day	Double the daily bag limit	Hunting license and state duck tag are required. No use of motor vehicles to drive birds toward target. No use of mammal (or imitation) as blind. No take of nests or eggs. No use of practice dogs on birds outside of season. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Game Mammals						
Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)	CSC	An uncommon resident at upper elevations in the Cascade Mts. south through the Sierra Nevada. In California, primarily found in montane riparian habitats with thickets of alders and willows, and in stands of young conifers interspersed with chaparral. The early seral stages of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats, primarily along edges, and especially near meadows.	July 1 through the last Sunday in January	5 per day	10 in possession	Hunting license is required. Use of coursing dogs is permitted with rabbits. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Western white-tailed jackrabbit (*Lepus townsendii townsendii*)	CSC	Common throughout the state, except at the highest elevations. Abundant at lower elevations in herbaceous and desert-shrub areas and open, early stages of forest and chaparral habitats.	All Year	no limit	no limit	Hunting license is required. Use of coursing dogs is permitted with rabbits. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Western gray squirrel (*Sciurus griseus*)	None	Fairly common locally in mature stands of most conifer, hardwood, and mixed hardwood-conifer habitats in the Klamath, Cascade, Transverse, Peninsular, and Sierra Nevada Ranges. Dependent upon mature stands of mixed conifer and oak habitats. Closely associated with oaks. Require large trees, mast, and snags.	The second Saturday in September though the last Sunday in January	4 per day	4 in possession	Hunting license is required. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Coyote (*Canis latrans*)	None	Occurs in almost all habitats and successional stages. Frequents open brush, scrub, shrub, and herbaceous habitats. Also found in younger stands of deciduous and conifer forest and woodland with low to intermediate canopy, and shrub and grass understory.	All Year	no limit	no limit	Hunting license is required. Must use ten-gauge shotgun or smaller, and no shot size larger than BB.
Black bear (*Ursus americanus*)	None	Widespread, common to uncommon resident occurring from sea level to high mountain regions. Occurs in fairly dense, mature stands of many forest habitats, and feeds in a variety of habitats including brushy stands of forest, valley foothill riparian, and wet meadow.	Zone D-4: The fourth Saturday in September until the last Sunday in December or until all tags are filled Zone X-7b: The second Satuday in October and extend for 79 consecutive days or until all tags are filled	1 adult/season/tag	1 adult/season/tag	Requires hunting license and hunting tags. Only adults may be taken. May use approved rifles, bow and arrow, and approved shotguns. Cubs and females accompanied by cubs may not be taken.
Mountain lion *(Felis rufus)*	Specially protected mammal, CDFG Code, Chapter 10, Section 4800	Widespread, uncommon permenent resident, ranging rom sea level to alpine meadows. Found in nearly all habitats, except xeric regions of the Mojave and Colorado deserts that do not support mule deer populations. Excluded from croplands in the Central Valley. Most abundant in riparian areas and brushy stages of most habitat.	None	N/A	N/A	N/A

Table 7.6-8. Game Species of the Middle Fork American Watershed (continued).

Species	Status	Habitat	General Season	Bag Limit	Possession Limit	Hunting Restrictions
Game Mammals (continued)						
Bobcat (*Felis rufus*)	None	Common to uncommon, permanent resident throughout most of California. Uses nearly all habitats and successional stages. Optimal habitats are brushy stages of low and mid-elevation conifer, oak, riparian, and pinyon-juniper forests, and all stages of chaparral.	Oct. 15 - Feb. 28 (hunting) Nov. 24 - Jan. 31 (trapping)	Bobcats taken under a hunting license and bobcat hunting tags: Five bobcats per season. Bobcats taken under a trapping license: No limit.	Bobcats taken under a hunting license and bobcat hunting tags: Five bobcats per season. Bobcats taken under a trapping license: No limit.	Requires hunting license and hunting tags.
Mule deer (*Odocoileus hemionus*)	MIS	Common to abundant, yearlong resident or elevational migrant with a widespread distribution throughout most of California, except in deserts and intensively farmed areas without cover. Prefer a mosaic of vegetation, providing an interspersion of herbaceous openings, dense brush or tree thickets, riparian areas, and abundant edge.	Zone D-4: The fourth Saturday in September extending for 37 consecutive days Zone X-7b: The First Saturday in October and extend for 16 consecutiv days.	1 buck/ tag	1 buck/ tag	Requires hunting license and hunting tags. May use approved rifles, bow and arrow, approved shotguns, and crossbows. Only bucks with antlers with demonstratable forks (or greater) may be taken.
Furbearing Mammals						
Gray fox (*Urocyon cinereoargenteus*)	None	Uncommon to common permanent resident of low to middle elevations throughout most of the state. Frequents most shrublands, valley foothill riparian, montane riparian, and brush stages of many deciduous and conifer forest and woodland habitats. Also found in meadows and cropland areas. Suitable habitat consists of shrublands, brushy and open-canopied forests, interspersed with riparian areas, providing water.	Nov. 24 - the last day of Feb.	no limit	no limit	Hunting license is required. May use firearms, bow and arrow, poison under special permit, and approved traps with trapping permit. Dogs permitted.
Raccoon (*Procyon lotor*)	None	Widespread, common to uncommon permanent resident throughout most of the state. Occurs in all habitats except alpine, and desert types without water; marginal in Great Basin shrub types. Most abundant in riparian and wetland areas at low to middle elevations.	Nov. 16 - Mar. 31	no limit	no limit	Hunting license is required. May use firearms, bow and arrow, poison under special permit, and approved traps with trapping permit. Dogs permitted. When taking raccoon after dark, pistols and rifles not larger than .22 caliber rimfire and shotguns using shot no larger than No. BB may be used
Long-tailed weasel (*Mustela frenata*)	None	Common to uncommon, permanent resident of most habitats, except xeric brush, shrub, and scrub in the Mojave and Colorado deserts. Mostly uses intermediate cover stages of conifer and deciduous habitats, interspersed with lower seral stages and open forest, woodland areas and shrubs, from sea level to alpine meadows.	All Year	no limit	no limit	Hunting license is required. May use firearms, bow and arrow, poison under special permit, and approved traps with trapping permit. Dogs permitted.
American mink (*Mustela vison*)	None	Uncommon permanent resident, generally occurring in the northern half of the state. Semiaquatic, inhabiting most aquatic habitats, including some coastal areas. Occurs at elevations up to about 2700 m (9000 ft).	Nov. 16 - Mar. 31	no limit	no limit	Hunting license is required. May use firearms, bow and arrow, poison under special permit, and approved traps with trapping permit. Dogs permitted.
American badger (*Taxidea taxus*)	None	Badgers are most often found in open, often treeless habitats with an available food source, usually other fossorial mammals. Badgers do not occur in heavily forested areas but inhabit open grasslands, parklands, prairie and cold desert areas.	Nov. 16 - last day of Feb.	no limit	no limit	Hunting license is required. May use firearms, bow and arrow, poison under special permit, and approved traps with trapping permit. Dogs permitted.

Source: http://www.dfg.ca.gov/wildlife/hunting/

Table 7.6-9. MFP Priority Noxious Weeds List.

Scientific Name	Common Name	TNF Priority Species[1]	ENF Priority Level[2]	Acres in the MFP
Ailanthus altissima	Chinese tree of heaven		2	2.67
Bromus diandrus	Ripgut brome		4	97.21
Bromus tectorum	Cheat grass	X	2	246.8
Carduus pycnocephalus	Italian thistle		3	18.31
Centaurea melitensis	Tocalote	X	2	18.93
Centaurea solstitialis	Yellow starthistle	X	2	6.65
Chondrilla juncea	Rush skeletonweed	X	2	75.89
Cirsium arvense	Canada thistle	X	1	0.05
Cirsium vulgare	Bull thistle		3	103.78
Cynosurus echinatus	Hedgehog dogtailgrass		4	81.43
Hirschfeldia incana	Shortpod mustard		4	43.83
Hypericum perforatum	Klamathweed	X	3	125.05
Lepidium latifolium	Tall whitetop (pepperweed)	X	1	8.90
Melilotus officinalis, M.albus	Yellow sweet clover, white sweet clover		3	57.88
Rubus discolor	Himalayan blackberry	X	3	32.13
Rumex acetosella	Red (sheep) sorrel		4	189.48
Taeniatherum caput-medusae	Medusahead	X	2	21.18
Torilis arvensis	Spreading hedgeparsley		4	84.41
Verbascum thapsus	Woolly mullein	X	4	318.68
Vulpia myuros	Rattail fescue		4	225.26

[1]Source: TNF Noxious Weed List received from K. VanZuuk on March 4, 2010 (TNF Weed List and Current Management Direction.doc).

[2]Source: ENF Noxious Weed List received from S. Durham dated January 27, 2010 (ENF Proposed Treatment Tables 012710.docx).

FIGURES

Figure 7.6-1. Timing of Bald Eagle Reproductive Activities and Associated Sensitivity Levels.

Activity	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Timing of Bald Eagle Reproductive Activities and Sensitivity to Human Activities (Pacific Region)[1]												
Nest Building												
Egg Laying / Incubation												
Hatching /Rearing Young												
Fledging Young												

[1]National Bald Eagle Management Guidelines, USFWS 2007

Sensitivity to Human Activity

= Most sensitive period: likely to respond negatively

= Very sensitive

= Moderately sensitive

MAPS

CONFIDENTIAL

MAPS

"Maps 7.6-1. Location of Special-Status Plant Populations in the Vicinity of the MFP"

"Maps 7.6-1a–f. Location of Stebbins' Phacelia at MFP Facilities and Features and Recreation Facilities and Features"

"Map 7.6-2. Bald Eagle Nests and Night Roosts in the Vicinity of the MFP"

(from Exhibit E; Section 7.6, Botanical and Wildlife Resources Affected Environment)

These Maps have been removed from this document because they contain the location(s) of special-status biological resources and are considered "confidential" information. Confidential special-status biological resources information is located in Volume 4 which may not be made available to the public pursuant to the Federal Energy Regulatory Commission's (FERC's) regulated contained in 36 CFR 385.1112. This information is not maintained in FERC's Public Reference Room or on the Commission's electronic library except as an indexed item.