

8.1 Introduction

This chapter discusses the wildlife resources in the vicinity of the project and the state, federal, and local laws that regulate impacts on these resources. This chapter also identifies potential project-related impacts on wildlife species and prescribes mitigation measures to avoid or reduce significant impacts to less-than-significant levels.

8.2 Affected Environment

For the purpose of this chapter, the affected environment includes the project operation and construction areas.

8.2.1 Sources of Information

Information about wildlife habitats and wildlife species that could occur in the project area was gathered from several sources. Descriptions of wildlife habitats were based on information from DFG's *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988) and on a reconnaissance-level field survey. Focused amphibian surveys were conducted on September 1 and October 2, 2000, in the construction area and other areas of suitable habitat adjacent to the construction area. Special-status wildlife species that could occur in the project area were identified using the CNDDDB, the USFWS species list for Nevada County, field surveys, and communication with DFG and USFS biologists (Lehr and Hiscox pers. comms., Carlson and Shanley pers. comms., respectively). Additional information on wildlife resources in the project vicinity was obtained from existing reports (Harding Lawson Associates 1998, Jones & Stokes Associates 1997).

8.2.2 Regulatory Setting

8.2.2.1 Special-Status Wildlife

Special-status wildlife species are animals that are legally protected under CESA, ESA, or other laws, as well as species that are considered sufficiently rare by the scientific community to qualify for such listing, as described in chapter 7, “Vegetation and Wetland Resources.” Special-status animals are defined in the following categories:

- species listed or proposed for listing as threatened or endangered under ESA (50 CFR 17.12 [listed plants], 50 CFR 17.11 [listed animals], and various notices in the FR [proposed species]);
- species that are candidates for possible future listing as threatened or endangered under ESA (62 CFR 182: 49191–49193, September 19, 1997);
- species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 California Code of Regulations [CCR] 670.5);
- species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines, Section 15380);
- animal species of special concern to DFG (Remsen 1978 [birds], Williams 1986 [mammals], and Jennings and Hayes 1994 [amphibians and reptiles]);
- animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [amphibians and reptiles]);
- birds of prey, their nests, and eggs (California Fish and Game Code, Section 3503.5); and
- species designated as sensitive by Region 5 of USFS.

8.2.3 Regional Setting

The general regional setting for wildlife is the same as described under section 7.2.2 of chapter 7, “Vegetation and Wetland Resources.”

8.2.3.1 Wildlife Resources

8.2.3.1.1 Wildlife Habitats

Both the construction and operation areas contain wildlife habitat. However, considerable sources of noise and traffic that could disturb wildlife already exist in and near the construction area: I-80, the UPRR railroad tracks, Floriston, and

recreational users of the Truckee River. Vegetation in the construction area is also highly disturbed as a result of localized erosion. Wildlife habitats and associated wildlife species are described below.

8.2.3.1.1.1 Big Sagebrush Scrub

Big sagebrush scrub occupies approximately 4.0 acres of the project construction area. Outside the project area, it occurs sporadically on the canyon slopes above riparian areas and on higher terraces near Jeffrey pine forest. Sagebrush scrub occurs at a wide range of middle and high elevations and serves as habitat for a variety of wildlife species. Migratory mule deer use midelevation sagebrush scrub for wintering and higher elevations for summer foraging. Bird species that occupy sagebrush scrub habitat include the chukar (*Alectoris chukar*), black-billed magpie (*Pica pica*), gray flycatcher (*Empidonax wrightii*), pinyon jay (*Gymnorhinus cyanocephalus*), sage thrasher (*Oreoscoptes montanus*), sage sparrow (*Amphispiza belli*), and red-tailed hawk (*Buteo jamaicensis*). Mammals that use this habitat include least chipmunk (*Tamias minimus*), deer mouse (*Peromyscus maniculatus*), sagebrush vole (*Lemmyscus curtatus*), montane vole (*Microtus montanus*), and Nuttall's cottontail (*Sylvilagus nuttallii*) (Mayer and Laudenslayer 1988; Zeiner et al. 1990a, 1990b).

8.2.3.1.1.2 Montane Riparian Scrub

Montane riparian scrub is a dominant plant community along the Truckee River; it is found in approximately 0.06 acres of the project construction area. Riparian scrub also forms a mosaic with black cottonwood forest along several stretches of the river and is found associated with the flume in the project operation area. As wildlife habitats, riparian areas have high value (Thomas 1979, Marcot 1979, Sands 1977). Riparian habitats provide water, thermal cover, migration corridors, and diverse nesting and feeding opportunities for many different animals. The linear nature of riparian zones along streams maximizes the development of the edge, which is highly productive for wildlife (Thomas 1979). Amphibians, reptiles, birds, and mammals use riparian habitat for food, cover, and reproduction. Species that commonly occupy riparian habitat are Pacific treefrog (*Hyla regilla*), belted kingfisher (*Ceryle alcyon*), yellow warbler (*Dendroica petechia*), Wilson's warbler (*Wilsonia pusilla*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and mule deer (*Odocoileus hemionus*).

8.2.3.1.1.3 Montane Black Cottonwood Riparian Forest

Montane black cottonwood riparian forest occurs in and adjacent to the operation area and has the same high value for wildlife as riparian scrub.

8.2.3.1.1.4 Jeffrey Pine Forest

Jeffrey pine forest occurs in and adjacent to the operation area. It merges gradually with montane black cottonwood forest and big sagebrush scrub on terraces above the floodplain. Jeffrey pine forest provides habitat for numerous wildlife species (Verner and Boss 1980). The diverse plant species composition of Jeffrey pine forest provides a wide selection of food and cover for species that occupy this habitat. The overstory of Jeffrey pine along the Truckee River is of special value to wildlife because of the food value of Jeffrey pine seeds. Pine seeds are more common in the diets of wildlife species than any other plant genus except oak (Light 1973). The variety of shrubs and vast quantities of grasses and forbs in Jeffrey pine forest provide other forage resources essential to wildlife (Kosco and Bartolome 1983). Species that commonly occur in Jeffrey pine forest include sagebrush lizard (*Sceloporus graciosus*), western rattlesnake (*Crotalis viridis*), red-breasted nuthatch (*Sitta canadensis*), pygmy nuthatch (*S. pygmaea*), brown creeper (*Certhia americana*), white-headed woodpecker (*Picoides albolarvatus*), northern flying squirrel (*Glaucomys sabrinus*), golden-mantled ground squirrel (*Spermophilus lateralis*), and mule deer.

8.2.3.1.1.5 Ruderal Habitat

Ruderal habitat occurs on approximately 3 acres of the construction area. It exists near the previous diversion structure, the existing access road, and on both sides of the Truckee River near the I-80 Floriston bridge. Ruderal habitat provides low-quality nesting and foraging opportunities for wildlife. Wildlife species commonly found in ruderal and disturbed areas include white-crowned sparrow (*Zonotrichia leucophrys*), Brewer's blackbird (*Euphagus cyanocephalus*), American goldfinch (*Carduelis tristis*), black-tailed hare (*Lepus californicus*), and California ground squirrel (*Spermophilus beecheyi*).

8.2.3.1.2 Wildlife Surveys

A reconnaissance-level wildlife survey was conducted at the Farad Diversion Dam replacement site on September 1, 2000. The survey was conducted in the morning and early afternoon by 2 biologists. The construction area was surveyed, as was the operation area on the west side of the Truckee River along the flume to the Farad Power Plant. The biologists recorded the habitat types observed and species observed (or evidence of species noticed) during this survey. Species observed included

- band-tailed pigeon (*Columba fasciata*),
- rock dove (*C. livia*),
- Steller's jay (*Cyanocitta stelleri*),
- California ground squirrel (*Spermophilus beecheyi*),
- green-tailed towhee (*Pipilo chlorurus*),
- spotted towhee (*P. maculatus*),
- white-throated swift (*Aeronautes saxatalis*),

- barn swallow (*Hirundo rustica*),
- yellow-rumped warbler (*Dendroica coronata*),
- American dipper (*Cinclus mexicanus*),
- American robin (*Turdus migratorius*),
- Bewick's wren (*Thryomanes bewickii*),
- bushtit (*Psaltiriparus minimus*),
- belted kingfisher (*Ceryle alcyon*),
- western wood-pewee (*Contopus sordidulus*),
- dark-eyed junco (*Junco hyemalis*),
- common merganser (*Mergus merganser*), and
- white-crowned sparrow (*Zonotrichia leucophrys*).

The biologists also observed evidence of beaver (*Castor canadensis*), mule deer (*Odocoileus hemionus*) tracks, cliff swallow (*Petrochelidon pyrrhonota*) nests, and coyote (*Canis latrans*), black bear (*Ursus americanus*), bushy-tailed woodrat (*Neotoma cinerea*), and raccoon (*Procyon lotor*) scat. No raptors or raptor nests were observed during the reconnaissance survey, although biologists were not specifically looking for nests.

The biologists also conducted focused amphibian surveys on September 1 and October 3, 2000, in areas that provided suitable habitat in and adjacent to the proposed construction area. The October 3 survey was conducted in the afternoon. During the September survey, biologists observed Pacific treefrog metamorphs in the sediment detention channel near the flume. No amphibians were observed during the October survey. Suitable amphibian habitat includes backwater areas of the river, the sediment detention channel near the flume, a beaver pond in the operation area, and wet areas created by the flume runoff in the operation area.

8.2.3.1.3 Special-Status Wildlife Species

Bewick's wren was the only special-status wildlife species observed during the reconnaissance-level field survey and focused amphibian surveys. Special-status wildlife with potential to occur in the project area include

- Button's Sierra sideband (*Monadenia mormonum buttoni*),
- mountain yellow-legged frog (*Rana muscosa*),
- northwestern pond turtle (*Clemmys marmorata marmorata*),
- osprey (*Pandion haliaetus*),
- Cooper's hawk (*Accipiter cooperii*),

- northern goshawk (*A. gentilis*),
- sharp-shinned hawk (*A. striatus*),
- bald eagle (*Haliaeetus leucocephalus*),
- American peregrine falcon (*Falcon peregrine anatum*),
- long-eared owl (*Asio otus*),
- Vaux's swift (*Chaetura vauxi*),
- Rufous hummingbird (*Selasphorus rufus*),
- Lewis' woodpecker (*Melanerpes lewis*),
- red-breasted sapsucker (*Sphyrapicus ruber*),
- olive-sided flycatcher (*Contopus cooperi*),
- willow flycatcher (*Empidonax traillii*),
- gray flycatcher (*E. wrightii*),
- Bewick's wren (*Thryomanes bewickii*),
- California yellow warbler (*Dendroica petechia brewsteri*),
- Brewer's sparrow (nesting) (*Spizella breweri*),
- pale Townsend's (= western) big-eared bat (*Corynorhinus townsendii pallescens*),
- spotted bat (*Euderma maculatum*),
- greater western mastiff-bat (*Eumops perotis californicus*),
- Yuma myotis (*Myotis yumanensis*),
- fringed myotis (*M. thysanodes*),
- long-eared myotis (*M. evotis*),
- small-footed myotis (*M. ciliolabrum*),
- long-legged myotis (*M. volans*),
- pine marten (*Martes americana*),
- Pacific fisher (*M. pennanti pacifica*),
- California wolverine (*Gulo gulo luteus*),
- Sierra Nevada red fox (*Vulpes vulpes necator*),
- Sierra Nevada mountain beaver (*Aplodontia rufa californica*),
- Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*), and
- white-tailed hare (*L. townsendii*).

There are nearby records for osprey, northern goshawk, bald eagle, and willow flycatcher. For other species, there are no known occurrences. Table G-2 in

appendix G identifies their listing status, habitat association, and potential for occurrence in the project area. Information from DFG and USFS biologists, the CNDDDB, the species list generated by USFWS for Nevada County, existing reports for the project area and vicinity (Harding Lawson Associates 1998, Jones & Stokes Associates 1997), and field surveys were used to determine which special-status wildlife species could occur in the project area. Species on the USFWS list whose range is outside of the area and for which the area supported no suitable habitat were not included in table G-2 in appendix G. This impact analysis discusses only species that could be affected by the project. The following species are unlikely to occur in the construction area and will be unaffected by operations:

- Button's Sierra sideband (*Monadenia mormonum buttoni*),
- Northwestern pond turtle (*Clemmys marmorata marmorata*),
- pine marten (*Martes americana*),
- Pacific fisher (*M. pennanti pacifica*),
- California wolverine (*Gulo gulo luteus*),
- Sierra Nevada red fox (*Vulpes vulpes necator*),
- Sierra Nevada Mountain beaver (*Aplodontia rufa californica*),
- Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*), and
- white-tailed hare (*L. townsendii*).

8.3 Impact Assessment Methodology

8.3.1 Analytical Approach

Assessment of construction- and operation-related impacts to wildlife habitat and special-status wildlife species was based on the project description and current information about the status and distribution of special-status wildlife. Potential impacts on special-status wildlife were identified by evaluating species that were likely to be affected by the project, the presence of suitable habitat and the historical occurrence of the species in the project area, as well as through direct observation during field surveys. In general, if it was determined that the project would affect suitable habitat, it was assumed that the project would also affect wildlife species associated with that habitat. The assessment of operation-related impacts was qualitative and largely based on professional judgment.

8.3.2 Criteria for Determining Impact Significance

Two sources were used to develop the significance criteria for impacts on wildlife resources: the State CEQA Guidelines and the regulatory importance of the resources.

Appendix G of the State CEQA Guidelines states that a project may have a significant impact on biological resources if it would

- substantially affect an endangered, threatened, or rare species of animal or the habitat of the species;
- interfere substantially with the movement of any resident or migratory fish or wildlife species; or
- substantially diminish habitat for wildlife.

Species and resources were considered in the analysis if they

- had federal or state legal protection,
- were covered by federal or state agency regulations or policies,
- were covered by local or regional regulations or policies, or
- are documented as sensitive or scarce resources both locally and regionally.

Impacts on wildlife habitats were considered to be significant if the project would result in

- substantial loss of common natural communities that provide habitat for wildlife;
- disruption of natural wildlife movement corridors;
- fragmentation or isolation of important wildlife habitats, especially riparian and wetland habitats;
- removal, filling, grading, or disturbance of wetlands or riparian corridors; or
- direct mortality, substantial reduction in local population size, lowered reproductive success, or habitat fragmentation of
 - wildlife species that are state- or federally listed as threatened or endangered or
 - substantial portions of local populations of candidates for state or federal listing, federal species of concern, state species of special concern, or other wildlife species qualifying as rare and endangered under CEQA.

Impacts are considered less than significant if they do not meet any of the criteria identified above.

8.4 Impacts and Mitigation Measures of Alternative A: Proposed Project

Implementation of the proposed project could result in impacts on special-status wildlife species or their habitats. Impacts that would result from construction- and operation-related activities are described below.

8.4.1 Construction-Related Impacts

Impact 8-1: Temporary Disturbance and Loss of Breeding and Foraging Habitat for Special-Status Birds

The presence of construction equipment, construction personnel, and noise associated with construction could temporarily disturb the foraging activity of Cooper's hawks, sharp-shinned hawks, willow flycatchers, gray flycatchers, yellow warblers, and Brewer's sparrows if these birds are present in the area. This is not a substantial effect on these species because construction area is small and the breeding and foraging habitat found in the project construction area is of low quality; furthermore, the disturbance is temporary.

Approximately 1.5 acres of big sagebrush scrub that provides suitable foraging and nesting habitat for Brewer's sparrows could be lost or disturbed during project construction. If a population of Brewer's sparrows exists in the construction area, the population would not be significantly affected because of the loss or disturbance of this habitat. Brewer's sparrows were not observed during the field surveys and would likely prefer the larger stand of big sagebrush scrub, which is of better quality, adjacent to the project construction area. In addition, the small amount of habitat lost would be offset by restoration efforts. The likelihood of individual mortality is low because of the low quality of the habitat being affected. Therefore, this impact is considered *less than significant*. No mitigation is required.

8.4.2 Operation-Related Impacts

Implementation of the proposed project would result in decreased flow rates in the 2-mile stretch of the Truckee River below the diversion structure. This decreased flow rate could cause impacts on certain wildlife species in the operation area.

Impact 8-2: Potential Long-Term Loss of Nesting and Foraging Habitat for Willow Flycatchers and Other Riparian Birds as a Result of Changes in Instream Flow

As described in chapter 7, streamflow diversion could shift the growing area of riparian scrub downstream of the diversion. However, no long-term loss of riparian habitat functions and values in the project operation area is anticipated. Therefore, long-term loss of potential nesting and foraging habitat for the state-listed willow flycatcher and other special-status riparian birds (long-eared owl, Rufous hummingbird, red-breasted sapsucker, Bewick's wren, California yellow warbler) would not occur. This impact is considered *less than significant*. No mitigation is required.

Impact 8-3: Effect on Habitat Suitability for Mountain Yellow-Legged Frogs as a Result of Decreased Flow in Truckee River

Portions of the shorelines of the Truckee River in the operation area appear to provide suitable habitat for the mountain yellow-legged frog. It is highly unlikely that the Truckee River supports a self-sustaining population of mountain yellow-legged frogs because nonnative trout (a predator) are present (Lehr pers comm.). Mountain yellow-legged frogs probably occur in tributaries to the Truckee River in the vicinity of the proposed project (Lehr pers. comm.). Because the flows in the Truckee River range from very high to very low depending on precipitation and reservoir releases (Hiscox pers. comm.), it is difficult to assess whether diversion of water would affect habitat for mountain yellow-legged frogs. It is possible that if they are present, the decreased flow rate in the Truckee River may increase the suitability of habitat for the mountain yellow-legged frog. The presence of trout, the lack of pools and high-quality habitat, and the absence of nearby (within 0.31 mile) populations of the frog make it unlikely that the species would be found in or could colonize the operation area. Based on this information, this impact is considered *less than significant*. No mitigation is required.

Impact 8-4: Decrease in Foraging Habitat for Special-Status Bats

Special-status bat species (table G-2 in appendix G) could occur in the vicinity of the operation area, although there are no known occurrences. If special-status bats roost in nearby areas, it is likely that they forage above and in the vicinity of the Truckee River. Different species of bats forage at different levels in the forest, segregating food availability. Aquatic invertebrates are 1 important food source for some bats. Fluctuating flows can reduce populations of aquatic invertebrates by direct exposure or by stimulating them to drift downstream

(Minshall and Winger 1968). Although there may be a reduction in aquatic invertebrate populations in the operation area under some flow conditions, these populations are resilient and represent only a small portion of the total invertebrate population. These changes are unlikely to substantially affect special-status bats because of their mobility and the availability of other invertebrates. There are no known occurrences of special-status bats in the project area, and if present, project effects would not substantially affect these species or result in lowered reproductive success. Therefore, this impact is considered *less than significant*. No mitigation is required.

Impact 8-5: Disturbance to Special-Status Wildlife Species during Maintenance Activities

Several planned maintenance activities, such as removal of sediment or operation of the fish screens, would occur in the construction area after completion of the proposed project. These activities are not expected to disturb special-status wildlife species beyond the current disturbance level in the area from recreation, highway use and maintenance, and local residential activity. Therefore, this impact is considered *less than significant*. No mitigation is required.