



Table 1. Aquatic and terrestrial wildlife species of management concern in or adjacent to the project area, including a brief analysis of species occurrence and habitat suitability

Wildlife (genus and species)	Legal status ¹	Known to occur	Suitable habitat	Rationale for determination ²
Birds				
Northern goshawk (<i>Accipiter gentiles</i>)	S, SI			Suitable habitat consisting of large tracts of mature, closed canopy, deciduous, coniferous, or mixed forest with an open understory, in or adjacent to the project area. No removal of nest or perch trees. Disturbance from project activity is not beyond existing recreational activity.
Golden eagle (<i>Aquila chrysaetos</i>)	SI			Suitable habitat consisting of open coniferous forest, especially in mountainous regions, with abundant medium-sized mammal prey. No removal of nest trees or perch trees. Disturbance from project activity is not beyond existing recreational activity.
Willow flycatcher (<i>Empidonax traillii adastus</i>)	S			Suitable willow habitat in or adjacent to the project area. Emphasis habitat = meadows larger than 15 acres, with a deciduous shrub component, and standing water on June 1. Usually do not nest above 8,000 feet. Disturbance from project activity is not beyond existing recreational activity.
American peregrine falcon (<i>Falco peregrinus anatum</i>)	D, SI			Suitable habitat consisting of cliffs near meadows or wetlands with abundant avian prey, in or adjacent to the project area. Disturbance from project activity is not beyond existing recreational activity. Delisted in 1999.
Bald eagle (<i>Haliaeetus leucocephalus</i>)	D, S, SI			Suitable habitat consisting of dense forest with supercanopy trees, within one mile of large lakes and streams with abundant fish prey. No removal of nest trees or perch trees. Disturbance from project activity is not beyond existing recreational activity. Delisted July 9, 2007. Monitor for 5 years.
Osprey (<i>Pandion haliaeetus</i>)	SI			Suitable habitat consisting of dense forest with supercanopy trees, within one mile of large lakes and streams with abundant fish prey. No removal of nest trees or perch trees. Disturbance from project activity is not beyond existing recreational activity.
Great gray owl (<i>Strix nebulosa</i>)	S			Suitable habitat consisting of mature and dense lowland or upland forest adjacent to meadow openings greater than 10 acres. No removal of nest trees or perch trees. Disturbance from project activity is not beyond existing recreational activity. Not known to occur in the Lake Tahoe Basin.
California spotted owl (<i>Strix occidentalis occidentalis</i>)	S, MIS			Suitable adjacent habitat consisting of old, dense, and layered mixed conifer forest. No removal of nest or perch trees. Disturbance from project activity is not beyond existing recreational activity.
Waterfowl species	SI			Suitable waterfowl habitat in the project area. Disturbance from project activity is not beyond existing recreational activity.
Mammals				
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	S			Suitable habitat consisting of caves, mines, or tunnels near wetlands of forest edges in or adjacent to the project area.
California wolverine (<i>Gulo gulo luteus</i>)	S			Suitable habitat consisting of subalpine forest with low human disturbance. Not known to occur in the Lake Tahoe Basin. DNA analysis of the wolverine (<i>Gulo gulo luscus</i>) in the Tahoe National Forest during February 2008, showed that the male dispersed from the Northern Rocky Mountains and is not a sensitive species.
American marten (<i>Martes americana</i>)	S, MIS			Suitable habitat consisting of dense late successional coniferous forest with snags, down logs, debris piles, and abundant squirrel prey. No removal of down woody debris. Disturbance from project activity is not beyond existing recreational activity.
Pacific fisher (<i>Martes pennanti pacifica</i>)	C			Suitable habitat consisting of dense late successional mixed coniferous or riparian deciduous forest with denning cavities, 60% canopy closure, and 11-24 inch dbh trees. Stand replacing fires limit population expansion. Not known to occur in the Lake Tahoe Basin since 1977, which is outside its current range.
Mule deer (<i>Odocoileus hemionus</i>)	SI			Fragmented habitat consisting of meadows with low human disturbance during the fawning season, in or adjacent to the project area.
Sierra Nevada red fox (<i>Vulpes vulpes necator</i>)	S			Suitable habitat consisting of a subalpine forest with interspersed meadows over 7,000 feet. Unknown population distribution in the Lake Tahoe Basin. Disturbance from project activity is not beyond existing recreational activity.
Amphibians				
Yosemite toad (<i>Bufo canorus</i>)	C			High elevation toad above 6,400 feet, which are not known to occur in the Lake Tahoe Basin. Non-sensitive populations that do occur near Lake Tahoe are Western toad (<i>Bufo boreas</i>).
Mountain yellow-legged frog (<i>Rana muscosa</i>)	C, S			No suitable habitat consisting of streams and rivers that are free of predatory trout that feed on tadpoles.
Northern leopard frog (<i>Rana pipiens</i>)	S			Marginal riverine or wet meadow habitat in or adjacent to the project area. Prefers abundant aquatic vegetation. The Lake Tahoe Basin is not within its historic range. Nonnative populations were introduced to South Lake Tahoe from Nevada, to supply frog legs to a local restaurant in the early 20 th century.
Fish				
Lahontan Lake tui chub (<i>Gila bicolor pectinifer</i>)	S			No suitable lake habitat in or adjacent to the project area. Waterfalls and cascades greater than 5 feet are barriers to fish migration.
Delta smelt (<i>Hypomesus transpacificus</i>)	T			No suitable lake habitat in or adjacent to the project area. Waterfalls and cascades greater than 5 feet are barriers to fish migration. Not known to occur in the Lake Tahoe Basin, which is outside of its historical and current range.
Lahontan cutthroat trout (<i>Oncorhynchus clarkii henshawi</i>)	T, SI			No suitable lake habitat in or adjacent to the project area. Waterfalls and cascades greater than 5 feet are barriers to fish migration. Nonnative predatory rainbow, brook, and golden trout are present. Was the only salmonid fish at Lake Tahoe, but was extirpated in the 1930s partially due to competition and hybridization with nonnative rainbow trout. Stocked for recreational fishing in Fallen Leaf Lake and the Upper Truckee River, but these fish are not considered recovery populations under ESA ¹ .
Central Valley steelhead (<i>Oncorhynchus mykiss</i>)	T			No suitable lake habitat in or adjacent to the project area. Waterfalls and cascades greater than 5 feet are barriers to fish migration. Not known to occur in the Lake Tahoe Basin, which is outside of its historical and



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				current range.
Aquatic invertebrates				
Great Basin rams-horn (<i>Helisoma newberryi newberryi</i>)	S			No suitable habitat for this aquatic snail, which includes large lakes and slow rivers with a muddy substrate.

¹ Legal status:

- E = Endangered species listed by the US Fish and Wildlife Service under the Endangered Species Act.
- T = Threatened species listed by the US Fish and Wildlife Service under the Endangered Species Act.
- C = Candidate species listed by the US Fish and Wildlife Service under the Endangered Species Act.
- D = Delisted species by the US Fish and Wildlife Service under the Endangered Species Act. Species will be monitored for 5 years.
- S = Sensitive species listed by the US Forest Service. From the regional forester sensitive species list amended on March 3, 2005.
- MIS = Management indicator species listed by the US Forest Service. Sierra Nevada MIS amendment on December 14, 2007
- SI = Special interest species listed by the Tahoe regional planning agency. Regional plan of Lake Tahoe basin, code of ordinances, 1987

² The Lake Tahoe basin is outside the range of the delta smelt, Central Valley steelhead, and Yosemite toad. There are no species currently present in the Lake Tahoe basin that are listed as endangered by the US Fish and Wildlife Service under the Endangered Species Act. This list was revised in March 2008.

Table 2. Management indicator species habitat analysis

Habitat or ecosystem component	California wildlife habitat relationship types, which define the habitat component ¹	Sierra Nevada Forests management indicator species	Analysis category ²
Riverine & lacustrine	Riverine, and lacustrine or lake.	Aquatic macroinvertebrates ³	
Riparian	Riparian, montane, and valley foothill, open canopy deciduous woodland with shrubs.	Yellow warbler (<i>Dendroica petechia</i>)	
Wet meadow	Wet meadow, freshwater emergent wetland.	Pacific tree frog (<i>Pseudacris regilla</i>)	
Early seral coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree sizes 1, 2, and 3.	Mountain quail (<i>Oreortyx pictus</i>)	
Mid seral coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree size 4.	Mountain quail (<i>Oreortyx pictus</i>)	
Late seral open canopy Coniferous Forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree size 5. Sparse to open canopy.	Blue grouse (<i>Dendragapus obscurus</i>)	
Late seral closed canopy coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, and red fir. Tree size 5 and 6. Moderate to dense canopy closures.	California spotted owl (<i>Strix occidentalis occidentalis</i>)	
		American marten (<i>Martes americana</i>)	
		Northern flying squirrel (<i>Glaucomys sabrinus</i>)	
Snags in green forest	Medium and large snags in green forest.	Hairy woodpecker (<i>Picoides villosus</i>)	
Snags in burned forest	Medium and large snags in forest burned by a stand-replacing fire.	Black-backed woodpecker (<i>Picoides arcticus</i>)	

¹ All California wildlife habitat relationship size classes and canopy closures are included (Mayer and Laudenslayer, 1988). dbh = diameter at breast height. Tree size classes and canopy closure classifications are:

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|--------------------------|------------------------------------|---------------------|----------------------------|
| 1 = seedling | less than 1" dbh. | S = sparse cover, | 10 to 24% canopy closure. |
| 2 = sapling | from 1" to 5.9" dbh. | P = open cover, | 25 to 39% canopy closure. |
| 3 = pole | from 6" to 10.9" dbh. | M = moderate cover, | 40 to 59% canopy closure. |
| 4 = small tree | from 11" to 23.9" dbh. | D = dense cover, | 60 to 100% canopy closure. |
| 5 = medium to large tree | over 24" dbh. | | |
| 6 = multi-layered tree | in pine and Sierran mixed conifer. | | |

² Category of management indicator species habitat for project analysis:

- 1 = habitat is not in or adjacent to the project area, and would not be affected by the project.
- 2 = habitat is in or adjacent to project area, but would not be directly or indirectly affected by the project.
- 3 = habitat would be directly or indirectly affected by the project.

³ Aquatic macroinvertebrates include worms, clams, snails, shrimp, crayfish, caddisflies, stoneflies, diving beetles, and other invertebrates that are highly sensitive to changes in water quality and condition of aquatic habitat. The index of biotic integrity was last monitored at 17 sites in the Lake Tahoe basin from 2000-2001. The ratio of observed to expected macroinvertebrate species = 0.89, which is a very good score of aquatic sensitive species richness (Sierra Nevada Forests bioregional management indicator species report, January 2008).

Category 1 management indicator species habitat is not in or adjacent to the project area, and would not be directly or indirectly affected by the project. Category 2 management indicator species habitat is in or adjacent to the project area. But the habitat would not be directly or indirectly affected by the project, because there would be no reduction in acres of forest, understory shrub cover, or removal of nest trees, perch trees, snags, or down woody debris. Category 3 management indicator species habitat would be affected by this project