3.9 WILDLIFE AND FISHERIES[1]

3.9-1 INTRODUCTION

This section analyzes direct, indirect and potential impacts to wildlife and fisheries resources as a result of implementation of the Proposed Action, the Alternatives and the No Project Alternative.

The proposed Epic Discovery Project is contained within the boundaries of the existing Special Use Permit Area in accordance with the 2003 Forest Service Lake Tahoe Basin Management Unit (LTBMU) special use permit approval. Although impacts to wildlife and fisheries resources are not necessarily confined within the boundaries of the LTBMU, use of the Special Use Permit area described above provides the basis for determining impacts to species and their associated habitats for this project. Much of the following information in this section has been taken from the 1996 Draft and Final EIR/EIS/EIS (1996 EIR/EIS/EIS) for the Heavenly Mountain Resort Master Plan accepted in 1996 (MP 96) and the 2007 EIR/EIS/EIS prepared for the 2007 Master Plan Amendment (MPA 07). Where necessary, the information has been updated to reflect new conditions or relevant survey results.

3.9-2 ENVIRONMENTAL SETTING

Fisheries

Stream habitats located within and downstream of the Operational Area are characterized in the Forest Service's "Fisheries Resource Analysis Report for Heavenly Valley Ski Area" (USDA 1991) which is provided in Appendix O of the 1996 EIR/EIS/EIS. The four California (CA) and Nevada (NV) streams which were considered in this analysis include: Daggett Creek (NV); Mott Creek (NV); Edgewood Creek (NV); and Heavenly Valley Creek (CA). The assessment concludes that the overall condition of the fisheries resources within and immediately downstream of Heavenly is fair to poor. Factors that contribute to this condition include unconsolidated channel materials, naturally occurring steep gradients of up to 54 percent, numerous stream alterations, an absence of year-round flow in some streams, and a lack of quality habitat.

Riparian condition monitoring has been performed on Heavenly Valley Creek, Edgewood Creek, Daggett Creek and Mott Creek between 2006 and 2011 (Cardno-Entrix 2013). The results of this monitoring reveal a mix of improved and consistent conditions (Heavenly Valley Creek and

[1] Note: This Chapter 3.9 of the EIR/EIS/EIS has been modified since its circulation as part of the Draft EIR/EIS/EIS. The modifications are not shown in revision mode because of the substantial reorganization of the setting sections and numerous revisions to the analysis that make it consistent with the Forest Service Biological Evaluation. The modifications do not substantially alter the conclusions or list of design features proposed to minimize potential impacts, but provide greater detail and reference to existing habitat conditions and impacts from the proposed project and Alternatives.

Edgewood Creek) and uncertain trends in Mott Creek and Daggett Creek. Section 3.1.2.3 provides a detailed discussion of the existing conditions of creeks within Heavenly Mountain Resort.

Wildlife Communities

The Lake Tahoe Basin provides habitat for over 262 species of resident and migratory vertebrate wildlife species. Based on the Lake Tahoe Watershed Assessment (USDA 2000), each of these species of mammals (66), birds (262), and reptiles (8) and amphibians (6) occur in the region because certain habitats are available to meet their needs. The quality and size of these habitats generally determine the abundance of any one species or animal population.

Wildlife use of the Special Use Permit Area was documented through numerous conversations with wildlife biologists and staff of the Forest Service, review of past reports and environmental documents prepared for Heavenly Mountain Resort projects, and through biological field surveys and observations of wildlife species within the project area. The area provides habitat for numerous small mammals, including golden-mantled ground squirrel (*Spermophilus lateralis*), Belding ground squirrel (*Spermophilus beldingi*), chickaree (*Tamiasciurus douglasi*), several species of chipmunk (*Tamias* spp.), and a variety of smaller rodents. Yellow-bellied marmot (*Marmota flaviventris*), porcupine (*Erethizon dorsatum*), Pacific marten (*Martes caurina*) and longtail weasel (*Mustela frenata*) are also common.

Larger mammals known to occur at or in the vicinity of Heavenly include coyote (*Canis latrans*), bobcat (*Lynx rufus*), mountain lion (*Felis concolor*), black bear (*Ursus americanus*), and mule deer (*Odocoilius hemionus hemionus*). Mule deer that occur in the area are part of the Carson River Deer Herd that occupies the eastern slope of the Sierra Nevada in Alpine and El Dorado counties in California and Douglas County in Nevada. Heavenly is within the northern end of the herd's range. The Carson River Deer Herd is a small to average sized herd of 3,000 to 3,500 animals. The size and quality of the herd's winter range acts as a limiting factor to the size of the herd.

Heavenly Mountain Resort is located within the summer range of the Carson River Deer Herd, but individuals of this herd may also migrate through portions of Heavenly Mountain Resort during the fall and spring. These migrations generally occur outside the ski season, between early November to mid-November and between mid-April to May. Deer from the Carson River Deer Herd generally migrate to lower elevation winter range located in the Carson Valley east of Heavenly Mountain Resort. Although most of the herd winters in the Carson Valley; a few deer remain in the Lake Tahoe Basin each winter.

A wide variety of resident and migratory bird species nest and forage at and in the vicinity of Heavenly. Clark's nutcrackers (*Nucifraga columbiana*) and Stellar's jays (*Cyanocitta stelleri*) can be found year-round throughout Heavenly and surrounding forested land. Mountain chickadee (*Parus gambeli*), evening grosbeak (*Coccothraustes vespertinus*), and white-breasted nuthatch (*Sitta carolinensis*) may also be found year-round, while other species such as western tanager (*Piranga ludoviciana*) and western wood pewee (*Contopus sordidulus*) are summer residents only. A variety of woodpeckers, including common flicker (*Colaptes auratus*), hairy woodpecker (*Picoides villosus*), and Williamson's sapsucker (*Sphyrapicus thyroideus*), are

commonly observed in association with forested habitats at Heavenly Mountain Resort. Typical raptors include red-tailed hawk (*Buteo jamaicensis*) and Cooper's hawk (*Accipiter cooperii*).

Reptiles are represented within Heavenly Mountain Resort Special Use Permit Area by species such as the western fence lizard (*Sceloporus occidentalis*), sagebrush lizard (*Sceloporus graciosus*), rubber boa (*Charina bottae*), and western terrestrial garter snake (*Thamnophis elegans*). Amphibians include western toad (*Bufo boreas*) and Pacific treefrog (*Pseudacris regilla*).

Wildlife communities within Heavenly Mountain Resort Special Use Permit Area are subject to various types and levels of human disturbance. On-going maintenance and operation activities generate traffic, noise, and night lighting. Heavenly is transected by numerous unpaved dirt roads that provide internal circulation between ski trails, lifts and other facilities during the summer. Night lighting is not provided on these internal roads, and use is generally limited to daylight hours. Traffic on internal roads at Heavenly is limited to employees and authorized visitors.

Anthropogenic Effects on Wildlife Communities

One and two-lane residential roads and state highways are located on land adjacent to Heavenly. Most of these roads are lighted and support 24-hour traffic traveling at speeds of up to 45 miles per hour. Traffic on these external roads may create an intermittent barrier to wildlife movement through the area and may be responsible for occasional road kills.

Existing sources of noise within the Operational Area vary with season and type of activity. During the winter, noise is generated by ski lift operation, skier and snowmobile traffic, parking lot activities, and automobile traffic on external roads and an occasional special event usually held at the California base area. With the exception of noise associated with roadway traffic and Top of the Tram lift station (where supplies are delivered on a nightly basis), these noise sources are generally restricted to daytime hours. Snowmaking and ski trail grooming occur at night during the winter and generate high noise levels that are unpredictable with respect to timing. Snowmaking equipment is used to generate and maintain snow conditions for skiing, and thus occurs at irregular intervals throughout a typical ski season. However, most snowmaking activities occur from the months of November through January. Noise associated with ski trail grooming may also be unpredictable in that grooming of a ski trail may occur at a different time each night and on a different night each week. The exception is several heavily used ski trails that are groomed nightly, but not necessarily at the same time each night. Avalanche control, which occurs intermittently during daylight hours in the winter, produces extremely loud, unpredictable blasts of noise caused by detonation of explosives to create an avalanche. During the summer, vehicle traffic on external roads as well as pedestrian, bicycle, and vehicle traffic on internal roads at Heavenly generate noise. Revegetation activities, facility maintenance, construction and blasting are additional sources of noise that may occur during the summer months.

Each permanent building within the Project Area is equipped with security lighting. The source of this lighting is generally limited to small floodlights that illuminate the immediate vicinity of

building entrances. In addition, the Top of the Tram lift station and the World Cup ski run are equipped with night lighting associated with evening use of these facilities.

Sensitive Fish and Wildlife Species

A number of sensitive fish and wildlife species have been recorded or are known to occupy natural vegetation associations and streams that occur within and adjacent to the Lake Tahoe Basin (Table 3.9-1). For the purposes of this EIR/EIS/EIS, these sensitive species are defined to include:

- Federally listed, proposed, candidate, threatened and endangered species (Federal Register 50 of Federal Regulations Part 17.11 and 17.12);
- USFS LTBMU Sensitive Species, Regional Forester's Sensitive Species List, (2013)
- State of California listed and candidate threatened and endangered species (2014);
- California fully protected species that, while they are not listed as endangered or threatened, are protected by various sections of the Fish and Game Code of California (2004);
- Species of special concern to the California Department of Fish and Wildlife (Remson 1978; Williams 1986);
- State of Nevada listed threatened and endangered species (2014); and
- Species listed by the TRPA as Special Interest Species.
- Species protected by The Bald and Golden Eagle Protection Act of 1940.

Table 3.9-1

Sensitive Fish and Wildlife Species with Potential to Occur in Heavenly Mountain Resort Special Use Permit Boundary

Wildlife Species	Legal Status	Known to Occur in Project Area?	Suitable Habitat in Project Area?	Rationale if Habitat Not Considered Suitable
Reptiles/Amphibians				
Sierra Nevada yellow-legged frog (*Rana sierra)*	E, S, CT	N	Y	
Yosemite toad (*Bufo canorus*)	T	N	N	Project area north of known range distribution (Alpine County at its northern most extent).
Birds				
Bald eagle (*Haliaeetus leucocephalus*)	S, D, SI	N	Y	

Table 3.9-1

Sensitive Fish and Wildlife Species with Potential to Occur in Heavenly Mountain Resort Special Use Permit Boundary

Wildlife Species	Legal Status	Known to Occur in Project Area?	Suitable Habitat in Project Area?	Rationale if Habitat Not Considered Suitable
American peregrine falcon (*Falco peregrinus anatum*)	SI, D, NPS	N	N	No cliffs present in the Project area suitable for nesting or foraging. Closest known locations are Christmas Valley eight miles to the southwest, and Cave Rock 7 miles to the north.
California spotted owl (*Strix occidentalis occidentalis*)	S, CSC	N	Y	No suitable nesting habitat occurs in the Project area, but species occurs within the Special Use Permit Boundary.
Great gray owl (*Strix nebulosa*)	CE, S	N	N	No suitable nesting habitat exists in the Project area, the species is not known to occur within the Special Use Permit Boundary.
Northern goshawk (*Accipiter gentiles*)	S, SI, NPS	N	Y	
Golden eagle (*Aquila chryaetos*)	CSC, SI	N	N	No cliffs present in the Project area suitable for nesting or foraging.
Osprey (*Pandion haliaetus*)	SI, NP	N	Y	
Mountain quail (*Oreortyx pictus*)	MIS	Y	Y	
Blue grouse (*Dendragapus obscurus*)	MIS	Y	Y	
Hairy woodpecker (*Picoides villosus*)	MIS	Y	Y	
Willow flycatcher (*Empidonax traillii adastus*)	S	N	N	No suitable willow habitat in the Project area. Suitable habitat outside the Special Use Permit Boundary occurs along Trout Creek approximately four miles to the west of the Project area.
Invertebrates				
Great Basin rams-horn (*Helisoma newberryi newberryi*)	S	N	N	No suitable habitat for aquatic snail, which includes large lakes and slow rivers with a muddy substrate.

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Sensitive Fish and Wildlife Species with Potential to Occur in Heavenly Mountain Resort Special Use Permit Boundary

Wildlife Species	Legal Status	Known to Occur in Project Area?	Suitable Habitat in Project Area?	Rationale if Habitat Not Considered Suitable
Western bumble bee (Bombus occidentalis)	S	N	Y	
Mammals				
Sierra Nevada red fox (*Vulpes vulpes necator*)	S, CT	N	N	No records of detections in the Lake Tahoe Basin; thought to be extirpated from the vicinity.
Pacific marten (*Martes caurina*)	S, MIS	Y	Y	
Pacific Fisher (*Martes pennanti*)	C, CCT	N	N	Habitat confined to lower elevations (8,000 feet) where snow pack is reduced or absent. Last sighting was in 1967 approximately 12 miles from Project area.
North American wolverine (*Gulo gulo luscus*)	S, NP	N	N	No records of detections in the Lake Tahoe Basin; thought to be extirpated from the vicinity. High levels of existing human presence and activity are not suitable for wolverine.
Townsend's big-eared bat (*Corynorhinus townsendii*)	S, CSC, NPS	N	N	No caves or mines of suitable depth in Project area. Abandoned buildings in the Project area are subject to frequent disturbance.
Pallid bat (*Antrozous pallidus*)	S, NP	N	Y	
Fringed myotis (*Myotis thysanodes*)	S, NP	N	Y	
Sierra mountain beaver (*Aplodontia rufa californica*)	NPS	N	Y	
Fish				
Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*)	T, SI	N	N	Project area streams, including South Fork Daggett Creek and Heavenly Creek, do not contain suitable habitat.
Lahontan Lake tui chub (*Gila bicolor pectinifer*)	S	N	N	Project area does not contain suitable lentic habitat.

Table 3.9-1

Sensitive Fish and Wildlife Species with Potential to Occur in Heavenly Mountain Resort Special Use Permit Boundary

Wildlife Species	Legal Status	Known to Occur in Project Area?	Suitable Habitat in Project Area?	Rationale if Habitat Not Considered Suitable

HBA 2014
E = Listed as Endangered under the ESA
T = Listed as Threatened under the ESA
C = Candidate species for listing as Threatened or Endangered under the ESA
FSC = USFWS Species of Concern
D = De-listed under the ESA, species will be monitored for 5 years
S = USFS LTBMU Sensitive Species, Regional Forester's Sensitive Species List, Amended September 2013
SI = TRPA Special Interest Species
CSC = California Species of Concern
CE = California Endangered (CESA)
CT = California Threatened (CESA)
CCT = California Candidate Threatened (CESA)
MIS – Management Indicator Species (USFS)
NP = Nevada Protected Species (NAC 503.030)
NPS = Nevada Protected Sensitive (NAC 503.030)
NPT = Nevada Protected Threatened (NAC 503.030)

Sensitive fish and wildlife species that have been recorded at or in the vicinity of the MP 96 Development Area, and for which on-site habitats are considered potentially suitable, include: California spotted owl, northern goshawk, and Pacific marten. Sensitive species not known to occur at or near Heavenly, but which have suitable habitat within the Project Area, include Sierra mountain beaver, bald eagle, osprey, pallid bat, fringed myotis, western bumble bee, and Sierra Nevada yellow-legged frog. These species are discussed further below.

Sensitive species that have been recorded in or adjacent to the Lake Tahoe Basin, but for which there are no observations and no suitable habitat at Heavenly or within the immediate vicinity, include American peregrine falcon, willow flycatcher, North American wolverine, Townsend's big-eared bat, great gray owl, golden eagle, Great Basin rams horn, Sierra Nevada red fox, Pacific fisher, Lahontan Lake tui chub, Lahontan cutthroat trout and Yosemite toad. No further discussion of these species is provided.

Detailed species accounts which describe the known range, habitat requirements, and local occurrence data for each sensitive fish and wildlife species known to occur or potentially occur in the Heavenly Mountain Resort Special Use Permit Area (with the exception of MIS which are habitat based) and a description of the biological field surveys conducted as part of the environmental documentation process for the proposed Epic Discovery Project are provided below.

Sierra Nevada Yellow-Legged Frog

On 29 April 2014, the USFWS designated the Sierra Nevada yellow-legged frog (*Rana sierrae*) as an endangered species under the Endangered Species Act of 1973. Sierra Nevada yellow-legged frog (*Rana sierrae*) inhabits ponds, lakes, and streams associated with montane riparian, lodgepole pine, subalpine conifer, and wet meadow communities (Zeiner et al. 1988, Jennings and Hayes 1994). Open stream and lake margins that gently slope to a depth of about 2 to 3 inches appear to be preferred (Jennings and Hayes 1994). In the Sierra Nevada, this species' elevational range extends from approximately 4,500 to 12,000 feet (Stebbins 1985, Jennings and Hayes 1994).

In the Sierra Nevada, breeding typically occurs from May to August depending on local conditions (Stebbins 1985). In still water environments, such as pools, eggs are deposited as unattached masses in shallow water; however, in streams the egg masses may be attached to the substrate (Jennings and Hayes 1994). Due to the short active season and the brevity of the intervals during which the aquatic habitat maintains warm temperatures, larvae (tadpoles) may over-winter up to two times before attaining metamorphosis (Mullally and Cunningham 1956, Jennings and Hayes 1994). Local known occurrences are documented at Hell Hole, approximately 7 miles to the south west of the project area (CNDDB 2014).

Pacific marten

The Pacific marten (*Martes caurina*) occurs throughout the Sierra Nevada Province where suitable habitat is present. Based on an extensive review of scientific literature and expert opinion, Freel (1991) described preferred habitat as dense (60 to 100 percent canopy closure), multi-storied, multi-species late seral stage coniferous forest of red fir, red fir/white fir mixtures, lodgepole pine, and mixed conifer. A high number of large snags and downed logs is associated with preferred habitat. Habitat areas are generally located in close proximity to dense riparian corridors that are used as travel ways. An interspersion of small (<1 acre) openings with good ground cover is required for foraging. For the northern Sierra Nevada, Freel cites elevational records of 3,400 to 10,400 feet, with an average elevation of 6,000 feet for preferred habitat.

According to Freel (1991), numerous and heavily traveled roads are not desirable within Pacific marten habitat areas as they are associated with habitat disruption and animal mortality. Roads may also reduce food availability for Pacific marten by increasing road kills in prey populations and creating behavioral barriers to foraging movements (Allen 1987). Occasional one and two lane forest roads with moderate levels of traffic are not believed to limit Pacific marten movements (Freel 1991).

The latest occurrence data for marten is described below in the discussion of recent survey activity.

California Spotted Owl

The range of the California spotted owl (*Strix occidentalis occidentalis*) is considered to include the southern Cascades, the entire Sierra Nevada province of California, all

mountainous regions of the southern California province, and the central Coast Ranges at least as far north as Monterey County (Verner, *et al*. 1992). In the Sierra Nevada, the major forest types comprising known and potential habitat include mixed conifer, red fir, ponderosa pine/hardwood, eastside pine, and foothill riparian/hardwood forests (Verner, *et al*. 1992). Mixed conifer forest is the most abundant forest type and contains most of the known owl sites. Habitats used for nesting typically have greater than 70 percent total canopy cover, except at very high elevations where canopy cover as low as 30 to 40 percent may occur (as in some red fir stands of the Sierra Nevada). Average canopy coverage adjacent to proposed activities varies between 30-60%. Nest stands typically include a mixture of tree sizes with a number of very large, old trees and usually at least two canopy layers. Large snags and an accumulation of downed woody debris are usually present. Foraging habitat is similar in structure and composition, but also comprises more open stands with canopy covers down to 40 percent.

Home range sizes of California spotted owl tend to be smallest in lower elevation hardwood forests, intermediate in size in conifer forests of central Sierra Nevada, and largest in true fir forests of northern Sierra Nevada (Verner, *et al*. 1992). Neal, *et al*. (1990) reported that California spotted owl home ranges in Sierra Nevada mixed conifer forests average 3,400 acres, including about 460 acres in stands with 70 percent or greater canopy cover, and about 1,990 acres in stands with 40 to 69 percent canopy cover. Verner, *et al*. (1992) generally concur with these data, indicating that Sierra National Forest owls were found to have a median home range for pairs of approximately 3,000 to 5,000 acres. However, Verner, *et al*. (1992) cite an overall mean home range size of owl pairs during the breeding period in Sierran conifer forests of about 4,200 acres. Owl use areas designated by the Forest Service, to date, comprise approximately 3,500 to 4,665 acres. Radiotelemetry studies have not been undertaken for California spotted owls in the LTBMU, so more accurate home range information is currently unavailable. The closest known occurrences are located two miles to the south west of the project area. Approximately 5-6 pairs (17-18 individuals) of California spotted owls are known to occur in the Lake Tahoe Basin (S. Zanetti pers. comm. 2014).

Northern Goshawk

Northern goshawks (*Accipiter gentilis*) inhabit a broad range of forested communities, including mixed conifer, true fir, montane riparian, Jeffrey pine, ponderosa pine, and lodgepole pine forest. Within California, this species occurs in the Sierra Nevada, Klamath, Cascade, Inyo-White, Siskiyou, and Warner Mountains, and the North Coast Ranges (Zeiner, *et al*. 1990; USFS 2000). Goshawks may also possibly inhabit suitable habitats in the Transverse Ranges and other mountainous areas in southern California (Zeiner, *et al*. 1990; USFS 2000).

A study of the Sierra Nevada conducted in the Lake Tahoe Basin found that nest-site areas used by northern goshawks were characterized by high canopy closure, high densities of trees in the >60-100 centimeter and >100 centimeter diameter-at-breast-height (dbh) classes, low densities of 5-30 centimeter dbh trees, and low shrub/sapling and ground cover (Keane 1999). Other site factors, including northerly aspects, proximity to water or meadows, forest openings, and low slope angles, have also been

associated with nest sites in numerous studies, although these factors vary widely (USFS 2000). Snags and logs are considered important components of northern goshawk foraging areas, as they provide habitat for prey populations (USDA 1988).

A model of goshawk nest stands developed by Fowler (1988) for application on the west slope of the Sierra Nevada, with consideration for east side habitat conditions, indicates that canopy closure of 60 to 100 percent from dominant and co-dominant trees is characteristic of all goshawk nest stands. In Fowler's model, slopes of 0 to 25 percent are identified as optimal. Slopes of 26 to 50 percent are considered suitable, while slopes greater than 50 percent are unsuitable. Aspect is also identified as an important component in nest stand selection, with a north to east aspect considered optimal. North to northwest and east to southeast slopes are considered suitable, while all other aspects are identified as marginal (Fowler 1988).

Nesting behavior, including courtship and nest initiation, begins mid-February to early March. The average incubation period is approximately 33 days (USFS 2000). The nestling period typically extends from early June through early July, with most young fledged by mid-July. The post-fledging dependency period extends until mid/late August.

Foraging areas around nest sites generally encompass approximately 2,500 acres of forested habitat (Austin 1991; Hargis, *et al*. 1991). Northern goshawks are known to prey on over 50 species of birds and mammals throughout their western range (Graham, *et al*. 1994). In the Lake Tahoe Basin primary prey species include Douglas squirrel (*Tamiasciurus douglasii*), Stellar's jay (*Cyanocitta stelleri*), northern flicker (*Colaptes auratus*), and ground squirrel (*Spermophilus* spp.) (Keane 1999). Other prey species include American robin (*Turdus migratorius*), blue grouse (*Dendragapus obscurus*), other woodpeckers, and other squirrels. The latest occurrence data for northern goshawk is described below in the discussion of recent survey activity.

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) was a threatened species but has been delisted since 2007. The bald eagle is known to winter in the LTBMU, where it occurs in association with large bodies of water such as lakes, reservoirs, and river systems that provide a source of forage fish. Wintering habitat in the Lake Tahoe Basin consists of mid-to-late successional stages of montane riparian and mixed conifer forests. Bald eagle habitats are characterized by a canopy closure of less than 40 percent and the presence of standing dead trees or snags (USDA 1988b).

The wintering population of bald eagles in the LTBMU is estimated at four to 25 birds (Tahoe Institute for Natural Science 2015 winter Bald Eagle Survey). The number of bald eagles that winter in the Lake Tahoe Basin each year is related to the success of the basin's Kokanee salmon spawning runs and to the freezing of lakes and reservoirs located elsewhere in the Sierra Nevada, which precludes eagles from foraging at these water bodies. The primary areas used by wintering bald eagles in the LTBMU include Taylor Creek, Emerald Bay, and Fallen Leaf Lake. A wintering Bald Eagle management area

has been established along the southwest shore of Lake Tahoe and includes Taylor Creek, Cascade Lake, and Emerald Bay. The eastern boundary of this wintering area along Taylor Creek is located approximately 9 miles northwest of the project site. Two nests are known to occur in the summer months one located in Emerald Bay and the other at Marlette Lake, 9 miles and 15 miles away from the project area respectively. An active nest site is also located approximately 5 miles to the east of the project area located on the River Fork Ranch adjacent to the Carson River (NDSL 2014).

The limiting factor to future nesting in the Lake Tahoe Basin is intensive human disturbance, especially boating and development in feeding areas. The Forest Service does have the opportunity to maintain potential high quality nesting habitat for the bald eagle on National Forest land (USDA 1988a). Emerald Bay was identified by Golightly, *et al*. (1991) as a potential area for establishing bald eagle nesting habitat in the Lake Tahoe Basin.

Osprey

Osprey (*Pandion haliaetus*) are found in a variety of habitats associated with large rivers, lakes, and coastlines. In the Sierra Nevada, the osprey is a summer resident only. Nesting sites include large coniferous and deciduous trees, cliffs, and poletops located near or over water. The species feeds primarily on fish, which it captures by hovering over the water and plunging feet-first after its prey. Other prey types include rodents, birds, small vertebrates, and crustaceans.

Western Bumble Bee

The western bumble bee (Bombus occidentalis) was recently added to the Region 5 Forest Service Sensitive species list. There are 94 collection records for the western bumble bee on 11 national forests in Region 5, including seven on the LTBMU (Hatfield 2012). There is only one record of the western bumble bee on the LTBMU since 2000.

Historically, the western bumble bee was one of the most broadly distributed bumble bee species in North America (Cameron et al. 2011). The species was broadly distributed across western North America along the Pacific Coast and westward from Alaska to the Colorado Rocky Mountains (Thorp and Shepard 2005, Koch et al. 2012). Currently, the western bumble bee occurs in all states adjacent to California but is experiencing severe declines in distribution and abundance due to a variety of factors including diseases and loss of genetic diversity (Tommasi et al. 2004, Cameron et al. 2011, Koch et al. 2012).

Bumble bees are threatened by many kinds of habitat alterations that may fragment or reduce the availability of flowers that produce the nectar and pollen they require, and decrease the number of abandoned rodent burrows that provide nest and hibernation sites for queens. Major threats that alter landscapes and habitat required by bumble bees include agricultural and urban development. Exposure to organophosphate, carbamate, pyrethroid and particularly neonicotinoid insecticides has recently been identified as a major contributor to the decline of many pollinating bees, including honey bees and bumble bees (Henry et al. 2012, Hopwood et al. 2012). In the absence of fire, native

conifers encroach upon meadows and this can also decrease foraging and nesting habitat available for bumble bees.

No surveys have been performed for western bumble bees within the Epic Discovery Project area or within the operational boundaries for Heavenly Mountain Resort. Suitable foraging habitat includes the wet meadow area surrounding Heavenly Valley Creek that support a variety of flowering plants.

Pallid Bat

The pallid bat (Antrozous pallidus) occurs in western North America, from southern British Columbia to central Mexico and east to central Texas (NatureServe 2011). Within its range, it is associated with a variety of low elevation arid communities and at higher elevation conifer communities; its abundance is greatest in xeric conditions (Rambaldini 2005). Throughout California, the pallid bat is usually found in low to middle elevation habitats below 6000 feet (Barbour and Davis 1969; Philpott 1997), however, the species has been found up to 10,000 feet in the Sierra Nevada Mountains. The range in California is statewide and it is predicted to occur on every National Forest in the Region (CWHR 2008). Recent detections of pallid bats in 2014 have been recorded in the Spooner Summit area at an elevation of 7,000-7,600 feet, approximately 11 miles to the north of the project area (E. Harrison, pers. comm.).

The pallid bat is strongly associated with arid regions (Hermanson and O'Shea 1983). Low elevation habitat includes rocky, arid deserts and canyons, shrub-steppe grasslands, and karst formations (Rambaldini 2005). The species is also found in high elevation conifer forests (Rambaldini 2005). Miner and Stokes (2005) suggest that riparian, chaparral, oak savannah, and cultivated areas are preferred habitat types, and Baker et al. (2008) further suggest open pine forest within higher elevations. CWHR (2008) suggest that all habitat types within California provide suitable foraging habitat for pallid bats and the following provide suitable reproduction and roosting habitats: barren, blue oak woodland, chemise-redshank chaparral, coastal oak woodland, coastal shrub, eucalyptus, Klamath mixed conifer, mixed chaparral, Sierran mixed conifer, urban, valley oak woodland, and white fir. In the northern part of their range, sagebrush-steppe habitat is important (Ferguson and Azzerad 2004). Crevices in rock outcrops are the primary roost sites, although buildings, caves, tree hollows, and mines are also used (Hermanson and O'Shea 1983; Rambaldini 2005; Stephenson and Calcarone 1999; Miner and Stokes 2005; NatureServe 2011).

In forested habitats in the Sierra Nevada Mountains, Baker et al. (2008) found pallid bats in areas with greater availability of Sierran mixed conifer and white fir than open meadows, grasslands, barren areas, and montane chaparral. They caution, however that they were unable to discern actual habitat use at a finer scale. Johnston and Gworek (2006) found pallid bat activity in the Sierra Nevada Mountains greatest where there was open mixed conifer forest near short grassland habitat. Roosts located were primarily in incense cedar trees.

The largest emerging threat to all cave-roosting species is white-nose syndrome. There is a grave concern that it could spread to the western states and California. As of October 2011, the U.S. Fish and Wildlife Service records suspected detections as far west as Oklahoma (http://www.fort.usgs.gov/wns/). This disease has rapidly spread throughout the eastern US and Canada since its discovery in 2006.

Fringed Myotis

The fringed myotis (Myotis thysanodes) is found in western North America from south-central British Columbia to central Mexico and to the western Great Plains (Natureserve 2012). In California, it is distributed statewide except the Central Valley and the Colorado and Mojave Deserts and is associated with pinyon-juniper, valley foothill hardwood and hardwood-conifers (CWHR 2008). Recent detections of fringed myotis in 2014 have been recorded in the Spooner Summit area at an elevation of 7,000-7,600 feet, approximately 11 miles to the north of the project area (NDOW 2014).

There is little information on population size, abundance, and trends. Keinath (2004) suggests this is a widespread, but locally rare species; however, there are areas where it is abundant. Like other bat species, it appears there have been declines in numbers and colonies (Keinath 2004; USDA 2005).

The fringed myotis uses caves, crevices, cliffs, mines, large decadent trees, and bridges and buildings for roosting, hibernacula, and maternity colonies (Keinath 2004, Weller 2005, CWHR 2008). They day and night roost under bark and in tree hollows, and in northern California they day roost in snags only (Keinath 2004; Weller and Zabel 2001). Medium to large diameter snags are important day and night roosting sites Weller and Zabel 2001). There is increased likelihood of occurrence of this species as snags greater than 30 cm in diameter increases and percent canopy cover decreases (Keinath 2004). Large snags and low canopy cover, typical of mature, forest habitat types, offer warm roost sites (Keinath 2004). Decay classes were two to four (Keinath 2004) in ponderosa pine, Douglas-fir, and sugar pine.

Habitat alteration threatens this species because it is dependent on older forest types. Keinath (2004) summarized this in the Region 2 conservation assessment for the fringed myotis, indicating that this species depends on abundant large diameter snags and trees with thick loose bark. Thus, harvesting old growth and removal of snags for safety or fuel reduction reasons may reduce available roost sites.

Toxic chemicals is the last threat listed in the conservation assessment (Keinath 2004) and bats are sensitive to these directly through toxic exposure in drinking water and indirectly where their prey base is targeted and reduced by insecticide use.

Sierra Mountain Beaver

Sierra mountain beaver (*Aplodontia rufa californica*) are restricted to moist environments with moderate to dense vegetation. Surveys along the Truckee River by NDOW Biologists and its tributaries (Deer Creek to Verdi) observed mountain beavers most often

on reaches with steeper gradients; narrower and shallower streams; higher elevation; a greater abundance of alder, willow, fir, and aspen; and a lesser abundance of cottonwood and yellow pine (Pinus ponderosa, P. jefreyi, P. washoensis, and hybrids) than unused reaches. Mountain beaver probably choose habitat based on a cool thermal regime, adequate soil drainage, and abundant food supply (Beier 1989).

Feeds on a wide variety of vegetation; consumes ferns, forbs, and deciduous plants in summer; conifer foliage in fall/winter if other plants are unavailable (Banfeld 1974). Forages mainly above ground (Epple et al. 1993). Requires free surface water or succulent vegetation on a daily basis. Caches grasses and forbs for winter food.

Mountain beavers are restricted to moist environments because they have a poor ability to concentrate urine and consequently they require free surface water or succulent vegetation on a daily basis. They are primarily fossorial but can climb trees and swims well (but not arboreal or aquatic). Mountain beavers are active during winter, but remain mostly underground. They are usually solitary but may live in loose colonies. Population density estimates generally range from 4-8 per ha (4-8/2.6 acres), but up to 15-20/ha (15-20/2.6 acres) (see Carraway and Verts 1993). The home range of 10 adults radio tracked for 3-19 months ranged from 0.03 to 0.20 ha (0.07-0.49 acres) (mean 0.12 ha). Juveniles were reported to have moved up to 43 m (141 f) from the nest (see Carraway and Verts 1993). Significant predators of mountain beavers include coyotes and bobcats. (Species Account taken from NV Wildlife Action Plan 2012)

Sensitive Amphibian Species Surveys

Sierra Nevada Yellow-Legged Frog

Surveys have been performed in the Sky Meadows Basin and East Peak Lake area by USFS personnel in 2013 (one survey on July 2) and 2014 (two surveys: July 29 and Oct 8). No Sierra Nevada yellow-legged frog were observed in either area or survey year. Sierran tree frog (*Pseudacris sierra*) adults and tadpoles were observed during each survey at East Peak Lake, while only Long-toed salamander (*Ambystoma macrodactylum*) was observed in the Sky Meadows Basin in the pond behind the California dam. Known existing occurrences (Hell Hole) of Sierra Nevada yellow-legged frog are within 7.5 miles from the Project Area and are presumed extant. Due to the fact that suitable habitat exists within the Project Area (e.g., Sky Meadows basin and East Peak Lake) and the lack of completed protocol surveys in the area, the potential exists for this species to be present during Project implementation. While three surveys have been performed in the past ten years, protocol has not been met as none of the surveys were performed within a year where the snowpack was 80% or greater than normal.

Sensitive Wildlife Species Surveys

For a discussion of sensitive species surveys that were performed prior to approval of the MP 96, please refer to the 1996 EIR/EIS/EIS. Since approval of the MP 96 a number of surveys have been performed, namely California spotted owl, northern goshawk and Pacific marten. Surveys

were conducted utilizing habitat that was identified in the 1996 EIR/EIS/EIS. Survey efforts and results since 1996 are briefly described below for each species.

Pacific marten

In 2001, Heavenly, in conjunction with the Forest Service and Desert Research Institute, approved and provided funding to monitor the Pacific marten within the boundaries of Heavenly. Detection stations were placed in the same locations as the 1993 study conducted by Parsons HBA. In addition to detection stations, snow tracking surveys were also performed to determine what habitat types marten may be utilizing for foraging activities. Pacific martens were detected in more locations (mountain wide) during the 2002 survey as compared with the 1993 survey. Based on detections of the Pacific marten in 2002, Pacific martens were observed nocturnally during winter months and diurnally during summer months. For detailed results and a discussion of the detections, please refer to the final report (Cablk and Spaulding 2002).

Since the 2002 study, snow tracking surveys have been performed in various locations across the mountain. Multiple Species Inventory and Monitoring (MSIM) Program camera stations were set up within and adjacent to the Heavenly boundary. These studies are ongoing and results are in preparation. A management summary of the MSIM protocol is located as Appendix 7B of the MPA 07 Technical Appendix 7, January 2005. Evidence of reproducing Pacific marten was recorded in the form of a photograph of a female with kits by MSIM during the summer of 2002. Pacific marten were detected during the snow tracking surveys.

A study of the effects of ski resorts on marten populations has been performed at a three ski resorts in the Lake Tahoe area from 2009-2011. Heavenly Mountain Resort was included in the study to determine population dynamics of marten located in ski resorts. Marten were sampled through trapping and hair snares to determine number of individuals. The range of number of individuals present was between 5 and 12 marten between 2009 and 2011. The study is currently being reviewed and is waiting for finalization for publication (Slauson Zielinski, in prep).

California Spotted Owl

One California spotted owl was detected in the Heavenly Mountain Resort survey area since surveys commenced in 1993. This sub-adult female was located in the Cold Creek drainage in August 2003. This owl was determined to be non-nesting and was more than 1.25 miles from any existing or proposed development of activities associated with Heavenly Mountain Resort (Parsons 2003). No other California spotted owls have been detected during previous or subsequent surveys ending in 2014.

Northern Goshawk

Observations of northern goshawk were recorded in Daggett Creek drainage in 1992, 2001, 2003 2004, and 2005. No other detections have been recorded within Heavenly's operation area. No detections of northern goshawk were observed in 2006 through 2014.

Northern goshawk surveys performed for Van Sickle Bi-State Park in 2002 detected a goshawk on June 26, 2002. No nest was located during a subsequent stand search. The location of this detection was close to the Gondola line (approximately 0.5 mile) and 0.75 mile from the gondola top station. Subsequent to detection, the 2002 Gondola Fire burned the stand where observations were recorded. Surveys of the area after the fire did not reveal any goshawks in the previous detection location.

Broadcast surveys for the Northern goshawk in summer 2005 yielded two detections within the ski operations boundary. An individual but no nest was detected in the Galaxy and Perimeter run area and a juvenile was detected between the Stagecoach and Northbowl lifts. Subsequent surveys have not detected nesting goshawk in the project area as of 2014.

Bald Eagle

Water impoundments within the Operational Area include the Sky Meadow Reservoir and East Peak Lake. As noted above, Sky Meadow Reservoir was stocked with Lahontan cutthroat trout in 1980. However, the reservoir has not been stocked since that time, and it is not known to currently contain any fish. East Peak Lake currently holds a population of rainbow trout that were stocked in 1992 and provides a potential source of forage fish for bald eagles. However, this small, high-elevation water impoundment is frozen over much of the winter season, making fish stock unavailable as a prey base for wintering bald eagles.

Late seral conifer stands within the Operational Area provide potentially suitable nesting habitat for the bald eagle. No incidental sightings of bald eagles were reported during any biological field surveys conducted at the Heavenly Mountain Resort from 1992-2014.

Osprey

East Peak Lake and Sky Meadow Reservoir provide marginal foraging habitat for osprey within the MP 96 Development Area. However, no osprey were observed during biological field surveys conducted for Heavenly Mountain Resort from 1992-2013.

3.9-3 REGULATORY SETTING

For a detailed discussion of the regulations and criteria used to determine impacts, please reference the 2007 EIR/EIS/EIS for the Master Plan Amendment. The regulations that have changed or have been updated are discussed and outlined below.

Tahoe Regional Planning Agency

For a review of TRPA Environmental Thresholds Code of Ordinances, Goals and Policies, please reference the 2007 EIR/EIS/EIS prepared for the Master Plan Amendment. The applicable Code of Ordinance sections that have been revised or added since approval of the MPA 07 are discussed below.

TRPA Code of Ordinances, Chapter 62 - Wildlife Resources

62.3. PROTECTION OF WILDLIFE HABITAT

Wildlife habitat shall be protected as provided below.

62.3.1. Stream Environment Zones

No project or activity shall be undertaken within the boundaries of a SEZ except as otherwise permitted for habitat improvement, dispersed recreation, vegetation management, or as provided in Chapter 30: Land Coverage.

62.3.2. Movement and Migration Corridors

Movement and migration corridors shall be protected as provided below.

A.- Stream environment zones adjoining creeks and major drainages link islands of habitat and shall be managed, in part, for use by wildlife as movement corridors. Structures, such as bridges, proposed within these movement corridors shall be designed to not impede the movement of wildlife.

B.-Projects and activities in the vicinity of deer migration areas shall be required to mitigate or avoid significant adverse impacts. The location of deer migration areas shall be verified by the appropriate state wildlife or fish and game agencies.

62.3.3. Critical Habitat

Any element of the overall habitat for any species of concern that could reduce the existingpopulationorimpairthestabilityorviabilityofthepopulationifthehabitatis diminished shall be considered critical habitat. This shall apply also to habitat for special interest species indigenous to the region whose breeding populations have been extirpated but could return or be reintroduced.

A.- No project or activity shall cause, or threaten to cause, the loss of any habitat component considered critical to the survival of a particular wildlife species.

B.- No project or activity shall threaten, damage, or destroy nesting habitat of raptors and waterfowl or fawning habitat of deer.

C.- Wetlands shall be preserved and managed for their ecological significance, including their value as nursery habitat to fish, nesting and resting sites for waterfowl,andasasourceofstreamrecharge,exceptaspermittedpursuantto Chapter 30.

D.- Projects or activities within wetlands may include the creation of artificial nesting sites for waterfowl.

62.3.4. Snags and Coarse Woody Debris

Snags and coarse woody debris shall be protected and retained in conservation and recreation plan area statements as provided below. (Snag and coarse woody debris decay classes referred to in this subsection 62.3.4 are based on Maser, C., and J. M. Trappe, 1984. The Seen and Unseen World of the Fallen Tree. USDA, Forest Service, Gen. Tech. Rep. PNW–164.)

A. Retention of Snags

Snags shall be retained according to standards 1, 2, and 3, with exceptions listed in 4:

1. At a minimum, retain four of the largest hard snags per acre in west side forest types, six of the largest hard snags per acre in subalpine forest types, and three of the largest hard snags per acre in eastside forest types that are 15" dbh and greater, in decay class 2 through 5, averaged over a ten acre area.

2. Retain all soft snags in decay class 6 through 9 that are 24" dbh and greater in all forest types.

3. Snags shall be retained randomly across the landscape such that a naturally occurring distribution is mimicked.

4. Exceptions to retention standards may be approved by TRPA as long as a scientifically-valid rationale for the exception is provided:

    1. To reduce fire risk;

    2. To accomplish wildlife and fisheries habitat conservation objectives;

    3. To mimic forest ecosystem function, such as prescribed fire; or

    4. If the stand is not capable of supporting such levels.

B. Tree Harvest Plans

Provision for the protection of snags suitable for wildlife habitat shall be incorporated into all tree harvest plans and projects as conditions of approval.

C. Retention of Course Woody Debris

As provided below, coarse woody debris shall be retained according to standards 1 and 2, or 3 only.

1. Within west side and subalpine forest types, beginning with the largest downed logs identified within the range of suitable retention size classes in Table 62.3.4-1,

sequentially retain pieces of coarse woody debris in decay class 1 through 3, until an average of 15 ± 5 tons per acre (approximately 5–10 logs) are retained over a treatment area.

2. Within east side forests types, retain at least three of the largest downed logs per acre within the treatment area.

3. Exceptions to retention standards may be approved by TRPA as long as a scientifically-valid rationale for the exception is provided:

    1. To reduce fire risk;

    2. To accomplish wildlife and fisheries habitat conservation objectives;

    3. To mimic forest ecosystem function, such as prescribed fire; or

    4. If the stand is not capable of supporting such levels.

62.4. SPECIAL INTEREST, THREATENED, ENDANGERED, AND RARE SPECIES

Special interest species that are locally important because of rarity or other public interest, and threatened, endangered, or rare species as designated under state and federal endangered species acts shall be protected from habitat disturbance from conflicting land uses. These special interest species are: goshawk, osprey, bald eagle, golden eagle, peregrine, water fowl, and deer. The habitat locations of these species are depicted on TRPA maps. At a minimum, the following standards shall apply for the protection of special interest, threatened, endangered and, rare species and associated habitat:

62.4.1. Disturbance Zones

Perching sites and nesting trees of goshawks, peregrines, eagles, and osprey as shown on the TRPA Regional Plan Overlay Maps shall not be physically disturbed in any manner nor shall the habitat in the disturbance zone be manipulated in any manner unless such manipulation is necessary to enhance the quality of the habitat. The threshold shall apply not only to the number of known population sites but also to the disturbance and influence zone buffers to sites found in the future.

1. The disturbance zone for goshawks is the 500 acres of best suitable habitat surrounding a population site, which shall include a 0.25-mile radius around each nest site.

2. The disturbance zone for osprey and peregrines is 0.25 mile radius around each nest site.

3. The disturbance zones for wintering bald eagles are as shown on the TRPA maps.

4. The disturbance zone for nesting bald eagles is 0.5 mile radius around each nest.

5. The disturbance zone for golden eagles is 0.25 mile radius around each nest site.

62.4.2. Adverse Impacts

Uses, projects, or activities outside existing urban areas and within the disturbance zone of special interest, threatened, endangered, or rare species shall not, directly or indirectly, significantly adversely affect the habitat or cause the displacement or extirpation of the population.

62.4.3. Environmental Documents

Applicants for projects within disturbance zones shall submit with their applications appropriate environmental documentation prepared by a biologist that includes specific recommendations for avoiding significant adverse impacts to the special interest, threatened, endangered, or rare species.

62.4.4. Special Conditions

Special conditions of project approval may be required to mitigate or avoid significant adverse impacts to special interest species listed by TRPA or the U.S. Forest Service for the Lake Tahoe Basin, or for threatened, endangered, and rare species.

62.4.5. Developed Parcels

Subsections62.4.1through62.4.3, inclusive, shall not apply to situations where special interest, threatened, endangered, or rare species choose to live in close proximity to existing developed parcels.

63.3.2. Stream Habitat

Stream habitat shall be protected as provided below.

A. Artificial modifications to stream channels, or other projects, activities, or uses in stream environment zones that may physically alter the natural characteristics of the stream shall not be permitted unless TRPA finds that such actions avoid significant adverse impacts to the fishery or are other wise allowed under the Code.

B. All stream crossings shall be constructed so as to allow unrestricted upstream and downstream movement of fishes.

C. Existing structures within stream environment zones that are barriers to fish migration may be removed or modified to permit fish passage (SeeSection5.12 Remedial Action Plans, and Chapter 16: Regional Plan and Environmental Threshold Review).

D. Development adjacent to tributaries shall be required to fully mitigate significant adverse impacts to the fishery.

E. Proposals for stream habitat improvement shall include, at a minimum, the following information:

a. Purpose of the project;

b. Species to be benefited;

c. Time and methods of construction or other work;

d. The use, source, placement, and quantity of all materials; and

e. A vegetation plan for fish cover, shading, and bank protection as needed.

F. Wildlife habitat improvement projects or activities, or other projects or activities requiring the diversion of stream water, shall mitigate significant adverse impacts to the tributary by:

a. Maintaining adequate instream flows adjacent and downstream from the project area;

b. Preventing the introduction or reentry of nutrients or sediment-enriched water to the tributary;

c. Providing for unobstructed migration or fishes through the mainstream channel;

d. Protecting or restoring fish habitat;

e. Protecting or restoring riparian vegetation; and

f. Protecting or restoring other relevant instream values such as recreation, aesthetics, and wildlife habitat.

G. Fish and wildlife stream habitat projects or activities shall be developed in coordination with the appropriate fish and wildlife agencies.

H. Whenever possible, existing points of water diversion from streams shall be transferred to Lake Tahoe when the diversions significantly and adversely impact instream beneficial uses.

I. An instream beneficial use assessment, such as the type established by Title 23, Section 670.6 of the California Administrative Code, shall be required for all projects and activities involving the diversion of water from a stream where instream flow standards have not been established. The assessment also may be required on streams where existing diversions are creating identified problems such as non-compliance with environmental thresholds. Prior to TRPA approval, standards of stream flow shall be established pursuant to the results of the assessment. Approval shall be conditioned on compliance with those standards and other mitigation necessary to achieve and maintain the environmental thresholds.

California Endangered Species Act

The California Endangered Species Act (Fish and Game Code Sections 2050-2098) established a State policy to conserve, protect, restore, and enhance any endangered species or any threatened species and its habitat. The Fish and Game Commission is charged with establishing a list of endangered and threatened species. State agencies must consult with the CDFG to determine if a proposed Project is likely to jeopardize the continued existence of any endangered or threatened species. The California Fish and Game Code defines "take" (Section 86) and prohibits "taking" of a species listed as endangered or threatened under the California Endangered Species Act (California Fish and Game Code Section 2080) or identified as fully protected in California Fish and Game Code Sections 3511, 4700, and 5050. Impacts on individuals of those species are considered significant if they result in the following effects: a) direct mortality; b) permanent or temporary loss of occupied habitat that would result in mortality to or reduced productivity of at least one individual of the species; c) avoidance of biologically important habitat for substantial periods resulting in mortality to or reduced productivity of at least one individual of the species.

Section 2081 of the Fish and Game Code allows the "take" of a species listed as threatened or endangered by the California Endangered Species Act provided that a habitat management program is implemented resulting in a net benefit to the species. Take may also be authorized for scientific or educational purposes.

California Environmental Quality Act

CEQA Guidelines - Article 5, Section 15065

Article 5, Section 15065 of the CEQA Guidelines requires that a lead agency make mandatory findings of significance in an EIR if:

"The Project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal

community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory."

CEQA Guidelines - Section 15380

Rare or endangered species are defined in the CEQA Guidelines (Section 15380) as follows:

(a) "Species" as used in this section means a species or subspecies of animal or plant or variety of plant.

(b) A species of animal or plant is:

(1) "Endangered" when its survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors; or

(2) "Rare" when either:

(A) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or

(B) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act.

(c) A species of animal or plant shall be presumed to be rare or endangered as it is listed in:

(1) Sections 670.2 or 670.5, Title 14, California Administrative Code; or

(2) Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

A species not included in any listing identified in subsection (c) shall nevertheless be considered to be rare or endangered if the species can be shown to meet the criteria in subsection (b).

CEQA Guidelines - Appendix G

Appendix G of the State CEQA Guidelines lists several impacts that are "normally" considered significant. The three impacts relating to biological resources are listed below:

- Substantially affect a rare or endangered species of animal or plant or the habitat of the species;

- Interfere substantially with the movement of any resident or migratory fish or wildlife species; and

- Substantially diminish habitat for fish, wildlife, or plants.

California Fish and Game Code Section 1600

The California Department of Fish and Wildlife (CDFW) regulates activities that may affect streambeds through its 1600 process. Division 2, Chapter 6, Section 1601 of the California Fish and Game Code states that "...general plans sufficient to indicate the nature of a project for construction by, or on the behalf of, any governmental agency, state or local, and any public utility, of any project which will divert, obstruct or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the Department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit, or will use material from the streambeds designated by the Department, shall be submitted to the Department." The CDFW has stated that their jurisdiction is any area that is within the 100-year floodplain. Impacts within this jurisdiction are considered significant.

State of Nevada Wildlife Action Plan

The state of Nevada was mandated by the United States Congress to develop a Wildlife Action Plan by 2005. Nevada's Wildlife Action Plan (WAP) was completed and approved by USFWS in 2005. The Nevada WAP serves as a plan of action to conserve state wildlife and to allow for targeted funding for conservation of species of interest and need and key habitats on which they depend. The WAP has identified a total of 256 Species of Conservation Priority and a total of 22 key habitat types. For each of the 22 key habitat types, strategies were devised that outline conservation needs to protect habitats and specific species.

The 2004 *El Dorado County General Plan* goals, objectives, and policies apply to the impact analysis of biological resources of the project. Specific regulatory language appears in the section on Conservation of Biological Resources (Objective 7.4.1 to Objective 7.4.5).

Alpine County General Plan

The 1999 Alpine County General Plan goals and policies apply to the impact analysis of wildlife resources of the project. Specific regulatory language appears in Section H of the General Plan (Goal No. 13 through Goal No. 15).

Douglas County Master Plan

The Douglas County Master Plan contains goals and policies that apply to the impact analysis of wildlife resources for the project. Specific language is identified in Goal 4.19: To protect Douglas County's sensitive wildlife and vegetation in recognition of their importance as components of the County's quality of life.

National Environmental Policy Act

Pursuant to the U.S. Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act, the significance of an effect on the quality of the human environment is determined by considering the context in which it would occur and the intensity of the action. "Context" refers to the affected region and locality in which the action would occur; significance, therefore, will vary depending on the setting of the proposed action. "Intensity" refers to the severity of the impact. In determining the intensity of an impact to wildlife, the following factors should be considered:

> Unique Characteristics: An action which affects unique characteristics of the geographical area, such as ecologically critical areas, would be considered to have a significant effect on the human environment.
>
> Special-status Species: An action which adversely affects an endangered or threatened species or its habitat would be considered to have a significant effect on the human environment.

USDA Forest Service

The Forest Service manages most federal land in the Lake Tahoe Basin and issues the special use permit under which Heavenly Mountain Resort operates. The LTBMU Forest Supervisor reviews the EIS to ensure conformity with the Land and Resource Management Plan (1988) as amended and the Sierra Nevada Forest Plan Amendment (2004). Forest Service Manual and Handbooks (FSM/H 2670) Forest Service Sensitive (FSS) species are plant and animal species identified by the Regional Forester for which population viability is a concern. The Forest Service develops and implements management practices to ensure that rare plants and animals do not become threatened or endangered and ensures their continued viability on national forests. It is Forest Service policy to analyze impacts to sensitive species to ensure management activities do not create a significant trend toward federal listing or loss of viability.

The Forest Service Land and Resource Management Plan (1988) states the Forest Service must manage habitat of designated Management Indicator Species to maintain viable population levels within the Lake Tahoe Basin. MIS are animal species identified in the SNF MIS Amendment Record of Decision (ROD) signed December 14, 2007, which was developed under the 1982 National Forest System Land and Resource Management Planning Rule (1982 Planning Rule) (36 CFR 219). Guidance regarding MIS set forth in the Lake Tahoe Basin Management Unit LRMP as amended by the 2007 SNF MIS Amendment ROD directs Forest Service resource managers to (1) at project scale, analyze the effects of proposed projects on the habitat of each MIS affected by such projects, and (2) at the bioregional scale, monitor populations and/or habitat trends of MIS, as identified in the Lake Tahoe Basin Management Unit LRMP as amended. All other Management Indicator Species populations are monitored under Appendix E of the Sierra Nevada Forest Plan Amendment. These Management Indicator Species (MIS) are desired native and non-native species, which the Forest Service is required to monitor the effects of Management Practices and activities within the forest. In addition to identifying MIS, the Land and Resource Management Plan also provides a list of Management Practices used by the LTBMU to accomplish its goals and objectives. Each management practice includes Standards

and Guidelines that direct how the practice would be used and provides a measure as to the quality of accomplishment expected. Management Practices 11 through 18 provide direction to the LTMBU for wildlife and fisheries management and habitat improvement. For details regarding the Management Practices, please refer to the LTBMU Land and Resource Management Plan. For additional detail regarding MIS species please refer to the Draft MIS Project Level Assessment for the Epic Discovery Project which is on file at the LTBMU office.

The Sierra Nevada Forest Plan Amendment Record of Decision (ROD), January 2004 (USDA, 2004) modified the previous SNFPA which was adopted in 2001. This record of decision, specifically Appendix E, reversed previously unintended impacts to recreational facilities which operate on Forest Service lands through special use permits. This decision states that vegetation management standards and guidelines only apply to mechanical thinning projects and not to recreation and special use projects. The ROD states decisions for recreational activities will be made at the local level to reflect site specific conditions.

In relation to this project, the Forest Plan Amendment:

- Limits creation of forest openings to 2 acres.
- Requires retention of all snags, except those that pose a safety hazard, and all downed material.
- Prohibits land disturbing activity within 300 feet of perennial stream riparian zone unless the project is beneficial to the watershed.
- Prohibits land-disturbing activities within 150 feet of seasonal stream riparian zones.
- Limits activity within 0.25 mile of known spotted owl and northern goshawk nest sites between March 1 and August 15 and February 15 and September 15, respectively.
- Limits activity near forest carnivore dens as follows: 500 acres for Pacific fishers from March 1 to June 30; 100 acres for the Pacific marten from May 1 to July 31; 250 acres for the Sierra Nevada red fox from April 15 to June 15.
- Recognizes that recreational activities do not qualify as vegetative treatments, and therefore, are not subject to limited operating periods.

Migratory Bird Treaty Act of 1918

The United States of America, together with the countries of Mexico, Great Britain (Canada), Japan and Soviet Union (Russia) agreed to protect migratory birds that are common to both countries (as noted in each of their respective treaties). Specific provisions of the statute include, “Establishment of a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 U.S.C. 703)

The Forest Service and US Fish and Wildlife Service have entered into a Memorandum of Understanding regarding implementation of the Migratory Bird Act. The 2004 Sierra Nevada Forest Plan Amendment and associated policies, standards and guidelines were found by the Forest Service to be in compliance with this MOU (2004 SNFPA Final-SEIS, 4.3.4).

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), enacted in 1940, and amended several times since then, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

3.9-4 EVALUATION CRITERIA

Justification to accompany the points of significance of impacts to the natural environment is from major regulatory policies, ordinances, and rules that govern the Lake Tahoe Basin. These include the primary Federal and State environmental protection laws, Forest Service land and Resource Management Plan, SNFPA, Lahontan Regional Water Quality Control Board (Lahontan) Basin Plan, and El Dorado County General Plan. The primary federal and state laws and ordinances include the TRPA Code of Ordinances, CDFG Code, NEPA, CEQA, Federal ESA, and California ESA. All the above-referenced sources were used as supporting documentation in developing evaluation criteria and points of significance. The evaluation criteria were reviewed and updated with assistance from USFS staff and reviewed and approved by TRPA. New criteria are supported by new points of significance and justifications. Please refer to the Table 3.9-2.

Table 3.9-2

Evaluation Criteria and Points of Significance - Wildlife

Evaluation Criteria	As Measured By	Point of Significance	Justification
1. Would the Project, directly or indirectly, cause a loss of individuals or occupied habitat of State or federal endangered or threatened fish or wildlife species[1]?	a. Number of individuals of a wildlife species that would be lost b. Loss of acres of occupied or designated critical habitat c. Decrease in species productivity	a. Changes in baseline condition of species and/or habitat and spatial distribution	TRPA Threshold Carrying Capacities (Resolution # 82-11) TRPA Code of Ordinances Chapter 62 USFWS – ESA (http://www.fws.gov/endangered/laws-policies/regulations-and-policies.html) CESA (Sections 2062 and 2067) CEQA (Article 5, Section 15065) California Native Plant Protection Act (CDFG Code Sections 1900-1913) El Dorado County General Plan Objective 7.4.1 LTBMU Forest Plan
2. Would the Project cause a permanent loss of sensitive wildlife individuals, or habitat (e.g. FSS, CSC, NV At-Risk)?	a. Number of individuals of a wildlife species that would be lost b. Loss of acres of occupied or designated suitable habitat c. Decrease in species productivity	Changes in baseline condition of species and/or habitat and spatial distribution	TRPA Threshold Carrying Capacities (Resolution # 82-11) TRPA Code of Ordinances Chapter 62 FESA CESA (Sections 2062 and 2067) CEQA (Article 5, Section 15065) California Native Plant Protection Act (CDFG Code Sections 1900-1913) El Dorado County General Plan Objective 7.4.1 LTBMU Forest Plan NV Wildlife Action Plan (2012)

Table 3.9-2

Evaluation Criteria and Points of Significance - Wildlife

Evaluation Criteria	As Measured By	Point of Significance	Justification
3. Would the Project have an adverse effect to migratory land bird species or their associated habitats?	Number of active nesting sites, travel corridors, acres of habitat	Changes in baseline condition of species and/or habitat and spatial distribution	TRPA Threshold Carrying Capacities (Resolution # 82-11) TRPA Code of Ordinances Chapter 62 CEQA (Article 5, Section 15065) CDFG Wildlife Habitat Relationships model - (Version 5.2) Fish and Game Code - (Section 3503.5) El Dorado County General Plan Objective 7.4.2 LTBMU Forest Plan Migratory Bird Treaty Act of 1918
4. Would the Project cause a loss of wildlife nursery/den sites and associated habitat?	Number of active den sites and quality of associated habitat	Greater than 0 den sites lost or decrease in species productivity through habitat degradation *Please refer to the Biological Evaluation for points of significance for Forest Service Sensitive Species.	TRPA Threshold Carrying Capacities (Resolution # 82-11) TRPA Code of Ordinances Chapter 62 CEQA (Article 5, Section 15065) CDFG Wildlife Habitat Relationships model - (Version 5.2) Fish and Game Code - (Section 3503.5) El Dorado County General Plan Objective 7.4.2 LTBMU Forest Plan Migratory Bird Treaty Act of 1918
5. Would the Project substantially block or disrupt major fish or wildlife migration or travel corridors[2]?	Number of corridors substantially blocked or disrupted	Greater than 0 corridors	TRPA Code of Ordinances Chapter 62 CEQA Appendix G Checklist El Dorado County General Plan Objective 7.4.2 LTBMU Forest Plan

Table 3.9-2

Evaluation Criteria and Points of Significance - Wildlife

Evaluation Criteria	As Measured By	Point of Significance	Justification
6. Would the Project alter the existing bioregional trend in habitats and ecosystem components, or lead to a change in the distribution of MIS across the Sierra Nevada Bioregion?	Change in the quantity and amount of MIS habitat	Alteration of existing trend in habitat quality (acres) that has occurred from project activities Alteration of distribution of MIS across the Sierra Nevada Bioregion has occurred from project activities	LTBMU Forest Plan
7. Would the Project conflict with any federal, local, regional, or state policies or TRPA ordinances protecting wildlife resources, or with any applicable habitat conservation plans?	Compliance with policies, TRPA ordinances, and habitat conservation plans	Any conflict with said policies, TRPA ordinances, or conservation plans	TRPA Code of Ordinances Chapters 62 and 63 TRPA Threshold Carrying Capacities (Resolution # 82-11) TRPA Environmental Checklist CEQA Appendix G Checklist El Dorado County General Plan 1996
8. Would he Project result in increased human/wildlife interactions?	Number of interactions	Any conflict with forest order or set policies (e.g., health concerns, displacement of native species, parasites)	Forest Order (Existing) NDOW Black Bear Management Plan 2012 CDFW

Source: HBA 2014

Notes:

CDFG California Department of Fish and Game
CEQA California Environmental Quality Act
CESA California Endangered Species Act
CNDDB California Natural Diversity Data Base
CNPS California Native Plant Society
FESA Federal Endangered Species Act
TRPA Tahoe Regional Planning Agency
USFWS United States Fish and Wildlife Service

1. Endangered, threatened, or rare is defined here as:
   - federally listed endangered, threatened, or proposed wildlife species
   - state listed endangered, threatened, or proposed wildlife species or rare plant species
   - federal candidates for listing
2. In terms of habitats, a "major corridor", for purposes of the EIR/EIS, is defined as any habitat which serves as a movement corridor for entire populations of a given species, essential to completion of their life cycle.

3.9-5 ENVIRONMENTAL IMPACTS

IMPACT: BIO-1: Would the Project, directly or indirectly, cause a loss of individuals or occupied habitat of State or federal endangered or threatened fish or wildlife species?

No threatened or endangered fish or wildlife species are known to nest or be present within 0.5 mile of the project area.

Great gray owl, a State of California Endangered Species, does not contain large amounts of suitable habitat within the project area. Great gray owls are strongly associated with meadows as this habitat type is used for hunting voles, gophers and other prey (Sears 2002) up to an elevation of 8,000 feet. Great gray owls tend to spend the majority of their time within 200 m of a meadow edge, within suitable habitat containing dense canopy cover, large trees and numerous snags. Breeding and wintering habitat is strongly correlated with healthy wet meadow systems (Van Riper and Wagtendonk. 2006). Great gray owls are also sensitive to human presence, as observed in Yosemite National Park (Van Riper and Wagtendonk. 2006).

The only wet meadow in the project area is located at Sky Meadows Basin, where the elevation is 8,500 feet and the area is heavenly developed with the presence of a ski lodge, two lift base stations, a snowmaking pond and associated pump house and auxiliary buildings. Additionally, the meadow is bordered on three sides by existing roadways utilized all seasons for vehicle travel over the snow and summer usage. Due to the limited meadow area, existing level of disturbance in the Sky Meadow Basin and surrounding area and the high elevation of the proposed project (above the elevation range of great gray owls) the likelihood of great gray owls being present in the project area is extremely unlikely. No impacts to this species are likely as a result of project implementation.

Other California Threatened and Endangered species (identified in Table 3.9-1) have potentially suitable habitat within the project area and while no records, documentation or observations for these species has occurred, the potential exists for their being present within the Special Use Permit Boundary.

At present, annual wildlife surveys are performed at Heavenly for California spotted owl and northern goshawk. Sightings of any threatened or endangered species (i.e. Sierra Nevada yellow-legged frog, fisher,) would be reported to the Forest Service, USFWS, California Department of Fish, Nevada Division of Wildlife and TRPA (if sighting occurs within the Tahoe Basin).

Suitable habitat for Sierra Nevada yellow-legged frog (SNYLF) has been delineated by LTBMU using criteria provided by the Region 5 office. Suitable habitat is defined by the Regional office per consultation with USFWS memo dated 28 May 2014. The suitable habitat for SNYLF is defined as follows: Suitable breeding habitat typically occurs above 4,500 feet in elevation and includes permanent water bodies or those hydrologically connected within permanent water such as lakes, streams, rivers, tarns, perennial creeks (or

permanent plunge pools within intermittent creeks), and pools (such as a body of impounded water contained above a natural dam). Most types of creeks, plunge pools within intermittent creeks, seeps, springs, and wet meadows plus surrounding areas up to a distance of 25m (82 ft). Where proximate water bodies occur within 300 m (984) feet of one another (typical of some high mountain lake habitat), suitable habitat for dispersal and movement includes the overland area between lake shorelines; in mesic habitats such as lake and meadow systems, the entire area of physically contiguous or proximate habitat is suitable for dispersal and foraging.

Suitable habitat for Sierra Nevada yellow-legged frog has been identified in the Sky Meadows Basin and East Peak Lake area. The projects associated with this area includes the Sky Meadows Challenge Course and East Peak Lake water activities. The Sky Meadows Challenge Course as noted in the project description is mostly contained in the trees adjacent to Heavenly Valley Creek and surrounded by existing disturbance and structures associated with resort operations. The Sky Meadows Challenge Course project proposes new pathways that will be located adjacent to the stream channel and upland area and within the 25m area surrounding the stream habitat. The Sky Meadows Challenge Course will not result in any modifications to the creek channel or result in any changes to the existing creek channel habitat. Under Alternative 1, the Sky Basin Coaster includes structures within the mapped suitable habitat. The bottom terminals and a small portion of the Sky Basin Coaster track is in the upland area but within the 25m buffer area.

Three surveys have been performed in the Sky Meadows Basin and East Peak Lake areas in 2013 (one survey) and 2014 (two surveys) by USFS personnel. No Sierra Nevada yellow-legged frog were observed in either area or survey year. East Peak Lake supported sierran tree frog (*Pseudacris sierra*) adults and tadpoles in both surveys, while only Long-toed salamander (*Ambystoma macrodactylum*) was observed in the Sky Meadows Basin in the pond behind the California dam. Three surveys have been performed in the last 10 years, USFS protocol has not been met to classify the habitat as Unutilized Potential in accordance with Region 5 direction (USDA 2014) due to the fact that one of the surveys did not occur within 3-5 week of snowmelt within a year where the winter snowpack was 80% or above normal. As one additional survey is required that meets these criteria, the existing suitable habitat is classified as Utilization Unknown.

While the project in the Sky meadows basin (Sky Meadows Zipline Canopy Tour, Sky Meadows Challenge Course) and the Sky Meadows Coaster (Alternative 1) are located in suitable habitat, impacts to the habitat are minimal due to the projects location in the uplands and above ground with only minimal disturbance to the riparian area. The Sky Meadows Coaster will be located in 1.69 acres of SNYLF habitat, but as discussed above the coaster is placed above ground with little disturbance to the ground (installation of footings for railings and track). Both the Sky Meadows Challenge Course (0.06 acres) and the Sky Meadows Canopy tour (0.33 acres) are located above ground and will not have any direct impact to the habitat. The proposed East Peak Mainentance Trail located at the

edge of East Peak Lake will cross 0.06 acres of habitat as the Beginner Bike Trail crosses 0.02 acres. The East Peak Canopy Tour crosses 0.10 acres of habitat but is aerial in this location so no disturbance is associated with this project. Figures 3.9-1 and 3.9-2 identify the suitable habitat for SNYLF in association with these activities. Locations of the projects in upland habitat is unlikely to have impacts to the species as there are no dispersal locations (additional water bodies) located adjacent to Heavenly Valley Creek and East Peak Lake. Due to the fact that two years of surveys (three surveys total) have been performed with no detections of SNYLF; it is unlikely, however still possible, that SNLYF are present within the Sky Meadows Basin. East Peak Lake has been supporting reproductive amphibians as shown in the survey data, but no detections for SNYLF have occurred during the past surveys so it is unlikely that SNYLF are present in the area due to relative low quality habitat in East Peak Lake. Impacts to the habitat in this area are expected to be minimal as the lake will be utilized for water activities (paddle boats and kayaks), accessed by a floating dock that will not result in impacts to the vegetation along the shoreline.

Increased human presence in the areas surrounding the suitable habitat for SNYLF will not have an impact on the species if present due to the controlled nature of access and where the public and staff will be allowed to be present. All walking and vehicle traffic will be confined to existing and proposed walkways that are outside the suitable habitat and located in the upland areas. No dispersed walking or hiking activities will be allowed in association with these projects in the vicinity of SNYLF habitat.

CEQA and TRPA

Analysis: *Potentially Significant; All Alternatives*

While there is a low probability of SNYLF occurring in either the Sky Meadows Basin and East Peak Lake based on two years of surveys, it cannot be ruled out that SNYLF may occur in the project areas. Based on the project locations in the upland portions of the suitable habitat and minor impacts to riparian vegetation outside the stream corridor for the Sky Meadows Coaster (Alternative 1) and the lack of detections during two years of surveys, the proposed project may affect individuals but would not likely result in a loss of viability of the species.

NEPA

Analysis: *May Affect But Not Likely To Jeopardize The Continued Existence Or The Sierra Nevada Yellow-Legged Frog; It Is Not Likely To Result In The Destruction Or Adverse Modification Of Proposed Critical Habitat For The Sierra Nevada Yellow-Legged Frog; All Alternatives*

While there is a low probability of SNYLF occurring in either the Sky Meadows Basin and East Peak Lake based on two years of surveys, it cannot be ruled out that SNYLF may occur in the project areas. Based on the project locations in the upland portions of the suitable habitat and minor impacts to riparian vegetation

outside the stream corridor for the Sky Meadows Coaster (Alternative 1) and the lack of detections during two years of surveys, the proposed project may affect individuals but would not likely result in a loss of viability of the species.

Mitigation: BIO-1: Delay Sky Meadows Challenge Course, Sky Basin Coaster and East Peak Lake Water Activities Until Sierra Nevada Yellow-legged Frog Surveys and USFWS/CDFW Consultation Are Complete

Heavenly Mountain Resort shall delay implementation of projects located in Sky Meadows or East Peak Lake (e.g., Sky Meadows Challenge Course, Sky Basin Coaster and East Peak Lake Water Activities) until protocol surveys (3 surveys in the past 10 years in accordance with USFS/USFWS protocol) are completed for the Sky Meadows Basin and East Peak Lake suitable habitat for Sierra Nevada yellow-legged frog (SNYLF).

If SNYLF are determined to be present in the project area, Heavenly shall formally consult with CDFW (California projects only) and LTBMU with USFWS regarding potential impacts to the species. If the results of consultation allow; the Projects may be allowed to proceed with protection measures developed in consultation with CDFW, LTBMU and USFWS. If it is determined that protection measures cannot be implemented to reduce impacts to the species, each activity proposed in the delineated habitat area that will result in new disturbance and human interaction will be eliminated from the Project (e.g., Sky Basin Coaster, Sky Meadows Challenge Course, East Peak Lake Dock).

If SNYLF are not determined to be present within the delineated suitable habitat, Heavenly shall start informal consult with CDFW (California projects only) and LTBMU with USFWS regarding potential impacts to designated habitat that has been classified as "Unutilized Potential" in accordance with Region 5 direction (USFS Memorandum dated 5/28/14). If the results of the informal consultation allow; the Projects may be allowed to proceed with habitat protection measures developed in consultation with CDFW, LTBMU and USFWS.

CEQA and TRPA

After Mitigation *Less Than Significant, All Alternatives*

NEPA

After Mitigation *No Adverse Effects, All Alternatives*

Figure 3.9-1

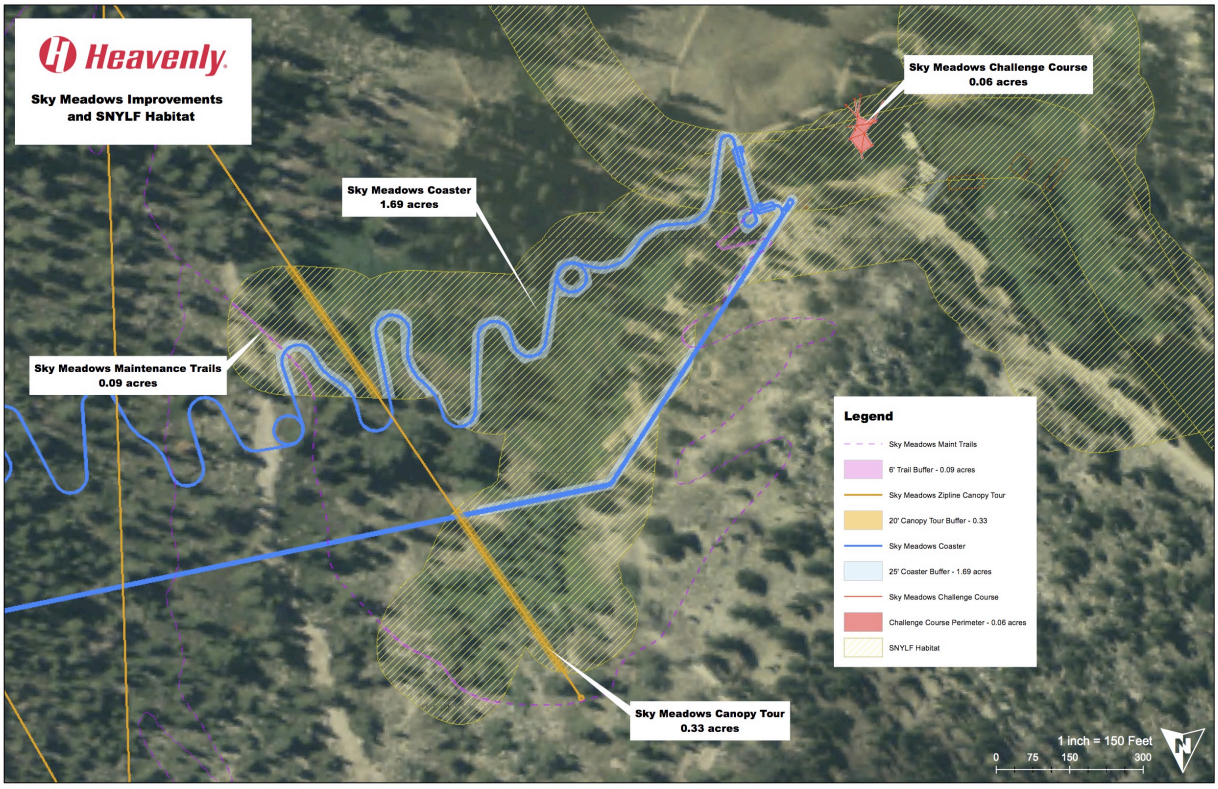
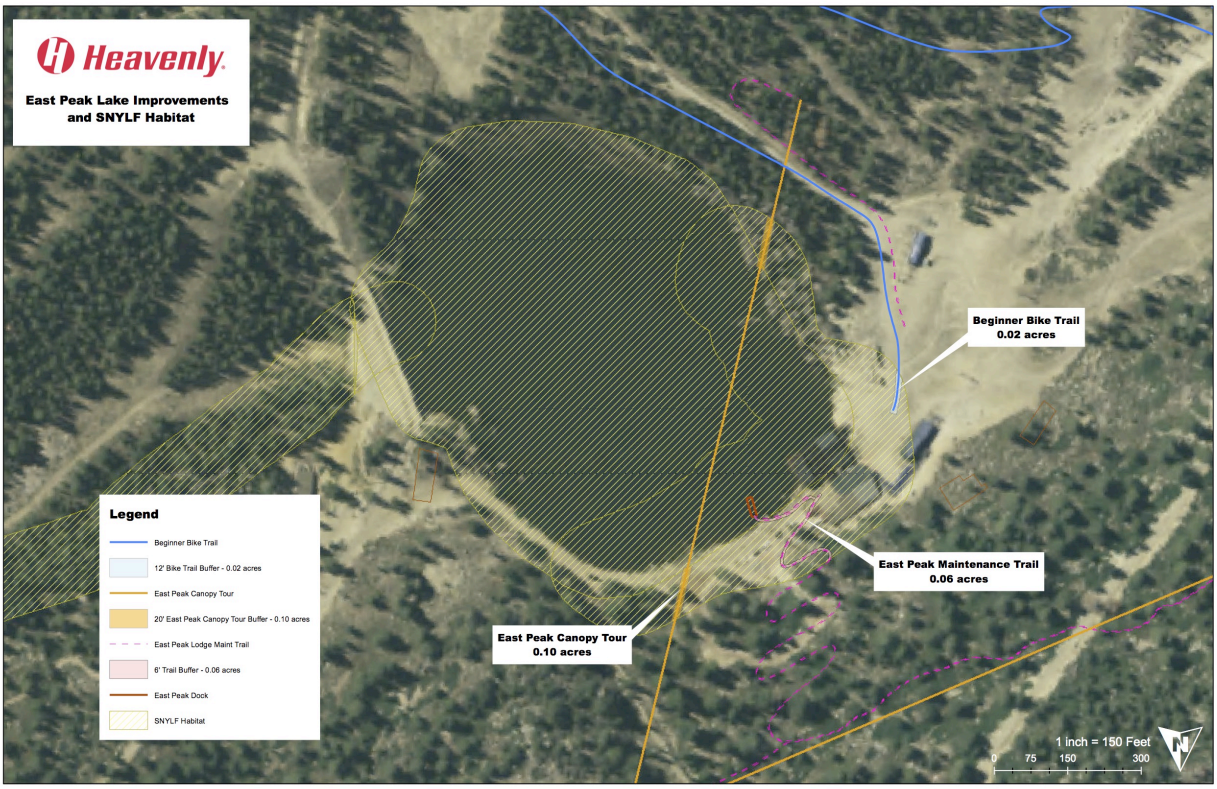


Figure 3.9-2



IMPACT: BIO-2: Would the Project cause a permanent loss of sensitive wildlife individuals, or habitat (e.g. Forest Service Sensitive, CA Species of Concern, NV At-Risk, TRPA Special Interest Species)?

A total of eight sensitive species have suitable habitat within the Proposed Action and the Alternative locations as noted in Table 3.9-1, Pacific marten, osprey, western bumble bee, California spotted owl, northern goshawk, pallid bat, fringed myotis, and Sierra mountain beaver. Great grey owl is discussed under Impact BIO-1 above.

Bald Eagle

While suitable habitat exists within the Special Use Permit Boundary, no observations of Bald Eagle have been recorded during wildlife surveys 1991-2014. The majority of the proposed projects would not impede eagles from flying through the project area or would create a barrier to eagles roosting. However, a portion of the East Peak Zipline Canopy tour will be placed across the west side of East Peak Lake. Part of the proposed project is to stock East Peak Lake with fish. Stocking fish may attract bald eagle to forage East Peak Lake. The Zipline can impede foraging opportunities. Based on the potential to provide foraging opportunities for bald eagles to the project area, the Proposed Action or the Alternative may affect individuals, but is not likely to result in a trend toward federal listing or loss of viability.

Osprey

Suitable foraging habitat exists for osprey in the vicinity of East Peak Lake. Large trees and snags in the area provide suitable roosting and nesting habitat for these species along the hillsides surrounding East Peak Lake. Fish (rainbow and brown trout) were stocked in East Peak Lake in the late 1990's which would provide a food source for osprey. However, fish are not likely to be present in East Peak Lake due to past management activities that have lowered the level of the lake for dam maintenance. No observations of osprey have been noted during site visits or during wildlife surveys since 2003 (pers. observation). Because osprey have been observed during surveys, and there is high levels of existing human activity in the East Peak Lake area, the proposed projects in and adjacent to this location (East Peak Water Activities, and the East Peak Zipline Canopy Tour) will not directly impact individuals of these species but may have a minor impact on the suitability of the foraging habitat. This impact is considered less than significant.

Northern Goshawk

The following Epic Discovery projects on are located in areas of suitable habitat for northern goshawk: Panorama Trail, Sky Cycle Canopy Tour and the Mid-Station Zipline Canopy Tour.

The removal of trees to create the projects noted above will result in the direct loss of suitable habitat for northern goshawk. White no detection for northern

goshawk are present within the subject habitat located between the Gondola mid-station and the top station, the removal of suitable foraging habitat will result. The Sky Cycle Canopy Tour and Mid-Station Zipline Canopy Tour will result in direct impacts to 1.93 acres and 1.91 acres of northern goshawk habitat through project installation of tree removal. As there is 2,226 acres of northern goshawk habitat (Figure 3.9-3) in the Special Use Permit Area (MPA 05 EIR/EIS/EIS 2007), the removal of 3.84 acres of habitat results in a loss of 0.002% of suitable habitat. In addition to the direct tree removal, placement of activities in the tree canopies may deter the species to forage in the canopy.

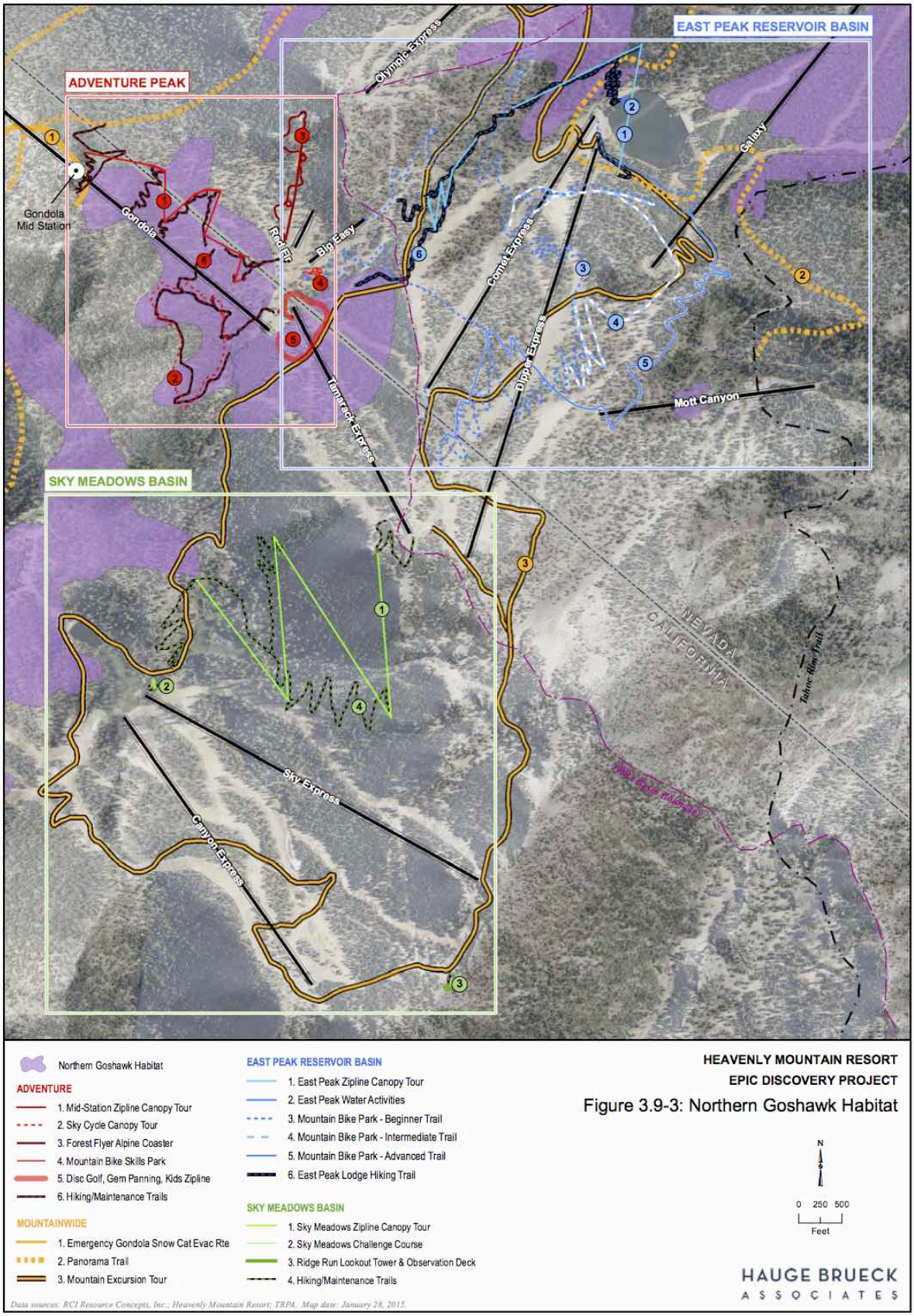
Indirect impacts to foraging northern goshawk may result from increased human presence in the East Peak and Sky Meadows areas primarily and activity in suitable habitat as a result of expanded summertime recreational facilities and human presence in the canopy in these locations. Other indirect impacts to California spotted owl will result from fragmentation of foraging habitat from installation of the Sky Meadows Coaster (Alternative 1). Alternative 2 and the Proposed Action do not include the Sky Meadows Coaster

This impact is considered less than significant due to the low quality of the habitat and the absence of nesting goshawk in the area. The existing human activity in the area together with the increased summer usage precludes the establishment of nesting goshawk in the area due to their avoidance of human presence during nesting activities.

Overall the Project or Alternatives may affect individuals, but is not likely to result in a trend toward federal listing or loss of viability for Northern goshawk.

California spotted owl

There are likely to be indirect effects from implementation of the following Epic Discovery projects on California spotted owl due to their location in suitable habitat: Panorama Trail, Sky Cycle Canopy Tour and Mid-Station Zipline Canopy Tour. The removal of trees to create the Sky Cycle Canopy Tour, Mid-Station Zipline Canopy Tour, or the Panorama Trail will not likely have an adverse impact on California spotted owl, as no owls have been detected in the vicinity of any of the Epic Discovery projects. The removal of trees is not likely to disturb nesting owls as no nests have been discovered as a result of annual owl surveys since 1993. Although no owls have been observed within the resort boundary, owl activity within the special use boundary but outside the operational boundary has been observed in 2003. Indirect impacts to foraging spotted owls may result from increased human presence and activity in suitable habitat as a result of expanded summertime recreational facilities and human presence in the canopy. California spotted owls may utilize this habitat in the future.


EAST PEAK RESERVOIR BASIN
ADVENTURE PEAK
SKY MEADOWS BASIN
Gondola Mid Station
Gondola
Red Fir
Big Easy
Olympic Express
Comet Express
Dipper Express
Galaxy
Mott Canyon
Tamarack Express
Sky Express
Canyon Express
NEVADA
CALIFORNIA
Tahoe Rim Trail
Northern Goshawk Habitat
ADVENTURE
1. Mid-Station Zipline Canopy Tour
2. Sky Cycle Canopy Tour
3. Forest Flyer Alpine Coaster
4. Mountain Bike Skills Park
5. Disc Golf, Gem Panning, Kids Zipline
6. Hiking/Maintenance Trails
MOUNTAINWIDE
1. Emergency Gondola Snow Cat Evac Rte
2. Panorama Trail
3. Mountain Excursion Tour
EAST PEAK RESERVOIR BASIN
1. East Peak Zipline Canopy Tour
2. East Peak Water Activities
3. Mountain Bike Park - Beginner Trail
4. Mountain Bike Park - Intermediate Trail
5. Mountain Bike Park - Advanced Trail
6. East Peak Lodge Hiking Trail
SKY MEADOWS BASIN
1. Sky Meadows Zipline Canopy Tour
2. Sky Meadows Challenge Course
3. Ridge Run Lookout Tower & Observation Deck
4. Hiking/Maintenance Trails
HEAVENLY MOUNTAIN RESORT
EPIC DISCOVERY PROJECT
Figure 3.9-3: Northern Goshawk Habitat
N
0 250 500
Feet
HAUGE BRUECK
ASSOCIATES
Data sources: RCI Resource Concepts, Inc.; Heavenly Mountain Resort; TRPA. Map date: January 28, 2015.

Increased human activity in suitable foraging and nesting habitat as a result of implementation of the above Epic Discovery projects would decrease the overall quality and quantity of habitat within the project area. While only one California spotted owl has been detected during surveys since 1993 (on the southern boundary of the special use permit area), the suitability of the habitat is moderate to low within the project area based on past and present recreational use and habitat removal. Habitat degradation due to existing fragmentation together with increased recreational use of the project area would likely be compounded in duration and area by past, current and future projects.

Past actions that are likely to be compounded by Epic Discovery projects include: Past development at Heavenly Mountain Resort of lifts, runs and facilities which have caused habitat removal, fragmentation and disturbance from winter recreation and related activities; The purchase of the High Meadows property by the USFS in 2002 opened a large track of land containing suitable habitat to public access and subsequent recreation disturbance and also protected the land from future development; The installation of back country gates in 2005 added and continues to add additional winter recreational users to areas in the vicinity of Heavenly Mountain Resort where skiing from the resort had been restricted; Past vegetation treatments (e.g., fuel reduction projects) in the vicinity of Heavenly Mountain Resort have reduced suitable habitat for this species; and Development of Van Sickle State Park, including trails which connect with trails in Heavenly Mountain Resort are likely to increased human presence in the area and further habitat degradation and loss.

Current and Future actions that will compound the effects of Epic Discovery projects include the implementation of future phases of the Heavenly Master Plan (MP) will likely further degrade habitat for spotted owl by fragmentation (new ski trails in the Wells Fargo area) and increased recreational impacts in the form of increased human visitation in both winter and summer. This impact is considered less than significant due to the moderate quality of the fragmented degraded habitat, the absence of detections of California spotted owl in the area together with the existing human activity.

Western Bumble Bee

Suitable foraging areas for western bumble bee are located in the Sky Meadows Basin where the following projects are located: Sky Meadows Zipline Canopy Tour, Sky Meadows Challenge Course and the Sky Meadows Coaster (Alternative 1). Of the three projects located in this area, only the Sky Meadows Coaster is located in portions of the riparian area that supports flowering plant species that are nectar sources for the western bumble bee. The proposed coaster crosses the habitat above ground but will require the installation of footings that may remove some flowing plant species. The relative low level of impact and vegetation removal that is required for the project is not likely to result in the loss of individuals and will not result in a large loss of flowering plants that could

offer potential nectar sources to this species. No effect to this species will result as a result of project implementation.

Pacific marten

Pacific marten are known to occupy habitats throughout Heavenly Mountain Resort. Marten are known to occur mainly in the southern and central portions of the resort and have been observed in natural habitats as well as in man made structures and buildings (Harland Bartholomew & Associates 1993, Cablk and Spaulding 2002, Slauson, K.M. & Zielinski, W. J, 2012). On the surface ski resorts can provide benefits to marten in the form of utilizing buildings for rest and potential den locations, consumption of human food sources, as well as indirectly attracting small mammals which may provide food to marten (Slauson, K.M. & Zielinski, W. J, 2012). Negative effects to marten from ski resort activities include habitat modification in the form of direct habitat removal and fragmentation, compaction of snow from skiing and grooming activities (limiting foraging areas), and increased predation from large carnivores. These additional impacts on marten come at a time during the winter when marten are energetically stressed and may pose increased pressure on reproductive success (Slauson, K.M. & Zielinski, W. J, 2012).

The Slauson and Zielinski study included 36 sampling stations within Heavenly Mountain Resort to determine the number of marten present within the resort. Hare snares were set in the winter of 2009 revealing a total of 6 individuals (5M:1F). The following spring of 2009 a total of 5 (3M:2F) marten were captured at Heavenly. In 2010 and 2011 additional trappings were conducted and found 5 (2M:3F) individuals in 2010 and 12 (6M:6F) individuals in 2011 (Slauson, K.M. & Zielinski, W. J, 2012).

Past studies of marten in ski areas have been performed by Kucera in 2002-2003 at Mammoth Mountain ski area. 10 individuals were detected with only one female. The potential for unbalanced sex ratios within marten populations located in ski resort areas raises concerns. Due to potential anthropomorphic impacts from ski resort activities, ski resort areas may not support self-sustaining marten populations. Based on past studies (Harland Bartholomew & Associates 1993, Cablk and Spaulding 2002, Slauson, K.M. & Zielinski, W. J, 2012) and personal observation, marten have been observed directly or indirectly (tracking) across the range of areas located within the Epic Discovery projects areas.

Marten are known to occur throughout Heavenly and the Epic Discovery project area looks to include areas utilized by both reproductive females and other individual males based on the latest 2009-2011 study (Slausen et al. in prep). The Project may have a direct effect to 14.84 acres of habitat from the Epic Discovery Projects for the Proposed Action and Alternative 2. Alternative 1 would result in the removal of 16.64 acres of habitat. Martens use rocky habitat (boulder fields, talus slopes) for foraging and resting sites (Buskirk and Powell 1994) as well as forested areas. Marten are known to occur mainly in the southern and central portions of the resort and have been observed in natural habitats as well as in man

made structures and buildings (Harland Bartholomew & Associates 1993, Cablk and Spaulding 2002, Slauson, K.M. & Zielinski, W. J, 2012).

Direct impacts to marten may occur from development of Epic Discovery projects through the disturbance of potential den sites. No den locations have been observed in the resort, however Slauson and Zielinski (2012) have observed reproductive females within the operational boundary of the resort. As the exact locations of den sites is not known, it cannot be determined if the projects will result in a direct impact. The projects with the highest degree of ground disturbance have the greatest chance of impacting den sites through grading activities. These projects include the Mountain Bike Park, Hiking/Maintenance Trails, the Forest Flyer Alpine Coaster, Sky Cycle Canopy Tour Stations, Panorama Trail and the Ridge Run Lookout Tower. Surveys shall be conducted for marten den sites immediately prior to any project implementation, including tree felling. If den sites are located, an LOP may be applied at the discretion of the Forest Supervisor on a case by case basis. These surveys are critical during tree felling activities in the spring when young kits are being born. These surveys and subsequent protection of any identified den sites will avoid any additional direct effects to marten den sites from project construction.

The Epic Discovery projects will result in an increase in human activity in areas with little to no existing direct human presence. Indirect impacts to marten include the introduction of anthropomorphic food sources. Marten may lose the ability to forage for natural food sources when presented with a continuous supply of human food, similar to bears. In an attempt to prevent this effect from occurring, a design feature has been incorporated into the project design to install wildlife-proof trash receptacles with functioning locks that are emptied frequently.

The Epic Discovery Projects have the potential to decrease local populations of songbirds in the area. This potential decrease may affect marten, which are arboreal and prey on birds during the spring and summer months (Zeiner et al 1990). Increased vehicle use of the summer roadways associated with the Mountain Excursion Tour and additional operational truck traffic may result in increased road kill of marten, however this is unlikely based on the 15 mph speed limit included in the Heavenly Operations Plan. Collisions with mountain bike riders and marten may occur on the new trails proposed for the Mountain Bike Park and the Panorama Trail.

Construction could have a temporary, indirect disturbance to marten due to an increase in human presence and activity, and increased noise. The effect would be temporary (during construction activities) and is not expected to disturb marten much beyond existing summer disturbance levels that exist at Heavenly from consistent recreational and maintenance. Marten have been found throughout Heavenly and currently appear to coexist with the large number of visitors that also use the site in the winter due to marten using the edges of the ski resort. Current research will look at marten coexisting with visitors in the summer. Recent research has shown the majority of martens in the ski resort operational boundary may be males with a 2:1 ratio (Slauson et al. in prep).

Marten have been observed foraging in refuse and within structures at Heavenly, and increased human presence may draw marten to these areas due to increased trash generation.

The 2009-2011 Basin study found female reproductive habitat areas where young are produced are critical for maintenance of the overall population. Areas used for reproduction were stable and did not change annually which suggests that reproductive habitat is a limiting factor for marten populations (Slauson et al. in prep). Thus the maintenance of existing suitable reproductive habitat is one of the most critical factors for maintaining marten populations and distributions. An indirect effect of this project will be increased human disturbance closer to the successful female reproductive habitat as a result of the Forest Flyer Coaster. The proposed action will increase the impacts to existing habitat conditions, increase human traffic in the area, and increase the noise from both humans and equipment.

Marten, particularly females, are sensitive to habitat fragmentation. This project, through the removal of forested habitat, could continue to fragment the Heavenly landscape. Female reproductive habitat has been discovered to the northeast of the Forest Flyer Alpine Coaster and to the north of the East Peak Zipline Canopy Tour. Although habitat fragmentation is considered an adverse effect to marten, the implementation of the proposed Project is not expected to significantly contribute to increased fragmentation since all project areas are within or adjacent to existing fragmented areas and projects have been sited to result in minimal tree removal. Heavenly is heavily fragmented due to existing ski trails, roads, and structures. The design features to retain coarse woody debris, understory vegetation, and snags are intended to retain some important habitat elements in these project areas. The existing ski trails and associated clearings are not suitable locations for marten den sites due to compaction of the snow surface and frequent grooming and recreational use. Openings associated with these clearings and structures are also not considered suitable for marten because this species tends to shy away from open spaces that lack protective canopy cover.

The recent study data also shows that martens minimize their use of resorts during the winter by using areas on the edges of the operations area. Then, once the ski season has ended they expand their use of the resort when human use declines. Increased summer use may increase disturbance to marten from greater interactions between marten and humans.

Fringed Myotis and Pallid Bat

Suitable roosting habitat exists within the project area proposed project area in the form of large trees and rock outcrops for both the fringed myotis and the pallid bat to roost. These two bat species have been detected in the Spooner Summit (7,400) area to the north of Heavenly Mountain Resort. While no surveys have been performed in the project area, the suitability of the surrounding habitat of the proposed projects leaves the possibility open for these species to be disturbed by project implementation. The projects that contain suitable habitat include those with large trees and snags in the vicinity include the lower portion of the

Panorama trail. Panorama Trail construction in this location will not result in removal of large trees or destruction of large rock outcrops and therefore will not likely disturb roost sites. The Sky Meadows Canopy Tour, structures associated with the Sky Meadows Coaster and the East Peak Canopy Tour may result in disturbance to bat roost sites. Both species are sensitive to human disturbance while roosting. Implementation of design features outlined in Section 2.3.5 will provide protection to active roost sites and will require consultation with USFS to create appropriate exclusionary buffers as necessary. While some individuals may be disturbed, this will not result in a loss of viability of either of these species.

Sierra Mountain Beaver

Suitable habitat for the mountain beaver is located in the riparian area located at the bottom of the Sky Meadows Coaster. Moist soils together with shallow streams in this area are suitable for mountain beaver activity and burrows. Mountain beaver rarely stray far from their burrows and spend large amounts of time underground. Strictly vegetarian, they create "hay stacks" adjacent to the burrow openings to allow for drying of food before storage underground. The mountain beaver is afforded protection in the State of Nevada as a protected sensitive species. The suitable habitat for this species occurs in California and therefore no further surveys or protection measures are required, therefore this impacts is less than significant.

CEQA and TRPA

Analysis: *Less Than Significant; All Alternatives*

Based on the available science, marten are known to be present across the majority of Heavenly Mountain Resort in both natural and human environments. Potential impacts to marten individuals and their habitats from project implementation are described above. Because of the marten's existence within the development area during a long period of past disturbance from construction and operation of Heavenly activities (both winter and summer), the Project's impact on the overall health of marten populations at Heavenly Mountain Resort cannot be determined at this time. Conclusions regarding the Project's potential to degrade the health of the existing marten population and habitat would require additional science and study not currently available. Therefore this impact is considered less than significant.

Bald eagle – Implementation of the proposed project will have no impact on bald eagle.

Osprey – Implementation of the proposed project will have a less than significant impact on osprey.

Northern Goshawk – Implementation of the proposed project will have a less than significant impact on northern goshawk.

NEPA

Analysis: *No Adverse Effect; All Alternatives*

Potential effects to the health of the existing marten population at Heavenly is described above. The potential exists for effects to a reproductive female located in the area of the Forest Flyer Coaster. The location(s) of den sites are not known at this time. Existing requirements for preconstruction surveys are in place to search for any existing den locations. If a den is located, as noted above, the Forest Supervisor has the ability to implement a Limited Operating Period for projects in the area. Construction of the Forest Flyer Coaster is within an area where a known female has had success in reproducing in the past. Disruption of this female and her ability to reproduce may result from construction and use of the Forest Flyer, but will not likely result in an overall loss of the species or result in a downward trend toward listing. Alternative 1 would eliminate the proposed Forest Flyer Coaster and place an alternative Coaster in the Sky Basin area.

Pacific marten - Implementation of the proposed project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the Pacific marten.

Bald eagle – Implementation of the proposed project will not affect on bald eagle.

Northern Goshawk – Implementation of the proposed project may affect individuals but is not likely to result in a trend toward Federal listing or loss of viability for the northern goshawk.

California Spotted Owl - Implementation of the proposed project may affect individuals but is not likely to result in a trend toward Federal listing or loss of viability for the California spotted owl.

Western Bumble Bee - Implementation of the proposed project may affect individuals but is not likely to result in a trend toward Federal listing or loss of viability for the western bumble bee.

Fringed Myotis - Implementation of the proposed project may affect individuals through disturbance to roost sites and hibernacula, but is not likely to result in a trend toward Federal listing or loss of viability for the fringed myotis. Implementation of design features outlined in Section 2.3.5 will offset impacts to disturbance of roost sties.

Pallid Bat - Implementation of the proposed project may affect individuals through disturbance to roost sites and hibernacula, but is not likely to result in a trend toward Federal listing or loss of viability for the pallid bat. Implementation of design features outlined in Section 2.3.5 will offset impacts to disturbance of roost sties.

IMPACT: BIO-3: Would the Project have an adverse effect to migratory land bird species or their associated habitats?

Many of the proposed activities in the Epic Discovery proposal involve new activities located in the canopy of the forested habitat located in the core of the resort. The Sky Cycle Canopy Tour, Mid-Station Zipline Canopy Tour, East Peak Zipline Canopy Tour, Sky Meadows Zipline Canopy Tour and the Sky Meadows Challenge Course will take place above ground and in the canopy of the forest. These activities will increase the frequency of human interaction with both nesting and foraging migratory bird species. Past summer activities have been predominantly ground based with the exception of the Heavenly Zipline that is parallel to the Tamarack ski lift and the Gondola used to access the upper portions of the mountain. New above ground summer activities (e.g., additional ziplines and the ropes course) are opening during the summer of 2014, but have not yet had the potential to contribute to disturbance of nesting birds. Human presence in the canopy could result in the displacement of avian species from suitable nesting areas due to increased noise and threats of predation. Additionally, suitable foraging habitat may be lost in the vicinity of the canopy due to human activity and the presence of structures.

Increased human presence may also impact the success of nesting migratory birds. The impacts of existing human presence are evident within and outside Heavenly Mountain Resort's operational footprint. Winter skiing within the resort boundaries occurs mountain-wide while existing summertime recreation is more limited and occurs in more concentrated locations. Winter skiing is focused on existing cleared ski runs. However, tree skiing also occurs within the areas between ski runs and in currently undeveloped areas of the resort within its boundaries. Increased human presence within the resort can also impact wildlife species that reside or forage in the vicinity and have a detrimental effect on nesting migratory birds. Increased human presence can impact wildlife by causing species which are not tolerant of human activity to avoid otherwise suitable nesting/denning habitat and modify foraging behaviors.

Ziplining through and above the canopy may have a negative impact on the suitability of nesting and foraging habitat for migratory bird species. Behavioral responses from nesting birds may result from canopy activities. Overflights from ziplining and other human activities in the canopy and over East Peak Lake (which could potentially impact nesting waterfowl) may result in increased arousal, alertness, pressure and stress on nesting bird species. If continual and chronic, the increased stress levels of nesting bird species may result in a decrease in the animal's fitness and ability to survive and successfully nest. Occasional overflights and human presence may not result in long-term impacts to migratory birds species but high frequencies over long periods of time during the nest season may have an adverse impact to the nesting success of migratory birds that utilize the proposed project areas.

While surveys for special status species have taken place throughout Heavenly since the mid 1990s, not all suitable nesting habitats for migratory birds have been surveyed. In addition, many species of migratory birds, MIS and FS sensitive species change their nest locations on an annual basis and therefore past surveys cannot be used for proposed out-year projects. Baseline surveys for nesting migratory bird species have not been performed therefore it is not known the extent the proposed project areas are utilized by migratory bird species.

As discussed in Chapter 3.8 Vegetation, increased fragmentation results in secondary impacts to forested stands/habitat in the form of edge effects. An indirect biological impact to habitat as a result of edge effects is increased predation on native fauna within the habitat patch. Nest predators such as *Corvidae* species and brood parasites (brown-headed cowbird) often are found at increased densities in edge habitats (Whitcomb, *et al.,* 1981; Brittingham and Temple 1983). Creation of new cleared areas and new facilities would result in increased fragmentation of the habitat and may result in increased predation on migratory bird nests as a result. While the nest itself would not be removed physically, as is the case in direct removal, the success of nests could have the potential to be compromised and effectively result in a loss as a result of indirect effects from increased human interaction.

Due to the lack of data in regards to the specific use of the project areas by migratory bird species, and the potential for impacts to the breeding success of migratory birds as a result of increased human activity and presence in the tree canopy, the baseline condition of the suitable habitat may be modified.

The impacts described above to migratory bird species are likely to be local in the direct vicinity of the proposed activities and facilities and not widespread impacts to suitable nesting habitat within the Operational Boundary or the Special Use Permit Boundary. Due to the local nature of the potential habitat modifications resulting from increased human activity and presence, it is not anticipated that the Project will result in declines of migratory bird populations but would more likely impact local individuals occupying habitat at Heavenly Mountain Resort. However, these impacts may be in conflict with the Migratory Bird Treaty Act of 1918.

CEQA and TRPA

Analysis: *Potentially Significant; All Alternatives*

Based on the extent of existing human presence throughout the resort boundaries, and the impact of proposed modifications of suitable nesting habitat for migratory songbirds as a result of increased human presence and activity, this impact is considered to be potentially significant. While measures are built into the Proposed Action and the Alternatives to protect raptor and migratory bird nest sites from direct removal, the potential exists for future modification of habitat that would decrease its suitability for migratory birds occupying the Project area.

NEPA

Analysis: *Adverse Effects; All Alternatives*

The Forest Service and US Fish and Wildlife Service have an MOU regarding implementation of the Migratory Bird Act (this MOU expired in 2013, though guidance in the 2004 SNFPA indicates that it will be followed until further executive direction is given). The 2004 SNFPA and associated policies, standards and guidelines were found by the Forest Service to be in compliance with this MOU (2004 SNFPA Final-SEIS, 4.3.4). Direction given in the 2004 SNFPA Final-SEIS section 3.2.4 on neotropical birds states that management is more focused on habitats and population trends rather than management of individuals. Additionally management direction is specific to individual bird species that are listed as sensitive, threatened or endangered. As the Proposed Action and Alternatives will not result in the decline in populations of migratory birds but may impact individuals, measures are built into the Proposed Action and the Alternatives to protect migratory bird nest sites from direct removal (MPA 07 Mitigation Measure 7.4-16: Active Raptor and Migratory Bird Nest Site Protection Program). Indirect impacts to nesting birds resulting from habitat modification results in adverse effects to migratory bird species.

Prior to development of site specific projects, Heavenly Mountain Resort must perform species specific surveys for Forest Service Sensitive species (California spotted owl, Pacific marten and northern goshawk) and migratory bird species, in accordance with regional survey protocols. If any sensitive species nests are located as a result of these surveys, LTBMU has the ability to require Limited Operating Periods for Forest Service Sensitive species the proposed project per the Sierra Nevada Forest Plan Amendment, Record of Decision (USDA 2004).

Mitigation: **BIO-3: Migratory Bird and Habitat Utilization Survey**

In order to protect migratory bird nests from increased human presence in the tree canopy during the breeding season, Heavenly Mountain Resort shall perform nesting bird surveys for the following projects: Mid-Station Canopy Tour, Sky Cycle Canopy Tour, East Peak Zipline Canopy Tour, Sky Meadows Zipline Canopy Tour and the Sky Meadows Challenge Course. The surveys shall be completed annually and as needed prior to the start of project operations during the breeding season (April –August). The surveys shall identify migratory birds nesting on or immediately adjacent to proposed structures (including trees used as platforms) and equipment associated with the above-listed projects (projects that are located within the forest canopy).

To better understand the extent of migratory bird utilization of the habitats located in the above referenced project locations, bird point counts shall be performed to determine species diversity, nesting data as well as population size. The first point count survey of the project areas shall be performed prior to commencement of construction activities during nesting season. The results of the initial baseline survey shall be compared to future nesting surveys performed on an annual basis, in the vicinity of the projects. Daily inspection surveys of the project facilities

shall be conducted by the operator to determine the presence of bird nesting activity. If the nest is not active (does not contain either eggs or hatchlings/young) the nest may be removed. If a migratory bird nest is located on a structure (including tree based platforms) or equipment associated with a project during annual surveys and is found to be active (containing either eggs or hatchlings/young), a buffer avoidance zone shall be instituted until it has been determined the nestlings have fledged. The distance of the buffer avoidance zone shall be determined by USFS and shall reflect the tolerance level of the individual pair, species, level of activity/disturbance and duration. Project activities and operations associated with the forest canopy based projects shall cease within the identified buffer avoidance zone if determined necessary to protect the active nest by USFS, NDOW and CDFW biologists. Annual surveys shall be performed indefinitely to alleviate impacts to future nests.

CEQA and TRPA

After Mitigation *Less Than Significant, All Alternatives*

NEPA

After Mitigation *No Adverse Effects, All Alternatives*

IMPACT: BIO-4: Would the Project cause a loss of wildlife nursery/den sites and associated habitat?

Habitat within the project area is suitable for wildlife nursery sites (*e.g.*, Pacific marten den sites). All alternatives would result in modification through potential direct removal, or alteration of habitat that could result in loss of nursery/den sites.

Direct removal of suitable potential nursery sites would occur through tree and habitat removal for construction of new canopy activities, coasters and supporting structures. The two coasters are proposed to be placed in areas with suitable nesting and nursery habitat. As noted in Impact BIO-2, Slauson and Zielinski (2012) have evidence of reproducing females within the operational boundary of the resort. The report is currently unpublished and therefore information in regards to suspected locations of reproductive females are not currently available. If the draft study is published before the Final EIR/EIS/EIS is completed and decisions are rendered on the Project, the information will be added to the record for consideration by the public and decision makers.

Nursery/den sites associated with other species (squirrel and marmot) aside from marten may be present in the project area. Direct removal may occur through ground disturbance and or tree removal associated with construction activities. In addition to direct removal of habitat, nursery sites can be negatively affected due to indirect effects. Indirect effects may result from adjacent habitat removal, increased human presence and noise generated by increased facilities and

activities, canopy tours, bike trails, mountain tours, summertime activities and operations. Increased human presence may also impact the success of wildlife nursery sites. The impacts of existing human presence are evident within and outside Heavenly Mountain Resort's operational footprint. Existing winter skiing within the resort boundaries occurs mountain-wide while existing summertime recreation is more limited and occurs in more concentrated locations at the Gondola Mid-Station, Von Schmidt Flat, the top of Tamarack Lift and along the summer hiking trails that exist along the summer vehicular access roadways. Increased human presence can impact wildlife by causing species which are not tolerant of human activity to avoid otherwise suitable nesting/denning habitat and modify foraging behaviors. The Mid-Station Zipline Canopy Tour, Sky Cycle Canopy Tour and the Forest Flyer Coaster are proposed in areas where little to no existing human activities have historically taken place.

Current summer activities are limited to use of the Gondola for sight seeing, limited hiking opportunities utilizing summer operation roadways, the existing zipline from the top of Tamarack to the top of the Gondola and activities set up in the vicinity of the Gondola Top Station (e.g., summer tubing, portable climbing walls, newly opened ropes course, etc.). Many of the proposed activities located in Adventure Peak, East Peak Lake Basin, and Sky Meadows Basin will introduce new human disturbance to areas that have had little previous human presence during summer. Increased noise, potential harassment, and discarded refuse would likely result from increases in the summer use of these areas and have the potential to directly and indirectly impact wildlife nursery sites.

CEQA and TRPA

Analysis: *Potentially Significant; All Alternatives*

Reproductive female marten have been observed within the operational boundary of Heavenly Mountain Resort during 2009-2011 and are believe to be present. As the location of marten den sites and other species den sites are not known, the potential exists for direct removal from ground disturbing activities associated with Proposed Action and Alternatives, therefore this impact is considered potentially significant.

NEPA

Analysis: *Potential Adverse Effect; All Alternatives*

Reproductive female marten have been observed within the operational boundary of Heavenly Mountain Resort during 2009-2011 and are believe to be present. As the location of marten den sites and other species den sites_are not known, the potential exists for direct removal from ground disturbing activities associated with Proposed Action and Alternatives, therefore this impact may result in adverse effects to wildlife nursery/den sites. Design features are proposed that require pre-construction surveys to alleviate the potential impacts.

Mitigation: BIO-4: Wildlife Nursery Site Survey

Heavenly Mountain Resort shall conduct a thorough pre-construction survey of project areas for wildlife nursery sites and den locations. The survey shall be performed by a professional biologist with experience locating nursery/den sites and shall be performed prior to initial ground disturbance for a project activity. The survey area shall include the location of ground disturbance and areas within 100 meters of ground disturbing activities, as well as any area where staging will occur or access will be provided for construction equipment. The contracted biologist shall report the findings of the survey to the USFS LTBMU. The Responsible Official may implement an LOP, adapt construction timelines or facility locations as determined necessary to provide adequate protection. If an LOP is implemented, construction may only occur between August 1 and March 15.

CEQA and TRPA

After Mitigation *Less Than Significant; All Alternatives*

NEPA

After Mitigation *No Adverse Effects; All Alternatives*

IMPACT: BIO-5: Would the Project substantially block or disrupt major fish or wildlife migration or travel corridors?

Streams within the Heavenly Mountain Resort special use permit area are not known to contain fish migration corridors as Edgewood, Heavenly Valley, Daggett, and Mott Creeks all contain natural barriers which limit fish movement upstream. No impacts to migrating fish would occur from implementation of the Project or Alternatives.

Riparian corridors are known to be travel ways for marten and other species. As no large-scale removal of riparian areas is proposed in conjunction with the project, no impacts to these travel corridors are expected to occur.

There may be direct effects to mule deer from the following Epic Discovery projects: Mid-Station Zipline Canopy Tour, Sky Cycle Canopy Tour, Forest Flyer Alpine Coaster, Emergency Gondola Snow Cat Evacuation Route, Panorama Trail, East Peak Zipline Canopy Tour, Mountain Bike Park, East Peak Lodge Hiking Trail, Sky Meadows Zipline Canopy Tour, Sky Meadows Challenge Course, Mountain Excursion Tour, Ridge Run Lookout Tower & Observation Deck, and Sky Meadows Basin Coaster (Alternative 1).

The Epic Discovery projects listed above are located in suitable habitat and within summer range for the Carson River mule deer herd and therefore, temporary disturbance to mule deer could occur during implementation of these projects.

There is no high quality fawning habitat for mule deer in the project area. Direct effects could include individual avoidance of the area during project implementation that could disrupt travel routes. Individual mortality is also a possibility due to construction/maintenance traffic and increased use of the roadways due to implementation of the Mountain Excursion Tour. Increased summer recreation and operations at Heavenly Mountain Resort may also directly and indirectly affect mule deer though any effect is likely to be small.

There are no undisturbed meadows for fawning habitat so effects are limited to disturbance of foraging and movement behaviors and alteration of habitat. The disturbance effects are likely to be minimal as deer are able to use a wide variety of habitats and may avoid project implementation and recreational users. Cumulative effects are likely to compound the negative effects of disturbance by increased recreational users. Due to the migratory nature of the species through the project area it is difficult to determine how many individuals are likely to be affected by project implementation. However, the negative effects on these individuals are likely to be minimal. The project area is within the range of the Carson River Deer Herd, which is currently stable to declining in population. Epic Discovery projects are not likely to exacerbate this slight downward trend.

Mule deer have been observed within the existing and proposed operational boundary of Heavenly Mountain Resort during the spring, summer and autumn months. Nevada Division of Wildlife has mapped the migration corridors of the resident Carson River Deer Heard (NDOW 1975 and NDOW 2014). Nevada Division of Wildlife was contacted to receive recent telemetry data that has been obtained for mule deer within the project area. The data received, confirmed and further supported observations that mule deer are present within the project area. NDOW also provided a map showing the location of the major movement corridor that lies to the east of the operational boundary of heavenly in the lower elevations toward the Carson Valley. The telemetry also shows the movement of some individuals through the resort (NDOW 2014). Construction of the proposed projects will not result in any impediment to the movement of mule deer either through structural blockage or from human activity. This map shows the closest mapped migration corridor to the south of the operational footprint of the resort through the High Meadows area. No projects are proposed which would impact or modify this migration corridor.

CEQA and TRPA

Analysis: *Less Than Significant; All Alternatives*

As discussed above, there are no migration corridors for either fish or wildlife species within the project area. Implementation of any of the alternatives would not disrupt the migration of any wildlife species. Therefore, this impact is considered less than significant.

NEPA

Analysis: *No Adverse Effects; All Alternatives*

As discussed above, there are no migration corridors for either fish or wildlife species within the project area. Implementation of any of the alternatives would not disrupt the migration of any wildlife species. Therefore, no direct or indirect effects would occur to migration corridors.

IMPACT: BIO-6: Would the Project alter the existing bioregional trend in habitats and ecosystem components, or lead to a change in the distribution of Management Indicator Species (MIS) across the Sierra Nevada Bioregion?

The most notable impact to wildlife that would result from implementation of the Proposed Action or Alternatives would be direct removal of habitat considered to be suitable for Forest Service Management Indicator Species (MIS). A total of four MIS are identified in Table 3.9-1 and include: California spotted owl, mountain quail, blue grouse, and hairy woodpecker. Each of these four species have habitat within the Special Use Permit boundary. Pacific marten and California spotted owl are discussed in detail in Impact BIO-2 above. Direct, indirect, cumulative and forest level effects for hairy woodpecker, mountain quail and blue grouse are discussed below. Additional analysis for each of these species is provided in the MIS Project Level Assessment of Effects on MIS Species for Heavenly Epic Discovery Projects that is on file at the LTBMU office.

Early and Mid Seral Coniferous Forest Habitat (Mountain quail)

Habitat/Species Relationship.
The mountain quail was selected as the MIS for early and mid seral coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat in the Sierra Nevada. Early seral coniferous forest habitat is comprised primarily of seedlings (<1" dbh), saplings (1"-5.9" dbh), and pole-sized trees (6"-10.9" dbh). Mid seral coniferous forest habitat is comprised primarily of small-sized trees (11"-23.9" dbh). The mountain quail is found particularly on steep slopes, in open, brushy stands of conifer and deciduous forest and woodland, and chaparral; it may gather at water sources in the summer, and broods are seldom found more that 0.8 km (0.5 mi) from water (CDFG 2005).

Project-level Effects Analysis – Early and Mid Seral Coniferous Forest Habitat

Habitat Factor(s) for the Analysis: (1) Acres of early (CWHR tree sizes 1, 2, and 3) and mid seral (CWHR tree size 4) coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat [CWHR ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree sizes 1, 2, 3, and 4, all canopy closures]. (2)

Acres with changes in CWHR tree size class. (3) Acres with changes in tree canopy closure. (4) Acres with changes in understory shrub canopy closure.

Current Condition of the Habitat Factor(s) in the Project Area: Areas of mid seral coniferous forest habitat surround two of the Epic Discovery Projects, the East Peak Zipline Canopy Tour as well as the Emergency Gondola Snow Cat Evacuation Route. Between the two projects, a total of 3.01 acres (0.77 acres for the East Peak Zipline Canopy Tour and 2.24 acres for the Gondola Evacuation Route) of mid seral habitat trees will be removed from mid seral coniferous forest.

All Alternatives (Proposed Action, Alternative 1 and Alternative 2)

Direct and Indirect Effects to Habitat. A total of 3.01 acres of early and mid seral coniferous forest habitat will be lost through the implementation of the East Peak Zipline Canopy Tour and the Emergency Gondola Snow Cat Evacuation Route. Direct effects include loss of habitat within Heavenly Mountain Resort. Indirect effects include increased human presence in the area as well as increased noise as a result of increased human presence. Construction of the projects may result in temporary impacts to adjacent mid seral coniferous forest habitat due to increased dust and construction noise. These temporary construction impacts may result in avoidance of the area by wildlife that may occupy mid seral coniferous forest habitat.

Cumulative Effects to Habitat in the Analysis Area. The Heavenly Master Plan Amendment FEIS identified past, present and future actions and their associated impacts on wildlife habitats. The FEIS also required the mitigation of loss of forested habitat through implementation of a forest enhancement/restoration project located in High Meadows. The area restored in High Meadows was 34 acres in total area. The 2007 MPA required the restoration of 14.68 acres of late seral forest. The remaining 19.32 acres is available to offset the 3.01 acres of habitat lost in conjunction with the proposed project and associated alternatives. Surveys of the restored area by USFS personnel have determined the treatment goals for the mitigation stand have been met. This mitigation offsets removal of sensitive forest habitat and therefore no cumulative effect to mid seral coniferous forested habitat will result.

Cumulative Effects Conclusion: No cumulative effects to mid seral coniferous forested habitat will result. Of the total 1,755 acres of mid-seral habitat in the analysis area, approximately 0.002 percent will be lost due to project implementation. No change the existing trend in the habitat will result due to project implementation.

Summary of Mountain Quail Status and Trend at the Bioregional Scale

The Lake Tahoe Basin Management Unit LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the mountain quail; hence, the early and mid seral coniferous forest effects analysis for the Epic Discovery Project must be informed by both

habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the mountain quail. This information is drawn from the detailed information on habitat and population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Habitat Status and Trend. There are currently 530,851 acres of early seral and 2,776,022 acres of mid seral coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, and red fir) habitat on National Forest System lands in the Sierra Nevada. Over the last two decades, the trend for early seral is decreasing (changing from 9% to 5% of the acres on National Forest System lands) and the trend for mid seral is increasing (changing from 21% to 25% of the acres on National Forest System lands).

Population Status and Trend. Monitoring of the mountain quail across the ten National Forests in the Sierra Nevada has been conducted since 2009 in partnership with PRBO Conservation Science, as part of a monitoring effort that also includes fox sparrow, hairy woodpecker, and yellow warbler (USDA Forest Service 2010a, http://data.prbo.org/partners/usfs/snmis/). Mountain quail were detected on 40.3 percent of 1659 point counts (and 48.6% of 424 playback points) in 2009 and 47.4% of 2266 point counts (and 55.3% of 492 playback points) in 2010, with detections on all 10 national forests in both years. The average abundance (number of individuals recorded on passive point count surveys) was 0.103 in 2009 and 0.081 in 2010. These data indicate that mountain quail continue to be distributed across the 10 Sierra Nevada National Forests. In addition, mountain quail continue to be monitored and surveyed in the Sierra Nevada at various sample locations by hunter survey, modeling, and breeding bird survey protocols. These are summarized in the 2008 Bioregional Monitoring Report (USDA Forest Service 2008).Current data at the rangewide, California, and Sierra Nevada scales indicate that the distribution of mountain quail populations in the Sierra Nevada is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Mountain Quail Trend. The removal of 3.01 acres of mid seral coniferous forest habitat in the Heavenly Mountain Resort Epic Discovery Project area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of mountain quail across the Sierra Nevada.

Late Seral Open Canopy Coniferous Forest Habitat [Sooty (blue) grouse]

Habitat/Species Relationship.
The sooty grouse was selected as the MIS for late seral open canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat in the Sierra Nevada. This habitat is comprised primarily of medium/large

trees (equal to or greater than 24 inches dbh) with canopy closures less than 40%. Sooty grouse 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, and occupies a mixture of mature habitat types, shrubs, forbs, grasses, and conifer stands (CDFG 2005). Empirical data from the Sierra Nevada indicate that Sooty Grouse hooting sites are located in open, mature, fir-dominated forest, where particularly large trees are present (Bland 2006).

Project-level Effects Analysis - Late Seral Open Canopy Coniferous Forest Habitat

Habitat Factor(s) for the Analysis: (1) Acres of late seral open canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat [CWHR ponderosa pine (PPN), Sierran mixed conifer (SMC), white fir (WFR), red fir (RFR), eastside pine (EPN), tree size 5, canopy closures S and P]. (2) Acres with changes in tree canopy closure class. (3) Acres with changes in understory shrub canopy closure class.

Current Condition of the Habitat Factor(s) in the Project Area: Areas of late seral open canopy coniferous forest habitat surround one Epic Discovery Project, the Emergency Gondola Snow Cat Evacuation Route. A total of 1.12 acres of late seral open canopy habitat trees will be removed from late seral open canopy coniferous forest.

All Alternatives (Proposed Action, Alternative 1 and Alternative 2)

Direct and Indirect Effects to Habitat. A total of 1.12 acres of late seral open canopy coniferous forest habitat will be lost through the implementation of the following projects Mid-Station Zipline Canopy Tour, Sky Cycle Canopy Tour, Forest Flyer Alpine Coaster, Emergency Gondola Snow Cat Evacuation Route, Panorama Trail, East Peak Zipline Canopy Tour, Mountain Bike Park, East Peak Lodge Hiking Trail, Sky Meadows Zipline Canopy Tour, and Sky Meadows Challenge Course

Sky Meadows Basin Coaster (Alternative). Direct effects include loss of habitat within Heavenly Mountain Resort. Indirect effects include increased human presence in the area as well as increased noise as a result of increased human presence. Construction of the projects may result in temporary impacts to adjacent late seral open canopy coniferous forest habitat due to increased dust and construction noise. These temporary construction impacts may result in avoidance of the area by wildlife that may occupy late seral open canopy coniferous forest habitat.

Cumulative Effects to Habitat in the Analysis Area. The Heavenly Master Plan Amendment FEIS and the Epic Discovery EIS identified past, present and future actions and their associated impacts on wildlife habitats. The FEIS also required the mitigation of loss of forested habitat through implementation of a

forest enhancement/restoration project located in High Meadows. The area restored in High Meadows was 34 acres in total area. The 2007 MPA required the restoration of 14.68 acres of late seral forest. The remaining 16.31 acres is available to offset the 1.12 acres of habitat lost in conjunction with the proposed project and associated alternatives. Surveys of the restored area by USFS personnel have determined the treatment goals for the mitigation stand have been met. This mitigation offsets removal of sensitive forest habitat and therefore no cumulative effect to late seral open canopy coniferous forested habitat will result.

Cumulative Effects Conclusion: No cumulative effects to late seral open canopy coniferous forested habitat will result. Of the total 170 acres of late seral open canopy habitat in the analysis area, approximately 0.01 percent will be lost due to project implementation. No change the existing trend in the habitat will result due to project implementation.

Summary of Sooty Grouse Status and Trend at the Bioregional Scale

The Lake Tahoe Basin Management Unit LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the sooty grouse; hence, the late seral open canopy coniferous forest effects analysis for the Epic Discovery Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the sooty grouse. This information is drawn from the detailed information on habitat and population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Habitat Status and Trend. There are currently 63,795 acres of late seral open canopy coniferous forest (ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine) habitat on National Forest System lands in the Sierra Nevada. Over the last two decades, the trend is decreasing (changing from 3% to 1% of the acres on National Forest System lands).

Population Status and Trend. The sooty grouse has been monitored in the Sierra Nevada at various sample locations by hunter survey, modeling, point counts, and breeding bird survey protocols, including California Department of Fish and Game Blue (Sooty) Grouse Surveys (Bland 1993, 1997, 2002, 2006); California Department of Fish and Game hunter survey, modeling, and hunting regulations assessment (CDFG 2004a, CDFG 2004b); Multi-species inventory and monitoring on the Lake Tahoe Basin Management Unit (LTBMU 2007); and 1968 to present – BBS routes throughout the Sierra Nevada (Sauer et al. 2007). These data indicate that sooty grouse continue to be present across the Sierra Nevada, except in the area south of the Kern Gap, and current data at the rangewide, California, and Sierra Nevada scales indicate that the distribution of sooty grouse populations in the Sierra Nevada north of the Kern Gap is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Sooty Grouse Trend. The removal of 1.12 acres of mid seral coniferous forest habitat in the Heavenly Mountain Resort Epic Discovery Project area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of sooty blue grouse across the Sierra Nevada.

Snags in Green Forest Ecosystem Component (Hairy woodpecker)

Habitat/Species Relationship.
The hairy woodpecker was selected as the MIS for the ecosystem component of snags in green forests. Medium (diameter breast height between 15 to 30 inches) and large (diameter breast height greater than 30 inches) snags are most important. The hairy woodpecker uses stands of large, mature trees and snags of sparse to intermediate density; cover is also provided by tree cavities (CDFG 2005). Mature timber and dead snags or trees of moderate to large size are apparently more important than tree species (Siegel and DeSante 1999).

Project-level Effects Analysis – Snags in Green Forest Ecosystem Component

Habitat Factor(s) for the Analysis: (1) Medium (15-30 inches dbh) snags per acre. (2) large (greater than 30 inches dbh) snags per acre.

Current Condition of the Habitat Factor(s) in the Project Area: Currently snags in green forest exist throughout the analysis area in a variety of forested environments. The proposed Epic Discovery Project will result in an overall loss of 14.84 acres (Proposed Action and Alternative 2) and 16.64 acres (Alternative 1) of forested habitat. Much of the project area is located at higher elevation and therefore does not contain trees larger than 30" dbh, and therefore the availability of snags at this diameter is decreased.

Proposed Action and Alternative 2
Direct and Indirect Effects to Habitat. A total of 14.84 acres (Proposed Project and Alternative 2) and of coniferous forest habitat will be lost through the implementation of the Epic Discovery projects. Direct effects include loss of snags within the forested coniferous habitat within the project area. Indirect effects include increased human presence in the area as well as increased noise as a result of increased human presence. Construction of the projects may result in temporary impacts to adjacent coniferous forest habitat containing snags due to increased dust and construction noise. These temporary construction impacts may result in avoidance of the area by wildlife that may occupy and or utilize snags.

Cumulative Effects to Habitat in the Analysis Area. The Heavenly Master Plan Amendment FEIS and Epic Discovery EIS identified past, present and future actions and their associated impacts on wildlife habitats. As the proposed project will result in minor direct impacts to snags in forested coniferous habitat, and

there are only temporary impacts to this habitat component, no cumulative effects to snags in coniferous forested habitat will result as there remains 3,000+ acres of green forest with snags.

Cumulative Effects Conclusion: The minor loss of snags due to the reduction in forested coniferous habitat will not alter the existing trend in the ecosystem component.

Alternative 1

Direct and Indirect Effects to Habitat. A total of 16.64 acres (Alternative 1) of coniferous forest habitat will be lost through the implementation of the Epic Discovery projects. Direct effects include loss of snags within the forested coniferous habitat within the project area. Indirect effects include increased human presence in the area as well as increased noise as a result of increased human presence. Construction of the projects may result in temporary impacts to adjacent coniferous forest habitat containing snags due to increased dust and construction noise. These temporary construction impacts may result in avoidance of the area by wildlife that may occupy and or utilize snags.

Cumulative Effects to Habitat in the Analysis Area. The Heavenly Master Plan Amendment FEIS and Epic Discovery EIS identified past, present and future actions and their associated impacts on wildlife habitats. As the proposed project will result in minor direct impacts to snags in forested coniferous habitat, and there are only temporary impacts to this habitat component, no cumulative effects to snags in coniferous forested habitat will result as there remains 1,500+ acres of green forest with snags.

Cumulative Effects Conclusion: The minor loss of snags due to the reduction in forested coniferous habitat will not alter the existing trend in the ecosystem component.

Summary of Hairy Woodpecker Status and Trend at the Bioregional Scale

The Lake Tahoe Basin Management Unit LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the hairy woodpecker; hence, the snag effects analysis for the Epic Discovery Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the hairy woodpecker. This information is drawn from the detailed information on habitat and distribution population trends in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a), which is hereby incorporated by reference.

Ecosystem Component Status and Trend. The current average number of medium-sized and large-sized snags (≥ 15" dbh, all decay classes) per acre across major coniferous and hardwood forest types (westside mixed conifer, ponderosa pine, white fir, productive hardwoods, red fir, eastside pine) in the Sierra Nevada

ranges from 1.5 per acre in eastside pine to 9.1 per acre in white fir. In 2008, snags in these types ranged from 1.4 per acre in eastside pine to 8.3 per acre in white fir (USDA Forest Service 2008).

Data from the early-to-mid 2000s were compared with the current data to calculate the trend in total snags per acre by Regional forest type for the 10 Sierra Nevada national forests and indicate that, during this period, snags per acre increased within westside mixed conifer (+0.76), white fir (+2.66), productive hardwoods (+0.35), and red fir (+1.25) and decreased within ponderosa pine (-0.16) and eastside pine (-0.14).

Detailed information by forest type, snag size, and snag decay class can be found in the 2010 SNF Bioregional MIS Report (USDA Forest Service 2010a).

Population Status and Trend. Monitoring of the hairy woodpecker across the ten National Forests in the Sierra Nevada has been conducted since 2009 in partnership with PRBO Conservation Science, as part of a monitoring effort that also includes mountain quail, fox sparrow, and yellow warbler (USDA Forest Service 2010a, http://data.prbo.org/partners/usfs/snmis/). Hairy woodpeckers were detected on 15.1% of 1659 point counts (and 25.2% of 424 playback points) in 2009 and 16.7% of 2266 point counts (and 25.6% of 492 playback points) in 2010, with detections on all 10 national forests in both years. The average abundance (number of individuals recorded on passive point count surveys) was 0.116 in 2009 and 0.107 in 2010. These data indicate that hairy woodpeckers continue to be distributed across the 10 Sierra Nevada National Forests. In addition, the hairy woodpeckers continue to be monitored and surveyed in the Sierra Nevada at various sample locations by avian point count and breeding bird survey protocols. These are summarized in the 2008 Bioregional Monitoring Report (USDA Forest Service 2008). Current data at the rangewide, California, and Sierra Nevada scales indicate that the distribution of hairy woodpecker populations in the Sierra Nevada is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Hairy Woodpecker Trend. The loss in medium-sized snags per acre on 14.48 acres (Proposed Project and Alternative 2) and 16.64 acres out of 3,000+ acres in the Epic Discovery Project Area will not alter the existing trend in the ecosystem component, nor will it lead to a change in the distribution of hairy woodpecker across the Sierra Nevada bioregion.

CEQA and TRPA

Analysis: *No Impact; All Alternatives*

CEQA and TRPA regulations do not apply to Management Indicator Species. No impact will occur as a result of Epic Discovery project implementation.

NEPA

Analysis: *No Adverse Effects; All Alternatives*

As noted in the analysis above, no effects will occur to MIS or their associated habitat that will result in a downward trend in populations. Therefore no adverse effect will occur.

IMPACT: BIO-7: Would the Project conflict with any federal, local, regional, or state policies or TRPA ordinances protecting wildlife resources, or with any applicable habitat conservation plans?

Implementation of the Project and Alternatives would not result in conflicts with federal, local, regional or state policies (including TRPA) that protect biological resources. As stated in Impact BIO-1, there are no threatened or endangered wildlife species that would be negatively impacted as a result of approval and implementation of the Project or Alternatives. While the Proposed Action and alternatives have the potential to negatively impact individual sensitive wildlife species through removal of habitat, the minimal loss of habitat would not lead towards a trend to listing. For a discussion of impacts to old growth forests in relation to TRPA's old growth threshold, please reference Chapter 3-8, Vegetation.

Many wildlife species utilize riparian habitats as movement corridors and as locations for foraging and as den/nesting sites. Riparian areas and habitats have the potential to be impacted as a result of construction of the proposed Epic Discovery activities. However, design measures included in Chapter 2 (Section 2.3.5) will protect the delineated riparian habitat in Sky Meadows by requiring avoidance for access to the Sky Meadows Challenge Course.

CEQA

Analysis: *No Impact; All Alternatives*

Implementation of the Project and Alternative would not result in conflicts with the California Endangered Species Act, the El Dorado County General Plan or the Alpine County General Plan. Therefore, no impact would occur.

TRPA

Analysis: *No Impact; All Alternatives*

Implementation of the Project and Alternative would not result in conflicts with the TRPA Code of Ordinances, or Goals and Policies of the Regional Plan that pertain to the protection of wildlife resources. Therefore, no impact would occur.

NEPA

Analysis: *No Adverse Effects; All Alternatives*

Implementation of the Proposed Action or the Alternative would not result in conflicts with the Endangered Species Act, the LTBMU Forest Plan, Sierra Forest Plan Amendment, Bald and Golden Eagle Protection Act or the Migratory Bird Treaty Act of 1918 with design features. Therefore, no adverse effect will occur.

IMPACT: BIO-8: Would The Project result in increased human/wildlife interactions?

Human presence can impact wildlife through disturbance, modification of habitat, increased noise and discarded refuse. Disturbance to wildlife from human presence may result in behavioral or physiological responses. Behavioral responses may take the form of avoidance, habituation, or attraction. These behavioral responses may result in physiological changes such as altering energy expenditure, nest placement or abandonment or reduced survivorship of young. Species that tolerate human presence and activity may become dependent on human food through foraging in trash, thereby reducing their overall health. Wildlife species that are not tolerant of human activity include northern goshawk and pileated woodpeckers. Increased human presence in the form of ski resort activities may cause wildlife species that are not tolerant of human presence to vacate otherwise suitable habitat and reside in locations outside the resort.

Other species that are more tolerant to human presence may become dependent on human food sources and therefore lose their ability to forage naturally. Black bear, Pacific marten, Douglas squirrels, golden mantled ground squirrels, chipmunk spp., mountain chickadees and Clark's nutcracker are some species that are present within Heavenly Mountain Resort and have been observed foraging for human food mountain wide and within refuse/trash containers (personal observation). Consumption of human foodstuffs by these animals can lead to digestive and health problems and behavior modifications. Readily available human food and refuse limits these species ability to naturally forage and can cause dependency on human food. Animals that become dependent on this non-natural foraging technique often become aggressive toward humans as they associate humans with food. Other behavior changes, such as delayed and decreased hibernation activity, smaller home range size and modified patterns of activity, is evident in black bears within the Tahoe Basin (Beckman and Berger 2003). Numerous black bear encounters have been documented at Heavenly Mountain Resort whereby aggressive behavior toward humans was exhibited by black bears attempting to forage in refuse/trash containers in both summer and winter months.

Expansion of summer uses associated with the Epic Discovery projects may result in increased human presence impacts to sensitive wildlife, including the generation of additional refuse, potential harassment and increased levels of noise which would result in increased frequency of interaction.

CEQA and *TRPA*

Analysis: *Significant Impact; All Alternatives*

Implementation of the Project and Alternatives would result in an increase in interactions between humans and wildlife and result in a significant impact.

NEPA

Analysis: *Adverse Effect; All Alternatives*

Implementation of the Project and Alternative would result in an increase in interactions between humans and wildlife and result in an adverse effect.

Mitigation: **BIO-8: Wildlife Trash Management and Education Program**

Heavenly Mountain Resort shall create and implement a trash management program for the entire resort. The program shall consist of installation of wildlife proof trash containers located at each of the lodge facilities and food service areas within the resort. A trash removal and management plan shall also be formulated and implemented to expedite timely removal of refuse from deposition points to approved collection points located at the base areas or to a point designated outside the resort. The removal and management plan shall include specified storage areas and practices within each facility to prevent access to refuse by wildlife species. An educational component of said plan shall be included in an effort to decrease litter and improper feeding of and ramifications to wildlife. The education program shall be directed toward Heavenly Mountain Resort staff through training, and toward the public through signage and presentations throughout the proposed Epic Discovery project locations. The plan shall be reviewed annually by USFS LTBMU.

CEQA and TRPA

After Mitigation *Less Than Significant; All Alternatives*

NEPA

After Mitigation *No Adverse Effects; All Alternatives*

IMPACT: **BIO-C1: Will the project have significant cumulative impacts to biological resources?**

Past, present and reasonable foreseeable future management of the area surrounding the Heavenly special use permit area on USFS and other lands within the Burke Creek, Edgewood Creek, Bijou Park Creek, Cold Creek, Trout Creek, Mott, and Heavenly Valley Creek watersheds, were analyzed to determine if a cumulative effect would exist when combined with Epic Discovery projects.

Cumulative timber losses that occur as a result of fire within and adjacent to the project vicinity would reduce available habitat for associated wildlife species and

would compound the effects of the Proposed Action or Alternatives. Lightning is the primary cause of fires in the upper elevations, while human-caused fires are more prevalent in the lower elevation areas that are more accessible to the public. With the exception of one fire near the gondola lift line that burned approximately 670 acres, all of the fires were less than two acres in size. The entirety of the Gondola Fire was inside Heavenly's Special Use Permit Boundary and resulted in loss of suitable habitat for the northern goshawk. In the Toiyabe National Forest, only a few small fires (less than one-quarter acre) have been recorded within 1.5 miles of the Special Use Permit Boundary in the past 20 years (Bailey 2005). The increase of human use of the area as a result of the proposed project may result in an increase in chances of fires within the project area.

Timber thinning practices established by the Forest Service's Land and Resource Management Plan require the harvest of excess or unwanted trees within accessible immature stands where the cut trees can be harvested for consumptive purposes. Within Heavenly's special use permit area, these practices would apply to all areas designated for Management Prescription 9 (Maintenance) and 10 (Timber Maintenance) as defined in the Land and Resource Management Plan (LMP) (see Section 3.12, Land Use). The primary purposes of thinning are to maintain optimum growing conditions to assure healthy trees and to reduce the potential for rapid and intensive wildfire spread due to excessive fuel loading. The Environmental Impact Statement prepared for the LMP estimates that 44 acres per year (Basin wide) are predicted to be burned by wildfire after implementing the timber thinning standards and guidelines set forth in the LMP. This additional loss of habitat would compound the habitat lost due to recreational activity construction at Heavenly Mountain Resort. At 44 acres per year, the cumulative habitat losses occurring as a result of wildfire would not be significant when compared with the acreage lost due to project implementation.

Timber thinning as noted above on National Forest, in combination with tree removals associated with build-out of the proposed Heavenly Master Plan Amendment (EIR/EIS/EIS 2007) in the Wells Fargo area (below Galaxy ski lift), could reduce available habitat for wildlife species that inhabit mid-to-late successional forest land with a high percentage canopy closure.

The timber management practice standards and guidelines contained within the SNFPA require that timber cuts be planned based on land allocations to insure prevention of destruction from wildlife and to preserve benefits for vegetative diversity, wildlife habitat, visual quality, recreation opportunities and watershed protection. Based on TRPA and Forest Service regulations, the enhancement of older stands would continue in the Lake Tahoe Basin and would result in an overall increase of late seral forest types associated with sensitive species habitat over time.

Van Sickle Bi-State Park is located on either side of the state line to the southeast of the South Lake Tahoe casino core area. This bi-state park provides day use activities such as hiking, nature walks and an interpretive center. In addition, overnight camping for automobiles, recreational vehicles and walk in sites are planned. Hiking trails have been constructed connecting the Van Sickle base area

to the Tahoe Rim trail resulting in increased human presence in the area. Increased loss of suitable habitat for wildlife species and increased human disturbance/activity in the project area have resulted from implementation of Van Sickle State Park.

Additional recreational pressures on biological resources have occurred due to the opening of backcountry gates at Heavenly Mountain Resort in 2005 and the addition of a new gate located in Von Schmidt's flat in 2013. A total of four winter access gates have been opened which allow skiers to cross the boundary of the resort to access terrain which is not patrolled or controlled. While these areas were previously used, the provision of official access has resulted in increased use of the area and may result in compounded pressures on wildlife species by decreasing the suitability of habitat.

These backcountry gate projects have not been permitted by the TRPA, and the probable effects of implementation of each cannot be assessed at this time. However, continued operation of the existing backcountry gates may require tree removal or other habitat modifications that could result in the loss or degradation of wildlife habitat functions and values within the vicinity of the Heavenly Mountain Resort. In addition to a possible reduction in the total acreage of wildlife habitat, adverse effects may include: habitat fragmentation, creation of increased edge habitat and concomitant increases in associated impacts, and creation of barriers to wildlife migration and daily movement patterns. Each of these effects have the potential to result in a reduction in the numbers and diversity of sustainable wildlife habitats although it is unlikely these projects would result in impacts to sensitive or native wildlife populations such that their numbers decrease to levels that would warrant listing.

CEQA and TRPA

Analysis: *Less Than Significant; All Alternatives*

The projects identified above may have impacted wildlife resources. However, standard design features and project-specific mitigation measures that will be required for implementation of the projects have offset any potential cumulative impacts to wildlife resources. In addition, the proposed fuels reduction projects that have been implemented have resulted in the decreased chances of a catastrophic wildfire that, if occurred, could result in detrimental effects of wildlife habitat and individuals. Therefore, this impact is considered less than significant.

NEPA

Analysis: *No Adverse Effects; All Alternatives*

In addition to the projects located outside of the Heavenly Mountain Resort, additional 2007 Master Plan Amendment projects are likely to be implemented in the future. Impacts to wildlife species and habitat may occur as a result of construction of projects and implementation of activities associated with buildout of the MPA 07.

The Heavenly and non-Heavenly projects identified above may impact wildlife resources when effects are combined together. However, standard design features and project-specific mitigation measures that are required for implementation of future MPA 07 projects would offset any potential cumulative impacts to wildlife resources. In addition, the fuels reduction projects that have been implemented in the surrounding areas have likely resulted in the decreased chances of a catastrophic wildfire, benefitting future wildlife habitat protection.