4.3 BIOLOGICAL RESOURCES

This section provides a description of the biological resources within the Planning Area, including vegetation, wildlife, special status species, and rare natural communities. The section also provides an analysis of potential impacts that could occur to biological resources as a result of implementation of the Updated Plan.

Information in this section is based on existing descriptions in The Town of Mammoth Lakes General Plan EIR (1987) and other previous environmental reports from the area, including CH2M Hill 2000, Dodge 1994, ERM 2001, Howald 2000, Jones & Stokes 2001 (p. 4-5), Jones & Stokes 1995 (p. 4-25), Orr and Howald 2000, Paulus 2001, RBF Consulting 1997, Taylor 1995, Taylor 1996, Town 1997, USDA 2001b, USDA 2001c, USDI 1998, and USDI 2003. In addition, this section offers current information on special status species from the California Natural Diversity Data Base (CNDDB) and the U.S. Fish and Wildlife Service (USFWS).

4.3.1. EXISTING CONDITIONS

This section describes the existing biological environment and those resources that are rare or unique to the area, as well as resources likely to be affected by the project.

4.3.1.1 Vegetation

The Planning Area is located along the eastern slope of the Sierra Nevadas, where the Sierra Nevadan and Great Basin geographical regions and biotic communities converge. In addition to being within a biotic transition zone, the high degree of variation in topography and geologic conditions and the wide range in precipitation levels support a high diversity of vegetation communities within the Planning Area. A vegetation community is a repeatable association of dominant and subordinate plants that are found growing together consistently in similar habitat.

The major vegetation communities in the Mammoth Lakes Basin consist of species that have adapted to cold, snowy winters and arid summers. The five major vegetation communities within the Planning Area are Mixed Conifer Fir, Upper Montane Mixed Shrub, Basin Sagebrush, Wet Meadow, and Alder Wouldow Riparian. Each major vegetation community is described in the following sections based on the U.S. Forest Service (USFS) CALVEG system. CALVEG is

a hierarchical classification system of vegetation designed to assess vegetation-related resources throughout California. The system was devised in the late 1970s by the Pacific Southwest Region of the USFS to describe and map natural vegetation in the state.

Mixed Conifer Fir

The Mixed Conifer Fir community is the most widespread plant community within the Planning Area. It is dominated by red fir (*Abies magnifica*) on steep, north facing slopes at higher elevations (9,000 to 11,000 feet at mean sea level [amsl]). Western white pine (*Pinus monticola*) and mountain hemlock (*Tsuga mertensiana*) are common associates. Jeffrey pine (*Pinus* jeffreyi) is dominant on gradual slopes at lower elevations (7,000 to 10,000 feet amsl). White fir (*Abies concolor*) can be found in association with Jeffrey pine. Lodgepole pine (*Pinus contorta ssp. murrayana*) is dominant in areas with ample moisture at elevations of 7,000 to 12,000 feet amsl, in association with white fir. The dominant understory shrubs are greenleaf manzanita (*Arctostaphylos patula*), huckleberry oak (*Quercus vaccinifolia*), and snowbush (*Ceanothus* cordulatus).

Upper Montane Mixed Shrub

The Upper Montane Mixed Shrub community intermixes with the Mixed Conifer Fir community in open areas created by disturbance, on steep slopes or on rocky sites where conifers are unable to establish, on south facing slopes, and in drier areas. Upper Montane Mixed Shrub may typically be found at elevations between 6,000 and 9,000 feet amsl. Major shrub species include greenleaf manzanita, tobacco brush (*Ceanothus veluntinus*), curlleaf mountain mahogany (*Cercocarpus ledifolius*), snowbush, huckleberry oak, and bitter cherry (*Prunus emarginata*).

Basin Sagebrush

The Basin Sagebrush community generally occurs on dry slopes and plains at low elevations within the Planning Area. The community is dominated by soft woody shrubs; basin big sagebrush (*Artemisia tridentata ssp. tridentata*); low sagebrush (*Artemesia arbuscula spp. arbuscula*); Wyoming big sagebrush (*Artemesia tridentata spp. wyomingensis*); silver sagebrush (*Artemesia cana spp. viscidula*); mountain big sagebrush (*Artemesia tridentata spp. vaseyana*); antelope bitterbrush (*Purshia tridentata*); and snowberry (*Symphoriocarpus vacciniodes*). Other associated species include annuals and perennial bunchgrasses that are sparsely distributed between shrubs.

Wet Meadow

The Wet Meadow community occurs in areas where water is at or near the surface during most of the growing season, following spring runoff. This community is characterized by perennial vegetation, including corn lily (*Veratrum californicum*); cow parsnip (*Heracleum*

sphondylium); meadow lupine (*Lupinus polyphyllus*); willow herb (*Epilobium exaltatum, E. pringleanum*); meadow paintbrush (*Castilleja miniata*); sedge (*Carex jonesii*); and wire rush (*Juncus balticus*). Lodgepole pine and willows (*Salix spp*.) are associated with high elevation Wet Meadow communities.

Alder-Willow Riparian

The Alder Willow Riparian community occurs along the banks of Mammoth Creek and most drainages within the Planning Area. Typical plant species are quaking aspen (*Populus tremuloides*), mountain alder (*Alnus tenuifolia*), American dogwood (*Cornus stolonifera*), and willow (*S. caudata, S. planifolia*). Various herbaceous species provide significant understory cover in the Alder Willow Riparian community.

4.3.1.2 Wildlife

The diversity of vegetation communities within the Planning Area provides habitat for a variety of wildlife species. The coniferous forests at higher elevations support typical montane species. A distinctly different wildlife association exists in the sagebrush habitat at lower elevations. Riparian areas provide important and high-quality habitat for wildlife species and may be used as migration corridors.

Approximately 75 species of mammals occur in the Planning Area, including deer, coyote, marmot, beaver, squirrel, chipmunk, mountain lion, marten, and black bear. More than 150 bird species have been identified in the Mammoth Lakes area, including red tailed hawk, sage-grouse, various woodpeckers, chickadee, nuthatch, northern goshawk, and gray crowned rosy finch. The area also supports approximately 15 species of amphibians and reptiles, including the western toad, Pacific tree frog, sagebrush lizard, and western terrestrial garter snake.

Although the Mammoth Lakes Basin has no historic native fish, trout have flourished since their introduction to the lakes and streams within the Planning Area. The Hot Creek Fish Hatchery is one of the most productive fisheries in the state. The viability of this hatchery depends upon the quality and availability of surface water from Mammoth Creek and on continued constant natural flows from the year-round springs.

4.3.1.3. Special Status Species

The USFS defines sensitive species as those plant and animal species identified by a regional forester for which population viability is a concern, based on documentation of a significant current or predicted downward trend in habitat capability that would reduce a species'

existing distribution. The federal Endangered Species Act (ESA) of 1973, as amended, and the California Endangered Species Act (CESA) of 1984 provide legal protection for specifically listed plant and animal species. The California Native Plant Society (CNPS) helps to determine which plant species and habitats should be listed as "special status" under the CESA. The ESA requires the USFWS to provide a findings report on any federally accredited actions that could jeopardize the existence of any federally listed species. The California Department of Fish and Game (CDFG) analyzes projects for possible impacts to species as well as their habitats.

Special Status Wildlife

Animal species are considered to have special status if they are listed or proposed to be listed as rare, threatened, or endangered by a state or federal agency; meet the definitions of rare or endangered under CEQA; are tracked by the CNDDB; are a CDFG-protected species, species of special concern or a harvest species; or are included in the sensitive animal or watch lists prepared by the USFS. Special status animal species occurring or potentially occurring within the Planning Area were identified through a review of previous environmental reports from the area (CH2M Hill 2000, Dodge 1994, ERM 2001, Paulus 2001, RBF Consulting 1997, Taylor 1995, Taylor 1996, TOWN 1997, USDA 2001a, USDA 2001b, USDA 2001c, USDI 1998, USDI 2003). In addition, updated information was obtained from a CNDDB search (CNDDB 2003), a list of species potentially occurring in the Planning Area prepared by the USFWS, Ventura Office, and a list of USFS Sensitive Animal Species prepared by the USFS.

Two federally listed species known to occur within the Planning Area include the bald eagle (*Haliaeetus leucocephalus*) and the Owens tui chub (*Gila bicolor snyderi*). Populations of a third listed species, Sierra Nevada bighorn sheep (*Ovis canadensis californiania*), occur in the vicinity of the Planning Area, but not in the Planning Area. These species are discussed below in this section. The sage-grouse (*Centrocercus urophasianus*) is also discussed in this section because it occurs in the Planning Area and it has been petitioned for listing as a threatened species under the ESA.

In addition to the listed and proposed species mentioned above, six special status animal species are known to occur within the Municipal Boundary and seven others are known to occur within the Planning Area outside of the Municipal Boundary (Table 4.3-1 on page 4-54). In addition, habitat exists for six special status species within the Planning Area, including the willow flycatcher, California wolverine, pallid bat, Townsend's big eared bat, Western red bat, and California spotted owl. However, there are no recorded occurrences of these species. The locations of the known sitings or populations within the Planning Area, as well as those adjacent to the Planning Area boundary, are mapped in Figure 4.3-1 on page 4-56. The protection status and habitat associations of the identified special status animals are listed in Table 4.3-2 on page 4-57.

Table 4.3-1

Occurrences of Special Status Wildlife Species within the Planning Area or Vicinity

Species	Occurrence within the Planning Area
Within the Municipal Boundary	
American (= pine) marten *Martes americana*	Occur throughout the Mammoth Lakes basin and on the Valentine Reserve.
Bald eagle *Haliaeetus leucocephalus*	Winter roost sites around Lake Mary and Twin Lakes. Occasionally reported foraging along Mammoth Creek.
Golden eagle *Aquila chrysaetos*	Potential nest sites in the Mammoth Rock area and proposed Sherwin Ski Area.
Great gray owl *Strix nebulosa*	Known occurrences in upper portion of Mammoth Creek drainage and Valentine Reserve, a probable breeding area.
Northern goshawk *Accipiter gentilis*	Known occurrences of foraging in upper portion of Mammoth Creek drainage, Lakes Basin, Valentine Reserve. Probable nesting territory near Lake Mary. Historic nest sites in Dry Creek.
Northern harrier *Circus cyaneus*	Observed foraging in Eastern Sierra College Center site. Same site offers high quality nesting habitat although no nests were located.
Pacific fisher *Martes pennanti pacifica*	Observed in Mammoth Lodge area during 1970s.
Prairie falcon *Falco mexicanus*	Observed foraging above Mammoth Rock and Solitude Canyon; Minaret Summit
Sierra Nevada mountain beaver *Aplodontia rufa californica*	Known to inhabit Mammoth Creek and adjacent riparian habitats. Present on the Valentine Reserve.
Willow flycatcher *Empidonax traillii*	Potential habitat along Mammoth Creek directly upstream of U.S. Highway 395 and upstream from the creek's intersection with Minaret Road.
Yosemite toad *Bufo canorus*	Occurrences in Lake Mary.
Outside of the Municipal Boundary	
Bald eagle *Haliaeetus leucocephalus*	Winter roost sites around Convict Lake, Hot Creek Gorge, Hot Creek Fish Hatchery, and Laurel Lakes. Occasionally reported foraging along Mammoth Creek, Hot Creek, Upper Owens River, Convict Creek, and alkali ponds and flats east of the Mammoth Yosemite Airport.
Bank swallow *Riparia riparia*	Observed nesting in an abandoned gravel quarry north of the Mammoth Yosemite Airport.
California wolverine *Gulo gulo luteus*	Species distribution includes Planning Area but no occurrences reported. Chiefly found in subalpine forests and alpine fellfields and meadows.
Sage-grouse *Centrocercus urophasianus urophasianus*	Occurs in sagebrush habitats adjacent to lower reaches of Mammoth Creek. One active lek reported one mile north of Mammoth Yosemite Airport.
Mountain yellow-legged frog *Rana muscosa*	Known to occur in Convict Creek drainages. Federal listing refers to populations in the San Gabriel, San Jacinto, and San Bernardino Mountains only.
Northern goshawk *Accipiter gentilis*	Historic nest sites in Dry Creek.

Table 4.3-1 (Continued)

Occurrences of Special Status Wildlife Species within the Planning Area or Vicinity

Species	Occurrence within the Planning Area
Owens speckled dace *Rhinichthys osculus* ssp. 2	Several isolated locations in Owens Valley and Long Valley, including Whitmore Hot Springs and Little Alkali Lake.
Owens sucker *Catostomus fumeiventris*	Common in Convict Lake. Present in Mammoth Creek and Hot Creek near Hot Creek Fish Hatchery and in Hot Creek Gorge.
Owens tui chub *Gila bicolor snyderi*	Hot Creek headsprings, Sotcher Lake
Pallid bat *Antrozous pallidus*	Species distribution includes Planning Area but no occurrences reported. Possible rare migrant.
Prairie falcon *Falco mexicanus*	Observed foraging above Mammoth Rock and Solitude Canyon; Minaret Summit
Sierra Nevada red fox *Vulpes vulpes necator*	Occurrence along Deadman Creek.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	Known distribution includes Planning Area, but no occurrences reported. Possible rare migrant.
Western red bat *Lasiurus blossevillii*	Known distribution includes Planning Area, but no occurrences reported. Possible rare migrant in riparian habitat.
Willow flycatcher *Empidonax traillii*	Potential habitat along Mammoth Creek directly upstream of U. S. Highway 395 and upstream from the creek's intersection with Minaret Road.
Yosemite toad *Bufo canorus*	Occurrences within the Red Cones area.
Adjacent to Planning Area	
California (= Sierra Nevada) bighorn sheep *Ovis canadensis californiania*	Natural populations known only in Inyo County. Reintroduced populations in localized areas of Mono County. No occurrences reported within the Planning Area.
California spotted owl *Strix occidentalis occidentalis*	Occurrences on Inyo NF in coniferous forests but none within Planning Area. May be rare migrant.
Northern goshawk *Accipiter gentilis*	Historic nest sites in Glass Creek Camp.
Owens tui chub *Gila bicolor snyderi*	Owens River downstream from Crowley Lake, Little Hot Creek
Owens Valley springsnail *Pyrgulopsis owensensis*	Nearest population is in Cowley Lake.
Wong's springsnail *Pyrgulopsis wongi*	Nearest population is in Cowley Lake.

Sources: CNDDB, Wildlife & Habitat Analysis Branch, Department of Fish and Game, 8/25/2003; Dodge 1994; NatureServe Explorer 2003; CH2M Hill 2000; USDA Forest Service 2001a

Town of Mammoth Lakes

Lupinus duranii

Martes pennanti pacifica

Lupinus duranii

Lupinus duranii

Lupinus duranii

Strix nebulosa

Potamogeton robbinsii

Pokenobe Lodge

Bufo canorus

Explanation

- Species
- Private Property
- Municipal Boundary

N

0 1,000 2,000 Meters

Base Maps: Old Mammoth, Mammoth Mountain, Crystal Crag, and Bloody Mountain Quads

Source: California Natural Diversity Database, Division of California Department of Fish and Game

Figure 4.3-1 Special Status Species Map

Table 4.3-2

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
Birds						
Bald eagle *Haliaeetus leucocephalus* Nesting and wintering	T, PD	E(rev)	G4 S2	FP; DF - S	S	Coniferous forest features (large trees, hollow trees, and snags); large, fish-bearing waters. Breeding habitat most commonly includes areas close to (within 4km) coastal areas, bays, rivers, lakes, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds.
Bank swallow *Riparia riparia* Nesting	SC	T	G5 S2S3	None	None	Open and partly open situations, frequently near flowing water. Nests in steep sand, dirt, or gravel banks, in a burrow dug near the top of the bank, along the edge of inland water or along the coast, or in gravel pits, road embankments, etc.
California spotted owl *Strix occidentalis occidentalis*	SC	None	G3T3 S3	CSC	S	Typically in dense, multi-layered evergreen forest that includes a diversity of tree species, large trees (some greater than 83 cm DBH), some trees with evidence of decadence, and open areas under the canopy; most often on lower, north-facing slopes of canyons, usually within 0.3 km of water.
Golden eagle *Aquila chrysaetos* Nesting and wintering	None	None	G5 S3	CSC	None	Generally open country, in prairies, arctic and alpine tundra, open wooded country, and barren areas, especially in hilly or mountainous regions. Nests on rock ledge of cliff or in large tree.
Great gray owl *Strix nebulosa* Nesting	None	E	G5 S1	DF - S	S	Dense coniferous forest, near water, foraging in wet meadows. Special habitat features - hollow trees and standing snags.
Sage-grouse *Centrocercus urophasianus urophasianus* Nesting	PS:C	None	G4 S3	CSC	S, MIS	Foothills, plains, and mountain slopes where sagebrush is present. Leks are located on relatively open sites surrounded by sagebrush, or in areas where sagebrush density is low. Nest in thick cover in sagebrush habitat, beneath a sagebrush or other shrub

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
Northern goshawk *Accipiter gentilis* Nesting	SC	None	G5 S3	CSC DF - S	S	Typically nests in mature or old-growth forests. Forages in both heavily forested and relatively open habitats.
Norther harrier *Circus cyaneus* Nesting	None	None	G5 S3	CSC	None	Marshes, meadows, grasslands, and cultivated fields. Nests on the ground, commonly near low shrubs, in tall weeds or reeds, sometimes in bog; or on top of low bush above water, or on knoll of dry ground, or on higher shrubby ground near water, or on dry marsh vegetation.
Prairie falcon *Falco mexicanus* Nesting	None	None	G5 S3	CSC	None	Primarily open situations, especially in mountainous areas, steppe, plains or prairies. Typically nests in pot hole or well-sheltered ledge on rocky cliff or steep earth embankment, 10 to more than 100 meters above base.
Willow flycatcher *Empidonax traillii* Nesting	None	E	G5 S1S2	None	S	Strongly tied to brushy areas of willow and similar shrubs. Common in mountain meadows and along streams. The presence of water (running water, pools, or saturated soils) and willow, alder or other deciduous riparian shrubs are essential habitat elements.
Fish						
Owens tui chub *Gila bicolor snyderi*	E	E	G4 T1 S1	None	None	Generally found in shallow water associated with submerged objects or beds of aquatic vegetation, or in the quiet waters of sluggish rivers. Primary habitat requirements appear to include clear, clean water, adequate cover in the form of rocks, undercut banks, or aquatic vegetation, and adequate insect food.
Owens sucker *Catostomus fumeiventris*	None	None	G3 S3	SSC	None	Silty to rocky pools and runs of creeks . In the lower Owens River and tributaries, most abundant in sections with long runs and few riffles, over substrates of mostly fine material (some gravel and rubble). Adults occur in cool

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
						permanent streams with deep (1+ m) pools, also do well in lakes and reservoirs. Larvae are abundant in weedy edges and backwaters of streams. Spawns in gravelly riffles in tributary streams.
Owens speckled dace *Rhinichthys osculus* ssp. 2	None	None	G5T1T2, S1S2	SSC	None	Small streams, spring systems, irrigation ditches.
Mammals						
American (= pine) marten *Martes americana*	SC	None	G5 S3S4	None	S	Dense coniferous upland and lowland forest. May use rocky alpine areas. When inactive, occupies hole in dead or live tree or stump, abandoned squirrel nest, conifer crown, rock pile, burrow, snow cavity, etc.; uses mainly subnivean sites, often associated with coarse woody debris, in winter. Young are born in a den, usually in a hollow tree, sometimes in rock den.
California (= Sierra Nevada) bighorn sheep *Ovis canadensis californiania* pop 3	E	E	G4T1 S1	FP	S	Rocky, steep slopes and canyons with adjacent open areas; forages in meadows and brushlands.
California wolverine *Gulo gulo luteus*	SC	T	G4T3 S2	FP	S	Chiefly in subalpine forest and alpine fellfields; alpine meadows, forests of lodgepole pine and red fir. Dens in cave, rock crevice, under fallen tree or tree roots, in thicket, or similar site.
Pacific fisher *Martes pennanti pacifica*	SC	None	G5T3T4, S2S3	CSC	S	Coniferous forests.
Pallid bat *Antrozous pallidus*	None	None	G5 S3	CSC	S	Arid deserts and grasslands, often near rocky outcrops and water. Less abundant in evergreen and mixed conifer woodland. Usually roosts in rock crevice or building, less often in cave, tree hollow, mine, etc.
Sierra Nevada mountain beaver *Aplodontia rufa californica*	SC	SC	G5T3T4 S3?	CSC	None	Mountain streams with dense deciduous riparian vegetation.
Sierra Nevada red fox	SC	T	G5T3 S1	None	S	Various habitats in alpine and

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	
Vulpes vulpes necator						subalpine zones; preferred habitat red fir and lodgepole pine forests and alpine fell-fields; may hunt in forest openings, meadows, and barren rocky areas. Dens are likely to be in rock slides.
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	SC	None	G4T3T4 S2S3	CSC	S	Commonly occurs in mesic habitats characterized by coniferous and deciduous forests, but occupies a broad range of habitats. Maternity and hibernation colonies typically are in caves and mine tunnels.
Western red bat *Lasiurus blossevillii*	None	None	G5 S?	None	S	Sonoran and Transition life zones in California. Young are born and perch among tree foliage.
Amphibians						
Mountain yellow-legged frog *Rana muscosa*	PS:E	None	G2 S2	CSC	S	Sunny riverbanks, meadow streams, isolated pools and lake borders in the Sierra Nevada. Seems to prefer sloping banks with rocks or vegetation to the water's edge.
Yosemite toad *Bufo canorus*	None	None	G1G2 S1S2	CSC	S	Wet mountain meadows and borders of forests. Breeds in shallow edges of snowmelt pools and ponds or along edges of lakes and slow-moving streams.
Invertebrates						
Owens Valley springsnail *Pyrgulopsis owensensis*	None	None	G1G2 S1S2	None	S	Freshwater
Wong's springsnail *Pyrgulopsis wongi*	None	None	G1G2 S1S2	None	S	Freshwater

Status Codes:

ESA *Endangered Species Act of 1972 as amended*
E *Listed as Endangered*
T *Listed as Threatened*
C *Candidate species for which the USFWS has on file sufficient information on the biological vulnerability and threats to support proposals to list as endangered or threatened, but are not yet the subject of a proposed rule.*
PD *Proposed for delisting*
PS *Partial status; status for an infraspecific population but not the full species indicated. The value that follows represents the status in only a portion of the species' range.*
SC *Species of Concern. Species for which the U.S. Fish & Wildlife Service has information indicating that proposing to list them as threatened or endangered species may be appropriate.*
CESA *California Endangered Species Act*
E *Listed as Endangered*

Table 4.3-2 (Continued)

Protection Level and Habitat Associations of Special Status Animals within the Planning Area or Vicinity

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CDFG	USFS	

T Listed as Threatened
Rev Status under review
SC Species of Concern
CNDDB California Natural Diversity Data Base
G, T, S-rank
CNDDB element ranking. The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range, with G1 being the most rare and G5 the least rare. Subspecies receive a T-rank attached to the G-rank. The state rank (S-rank) is a reflection of the overall condition of an element throughout California, sometimes with a threat designation attached.
CDFG California Department of Fish and Game
CSC Species of Special Concern (terrestrial vertebrate animals only)
FP Fully protected
USFS USDA Forest Service, Pacific Southwest Region
MIS Management Indicator Species
S Sensitive Species

Sources: CNDDB, Wildlife & Habitat Analysis Branch, Department of Fish and Game, 8/25/2003; NatureServe Explorer 2003; CH2M Hill 2000; USDA Forest Service 2001a

Bald Eagle. The bald eagle is a federally listed threatened species; however, it was proposed for delisting by the USFWS in 1999 (64 Federal Register 36454). Critical Habitat is not currently mapped or proposed for the bald eagle in the Sierra Nevada. A Recovery Plan was released in 1986 for the recovery and maintenance of bald eagle populations in the seven state Pacific recovery region, which includes California. This Recovery Plan is being followed on all National Forest lands within the range of the bald eagle (USDA 2001b).

The current bald eagle nesting distribution in California is mainly restricted to mountainous habitats in the northern Sierra Nevada, Cascade Range, and northern Coast Ranges (CDFG 1992). Bald eagle nesting territories in California are found primarily in ponderosa pine and mixed conifer forests (Lehman 1979). Nest sites are always associated with a lake, river, or other water body. There are no known nesting bald eagle territories in the Inyo National Forest (USDA 2001b).

Bald eagles winter at lakes and reservoirs and along river systems throughout most of central and northern California and in a few southern California localities (CDFG 1992). This species often roosts communally during the winter, typically in mature trees, or snags with open branching structures. Winter roost areas usually are isolated from human disturbance, support adequate fish or waterbird prey, and have mature trees or large snags available for perch sites (Jones & Stokes 2001). A pair of wintering bald eagles has been observed by CDFG personnel perched on telephone poles at the Hot Creek Fish Hatchery. This pair has also been observed roosting on sagebrush at the hatchery. The pair forages for fish along Hot Creek, the Upper Owens River, and the fish hatchery. Biologists from the USFS have recorded up to six bald eagles at one time during the winter months at Laurel Pond, located approximately one mile

southwest of the Mammoth Yosemite Airport. BLM biologists have observed wintering bald eagles foraging in the project vicinity along Convict Creek, Crowley Lake, and the alkali ponds and flats east of the Mammoth Yosemite Airport. Winter resident bald eagles probably roost at the Alpers Fish Hatchery located approximately seven miles northwest of the Mammoth Yosemite Airport, Hot Creek gorge approximately two miles north of the Mammoth Yosemite Airport, and Convict Lake approximately two miles south of the Mammoth Yosemite Airport (ERM 2001).

Sierra Nevada Bighorn Sheep. The Sierra Nevada bighorn sheep is one of three bighorn sheep subspecies to occur in California, and the only population of California bighorn sheep inhabiting the Sierra Nevada. Due to a serious decline in populations, Sierra Nevada bighorn sheep were emergency listed as endangered by the USFWS in April 1999 and formally listed endangered in January 2000. Sierra Nevada bighorn sheep were listed as endangered by the State of California under CESA in March 1999. Management direction and recovery objectives for the Sierra Nevada bighorn sheep are set forth in the Draft Sierra Nevada Bighorn Sheep Recovery Plan (USDI 2003).

Five distinct subpopulations of Sierra Nevada bighorn sheep occur along the eastern Sierra Nevada in Mono and Inyo counties. Specifically, these populations occur at Lee Vining Canyon, Wheeler Crest, Mount Baxter, Mount Williamson, and Mount Langley. As of 2001, the number of Sierra Nevada bighorn sheep that comprised the five subpopulations were thought to total approximately 250 animals (USFWS 2003). Continued existence of the Sierra Nevada bighorn sheep is threatened by disease, mountain lion predation, and loss of genetic variability because of the small number and isolated nature of the populations.

The current habitat of the Sierra Nevada bighorn sheep exists almost entirely on public land, most of which is managed by the USFS. During the summer, Sierra Nevada bighorn sheep inhabit the alpine and subalpine zones (10,000 to 14,000 feet amsl). In winter, they move to high, wind-swept ridges, or migrate to the lower elevation (4,800 feet amsl) sagebrush steppe habitat (Wehausen 1980). Lambing areas occur on safe parts of steep, rocky slopes. The increased presence of mountain lions appears to have changed the winter habitat use patterns of the sheep, causing them to avoid lower terrain and move to higher elevations.

There are no populations of bighorn sheep within the Planning Area. The closest populations of bighorn sheep are the Wheeler Crest population, located approximately 15 miles southeast of the Planning Area, and the Lee Vining Canyon population, located approximately 20 miles northwest of Planning Area. The southern Planning Area boundary is adjacent to the Central Recovery Unit established in the draft recovery plan (USFWS 2003). The Central Recovery Unit is divided into three herd units that designate potential bighorn sheep habitat. Geographic distribution, in terms of herd units occupied by females within recovery units, is a criterion for delisting. A translocation program is proposed to introduce sheep into herd units

that are unoccupied. The Wheeler Ridge and Convict Creek Herd Units are approximately ten and five miles south of the Planning Area, respectively. Currently, the Convict Creek Herd Unit is unoccupied. The Northern Recovery Unit is located north of the Planning Area. Within the Northern Recovery Unit, the Mt. Gibbs Herd Unit is located approximately ten miles north of the Planning Area.

Owens Tui Chub. The Owens tui chub is a federally listed endangered species. Critical habitat for this species was designated on August 5, 1985 (50 Federal Register 31592) and includes two areas: (1) the Owens River and 50 feet of riparian vegetation on either side of the river, from the Long Valley Dam downstream for a distance of eight stream miles, encompassing approximately 97 acres in the Owens Gorge; and (2) two spring provinces, including 50 feet of riparian vegetation on either side of spring brooks, encompassing approximately five acres at Hot Creek Fish Hatchery. Constituent elements of critical habitat for the tui chub include high-quality, cool water with adequate cover in the form of rocks, undercut banks, or aquatic vegetation, and a sufficient insect food base.

The decline of the Owens tui chub has been attributed to the introduction of the Lahontan tui chub into Crowley Lake (Miller 1973). Hybridization of the Lahontan tui chub and the Owens tui chub has spread throughout the lower reaches of the Owens River system. Only those populations of Owens tui chub that are isolated by barriers have not hybridized. Water development, competition and predation by exotic species, and habitat alteration and destruction have also led to the decline of native populations (Williams 1985). Activities described in the final rule that may adversely modify designated critical habitat include the following: introduction of exotic aquatic animals; activities that decrease available water or cause a significant change in the physical or chemical properties (e.g. temperature, pH, or dissolved gases) of the water; removal of natural riparian or submerged vegetation, except what might be required to maintain an open water habitat for the Owens tui chub; pollution of aquatic habitats or adjacent terrestrial habitats; channelization or diversion of water flows; and overgrazing of adjacent riparian areas.

The Owens tui chub is endemic to the Owens River basin in Mono County and is restricted to six isolated locations: Cabin Bar Ranch, Mule Spring, Owens Gorge, Hot Creek Fish Hatchery, Sotcher Lake, and Silver Lake (USDA 2001c). Sotcher Lake and the Hot Creek headsprings at the Hot Creek Fish Hatchery are located within the Planning Area, and Little Hot Creek is directly north of the northeast corner of the Planning Area. The populations in Sotcher Lake and the Hot Creek headsprings are considered to be genetically pure.

Recovery goals and delisting criteria for the Owens tui chub are presented in the "Owens Basin Wetland and Aquatic Species Recovery Plan, Inyo and Mono Counties, California" (USDI 1998). The recovery plan identifies eight conservation areas necessary for the recovery and protection of the Owens tui chub. Two conservation areas lie partially within the Planning Area,

Hot Creek and Whitmore. Two other conservation areas, Little Hot Creek and Little Alkali, are adjacent to the Planning Area boundary. Each conservation area has an approved management plan and implementing agreement between the landowner and the USFWS.

Mule Deer. Mule deer are considered an important harvest species by the CDFG. The Planning Area is located within the Eastern Sierra Nevada Deer Assessment Unit (CDFG et al. 1998). Deer populations within the Planning Area comprise Rocky Mountain mule deer (*Odocoileus hemiomus hemiomus*) from the Round Valley and Casa Diablo herds. Both are migratory deer herds that move from winter to summer range on a seasonal basis. In addition to migrants, the Planning Area is used by both holdover and summer resident mule deer (USDA 1990; Kucera 1988).

Maintenance of mule deer historic summer and winter ranges and annual migration routes are vital to their long-term survival. Deer herd management plans were prepared by the CDFG in the mid-1980s for both herds (Thomas 1986). The management plans were designed to give guidance to public agencies that have regulatory authority over lands that make up part of the deer herd habitat. Management objectives include enhancing important winter, holding, migratory, and fawning habitats. Of particular concern are the portions of the herds' range known as Critical Winter Range. These are areas determined by state and federal agencies to be critical to the life cycle of migratory deer.

Migratory movements typically occur over a six- to ten-week period. In dry years, deer might begin their spring migration in early April, while in years with heavy snowfall, they might not start moving until late May. Prior to spring migration, deer remain in holding areas, browsing on herbaceous growth and regaining strength and stamina lost over the winter. When snow recedes and high quality forage is available at their higher elevation summer ranges, they migrate to their summer range. Generally, deer leave their holding areas for summer range by mid-June.

Round Valley Herd of Mule Deer: The most recent population estimate for the Round Valley deer herd (formerly known as the Sherwin Grade and Buttermilk herds) based on a January 2004 survey is approximately 2,700 animals (Timothy Taylor, CDFG, personal communication, January 14, 2004). The Round Valley deer herd is a migratory herd that winters at lower elevations in Round Valley, approximately 18 miles south of the Planning Area. Beginning in early April, approximately 75 percent of the Round Valley herd migrates north from the Round Valley winter range to the Sherwin Holding Area near Mammoth Lakes (Taylor 1996). The Sherwin Holding Area is an expansion of the migration corridor where deer congregate for eight weeks in the spring and for a shorter period in the fall. The holding area comprises approximately 11,300 acres at elevations ranging from 7,200 to 8,000 feet amsl. The holding area extends west from Convict Road, including the informally named Convict Knolls, to the Town (Taylor 1988; USDA 1991a). The migration corridor between the winter range in

Round Valley and the holding area near the Town follows the base of the Sierra Nevada escarpment and passes immediately south of the Mammoth Yosemite Airport (Kucera 1988).

The summer range for the Round Valley herd encompasses approximately 2,000 square miles and includes the west slope of the Sierra Nevada to the San Joaquin Ridge (Kucera 1988). Migration corridors to summer range include Mammoth Pass, Hopkins Pass, Solitude/Duck Pass, and San Joaquin Ridge (Kucera 1988; Taylor 1995). The groups of deer that use each of these different crossings are collectively referred to as herd segments. The deer use the same migration routes and holding areas during their fall migration when they return to winter range.

The migration corridors that are within the Planning Area are described below (Taylor 1996):

1. The Solitude/Duck Pass herd segment occupies the Sherwin Holding Area during the spring, and then migrates to summer range over two passes: Solitude Pass, located in the Sherwin Range, and Duck Pass, located approximately three miles south of the holding area on the Sierra crest. The mitigation routes to both passes are along the eastern front of the range south of the Urban Growth Boundary.

2. The Mammoth Pass herd segment occupies primarily the western portion of the Sherwin Holding Area during the spring. The route used by this herd segment heads westerly below Mammoth Rock and south of the Urban Growth Boundary, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River drainage.

3. After migrating along the eastern front of the range below Mammoth Rock and south of the Urban Growth Boundary, the San Joaquin herd segment moves northwesterly from the Sherwin Holding Area and crosses the Sierra crest over San Joaquin Ridge between Minaret Summit and Deadman Pass.

Some deer are summer residents in the Mammoth Lakes Basin. Approximately 200 deer from the Round Valley herd use the Doe Ridge area (a resurgent dome located about one mile east of the Mammoth Yosemite Airport) throughout the summer (USDA 1990). Heavy fall use by deer from the Round Valley herd occurs west of the airport in the vicinity of Hot Creek Road, and south and east of the airport toward Whitmore Road.

Casa Diablo Herd of Mule Deer: The estimated size of the Casa Diablo herd was between 1,500 and 2,000 individuals in 1993. Winter range for mule deer from the Casa Diablo deer herd is extensive and includes the lower elevations near Benton, California (approximately 31 miles northeast of the Planning Area) to the north end of Owens Valley. The migratory

movements of some deer from this herd occur across Doe Ridge and continue toward their summer range on the higher elevations of the eastern slopes of the Sierra Nevada between Lee Vining and June Lake. A small number of deer from the Casa Diablo herd spend the summer on Doe Ridge (USDA 1990). The primary migration periods are during early April and October. The Arcularius Ranch is a major holding area for the Casa Diablo herd. Arcularius Ranch is not within the Planning Area but is located immediately to the northeast of the Planning Area.

Sage-grouse. The sage-grouse is a USFWS and CDFG species of special concern. It is also a USFS sensitive and management indicator species. Sage-grouse populations are declining throughout their range, likely as a result of cumulative, long-term impacts including drought and habitat loss and conversion. A petition to list the Mono Basin area sage-grouse as an endangered distinct population segment under the ESA was denied in December 2002 (67 Federal Register 78811). However, CEQA Section 15380(d) provides that a plant or animal may be treated as rare or endangered if it meets the definition of a rare species even if it has not been placed on an official list. Sage-grouse fits the definition of endangered, rare, or threatened under CEQA Section 15380(2)(A) and (B).

The sage-grouse is found in sagebrush (*Artemisia* spp.) dominated habitats across western North America. The sage-grouse that occupies the Mono County area is described as the eastern subspecies of the sage-grouse (*Centrocercus urophasianus urophasianus*), hereafter referred to as sage-grouse. The Mono Basin area population occurs in Mono County and neighboring Lyon County, Nevada. The CDFG recognizes this sage-grouse population as genetically distinct from other sage-grouse populations. Due to its small size and genetic isolation, this population is considered vulnerable. The CDFG is in the process of preparing a "Species Conservation Plan for Sage-grouse in Mono County." The Town, Mono County, USFS, U.S. Geological Survey (USGS), BLM, Los Angeles Department of Water and Power, and Nevada Department of Wildlife (NDOW) are partners in the conservation planning effort.

Sage-grouse habitat consists principally of sagebrush-dominated rangelands, primarily that of big sagebrush *(A. tridentata* ssp. *tridentata* and ssp. *wyomingensis*). Sage-grouse occupy seasonal habitats, using mesic areas during summer and sagebrush habitats during winter (Connelly et al. 1988). Throughout much of the year, adult sage-grouse rely on sagebrush to provide roosting cover and food. During winter they depend almost exclusively on sagebrush for food. The type and condition of shrub steppe plant communities strongly affect habitat use by sage-grouse populations. However, these populations also exhibit strong loyalty to a particular area (67 Federal Register 78812).

In spring, male sage-grouse assemble on leks, where they display communally. Leks are usually situated at a point intermediate between winter and summer range (Klebenow 1969). Leks are located in openings or clearings in sagebrush or in areas where the sagebrush is low and scattered. Besides natural openings, leks can also form on landing strips, roads, cropland, and

burned areas (Connelly et al. 1981). Each male establishes a territory on the lek where he displays early in the morning, frequently again in the evening, and on some moonlit nights all night long. Females arrive at the leks before daybreak and generally leave before midmorning. A group of leks where males and females may interact within a breeding season or between years is called a "lek complex."

Female sage-grouse usually nest beneath sagebrush in a shallow depression on the ground. Nests are usually located in dry sites close to leks where shrub cover is less than 50 percent and vegetation is 10 to 20 inches tall. After hatching, females move their broods to moist areas where there is a plentiful supply of insects and green plant material (USDA 1991b). Nest success ranges from 10 to 63 percent. Shrub canopy and grass cover provide concealment for sage-grouse nests and sage-grouse young, and may be critical for reproductive success (67 Federal Register 78812).

As previously mentioned, sage-grouse populations are declining. More specifically, sage-grouse populations have declined by up to 47 percent throughout much of their range (Connelly et al. 2000). Population declines and range contractions are largely attributed to the widespread loss, fragmentation, and degradation of sagebrush habitats and associated riparian areas. Habitats have been lost to, and fragmented by, agricultural conversion to croplands, mining and energy development, reservoirs, power lines, roads and highways, urban and rural development of home sites, and treatments to control sagebrush (including burning, mechanical methods, and herbicides). Habitats have also been lost or degraded because of sagebrush control, spread of nonnative grasses and forbs, livestock overgrazing, and the accelerating increase in the size and extent of wildfires due to the widespread invasion of sagebrush shrub steppe by cheatgrass (Braun 1998).

Sage-grouse in the Mono Basin area has historically been found in most of Mono County, the far eastern part of Alpine County, and in northern Inyo County. By 1995, suitable habitat within this area had declined approximately 71 percent (67 Federal Register 78813). Ninety three percent of the remaining sage-grouse distribution and all known leks in the Mono Basin area occur in Mono County. Long Valley is one of seven known lek areas.

Sage-grouse in and near the Planning Area are part of the Long Valley sage-grouse population. Recent research indicates that the Long Valley sage-grouse population may be genetically distinct from sage-grouse populations elsewhere (CDFG May 11, 2001 letter). The Long Valley population appears to be isolated from the only other substantial population, which is located more than 20 miles northeast of the Planning Area in the Bodie Hills. According to the CDFG, the size of the Long Valley population seems to be subject to increased mortality. For unknown reasons, the population has not rebounded from reduced hunting pressure over the last five years and is considered vulnerable (CDFG May 11, 2001 letter). Limited hunting is permitted for the Long Valley population.

Sage-grouse habitat in the northeast portion of the Planning Area has been assigned a high priority for protection within the South Mono Population Management Unit (USDI et. al. 2004). There are several known leks within the Planning Area as designated by the BLM, one of which is Lek 7. Lek 7 is located approximately 1.25 miles north of the Mammoth Yosemite Airport, and north of Hot Creek. Lek 7 has been inactive in the recent past. In addition, six other known leks on BLM-administered lands are situated between 2.5 and 4.5 miles from the Mammoth Yosemite Airport. Other known leks are located seven or more miles from the Planning Area.

BLM's data show that the habitat situated at least two miles east of the Mammoth Yosemite Airport (i.e., east of Doe Ridge) is important winter, spring, and breeding habitat for grouse, in addition to being a summer concentration area. The Jones & Stokes October 1994 field study confirmed that large numbers of grouse used the area north of the airport and south of the Hot Creek Hatchery (Jones & Stokes 1995). Sage-grouse migrate through the Mammoth Yosemite Airport area in large numbers between their summer and winter concentration area and major concentration areas to the west; effluent ponds (fall concentration areas) and the lower slope of McGee Mountain (fall and spring). These locations are both within two miles of the Mammoth Yosemite Airport (ERM 2001). There are no leks or recorded bird sitings within the Municipal Boundary (USDI et al. 2004). As shown in Table 4.3-1, there are 11 other species that are considered to have habitat within the Municipal Boundary. Only a limited amount of American Pine Martin, Bald Eagle, Great Gray Owl, Northern Goshawk, Sierra Mountain Beaver, and Willow Fly catcher habitat is located within the Urban Growth Boundary and is primarily located within Valentine reserve with isolated pockets along Mammoth Creek. Valentine reserve is a preserved habitat conservation area and a large portion of land adjacent to Mammoth Creek Park is also owned by the Town and preserved as open space for conservation purposes. Only the Northern Harrier has potential habitat in the Eastern Sierra College Center site, which is designated IP. In addition, the Updated Plan would allow for development of vacant lands as well as redevelopment of lands within the UGB. Development in accordance with the Updated Plan could potentially create barriers to wildlife movement and dispersal.

Special Status Plants

Plant species are considered to have special status if they are listed or proposed to be listed as rare, threatened, or endangered by a state or federal agency; meet the definitions of rare or endangered under CEQA; are tracked by the CNDDB; are listed by the CNPS in their inventory of rare and endangered plants (CNPS 2003); or are included in the most recent sensitive plant or watch lists prepared by the USFS. The term “rare natural community” refers to communities that are considered to be important by CDFG from a botanical standpoint because they support a unique or diverse assemblage of plant species. In addition, the distribution of these communities may be limited locally and throughout California.

Special status plant species occurring or potentially occurring within the Planning Area were identified through a review of previous environmental reports from the area. In addition, updated information was obtained through a CNDDB search (2003), from a list of species potentially occurring in the Planning Area prepared by the USFWS Ventura Office, and from a list of USFS Sensitive Plant Species and a Watch list prepared by the USFS.

There is no potential habitat for any endangered, threatened, or proposed plant species within or adjacent to the Planning Area, nor have any populations of federally listed or proposed plant species been reported from the within the area. Five special status plant species are known to occur within the Municipal Boundary, and eight are known to occur within the Planning Area outside of the Municipal Boundary (Table 4.3-3 on page 4-64). In addition, two rare natural plant communities occur within the Planning Area. The locations of these populations and communities, as well as those adjacent to the Planning Area boundary, are shown on Figure 4.3-1. The protection status and habitat associations of the identified special status plants and natural communities are listed in Table 4.3-4 on page 4-64.

4.3.1.4. Wetlands

Wetlands are defined as "areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b], 40 CFR 230.3). Activities within jurisdictional wetlands require a U.S. Army Corps of Engineers Section 404 Clean Water Act (CWA) permit, a California Regional Water Quality Control Board Clean Water Certification or Waiver, and a CDFG Streambed Alteration Agreement. Maps provided by the National Wetlands Inventory identify wetlands within the Planning Area and Municipal Boundary. Areas identified within the Urban Growth Boundary are primarily located within the Bell parcel (Meridian and Minaret), Jarvis Pinsley Meadow, Shady Rest Tract and in isolated areas along Mammoth Creek and Snow Creek.

4.3.1.5. Important Biological Resource Areas

Critical Aquatic Refuges

Critical Aquatic Refuges (CARs) are proposed in the Sierra Nevada Forest Plan Amendment (USDA 2001c). CARs are small subwatersheds that contain any of the following: known locations of special status species; highly vulnerable populations of native plant or animal species; or localized populations of rare native aquatic or riparian dependent plant or animal species. The primary role of CARs is to preserve, enhance, restore, or connect habitats for aquatic or riparian dependent species and to ensure their viability (USDA 2001c). Two proposed CARs are partially located within the Planning Area. The Little Hot Creek CAR provides habitat for the Owens tui chub. The Glass Creek/Deadman Creek CAR contains numerous high-quality,

Table 4.3-3

Occurrences of Special Status Plants and Communities within the Planning Area

Species	Occurrence within the Planning Area
Within the Municipal Boundary	
Mono Lake lupine *Lupinus duranii*	Northwest of Town; Minaret Summit; Lincoln Knob; Upper Dry Creek
Moonwort, crenulate *Botrychium crenulatum*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Moonwort, grape-fern *Botrychium lunaria*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Moonwort, mingan *Botrychium minganense*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Moonwort, upward-lobed *Botrychium ascendens*	Potential habitat around Twin Lakes, marshes, streams, and meadows.
Pine City sedum *Sedum pinetorum*	Known only from type specimen from Pine City, an old mining camp 'above Mammoth Lakes' in the Mammoth Lakes Basin.
Pinzl's rockcress *Arabis pinzlae*	Minaret Ridge
Subalpine fireweed *Epilobium howellii*	Twin Lakes
Outside of the Municipal Boundary Within the Planning Area	
Hockett Meadows lupine *Lupinus lepidus var. culbertsonii*	Convict Lakes Basin
Lemmon's milk vetch *Astragalus lemmonii*	Hot Creek Fish Hatchery
Long Valley milk-vetch *Astragalus johannis-howellii*	Northeast of Whitmore Hot Springs; vicinity of Hot Creek Gorge
Mono Lake lupine *Lupinus duranii*	Smokey Bear Flat; Minaret Summit; Lookout Mountain; Lincoln Knob; Upper Dry Creek
Mono milk-vetch *Astragalus monoensis var. monoensis*	Smokey Bear Flat; Little Antelope Valley; Lookout Mountain; Dry Creek
Mono pumice flat	Smokey Bear Flat; west of Inyo Crater Lakes Campground.
Robbin's pondweed *Potamogeton robbinsii*	Sotcher Lake
Scalloped-leaved lousewort *Pedicularis crenulata*	Sierra Nevada Aquatic Research Lab along north side of Convict Creek, 0.9 mi west of U.S. Highway 395.
Shortleaf hulsea *Hulsea brevifolia*	Red's Meadow
Water birch riparian scrub	Along Convict Creek, 0.2 to 1.4 miles north of Convict Lake.
Adjacent to Planning Area	
King's ivesia *Ivesia kingii var. kingii*	Long Valley 0.5 mi SE of Whitmore Hot Springs.

Table 4.3-3 (Continued)

Occurrences of Special Status Plants and Communities within the Planning Area

Species	Occurrence within the Planning Area
Mono Lake lupine *Lupinus duranii*	Lookout Mountain
Mono milk-vetch *Astragalus monoensis var. monoensis*	Little Antelope Valley; Lookout Mountain; Dry Creek
Seep kobresia *Kobresia bellardii*	Convict Basin

Sources: CNPS 2003; CNDDB, Wildlife & Habitat Analysis Branch, CDFG, 8/25/2003; CH2M Hill 2000; Dodge 1994; NatureServe Explorer 2003; RBF Consulting 2000; USDA Forest Service 1998

special aquatic habitats. Populations of mountain yellow legged frog were found in 1993-94 surveys of the Glass Creek/Deadman Creek CAR (USDA 2001c).

Valentine Eastern Sierra Reserve

Valentine Eastern Sierra Reserve (VESR) consists of two separate parcels, Valentine Camp and the Sierra Nevada Aquatic Research Laboratory (SNARL). VESR became part of the University of California Natural Reserve System in 1973 and is administered through the Marine Science Institute, University of California, Santa Barbara. A function of the reserve is to help to preserve biodiversity and conserve genetic resources by protecting natural communities and rare, threatened, or endangered species for further study (Howald 2000).

Valentine Camp encompasses approximately 154 acres and is located within the Municipal Boundary approximately one and one half miles southwest of the Town (Figure 1.1.1). Elevations within the camp range from 8,000 to 8,500 feet amsl. The camp contains an unusually diverse sample of natural vegetation communities, including species characteristic of western and eastern Sierran slopes as well as representatives of the Great Basin flora. Mammoth Creek flows through the property, with both permanent and intermittent springs within its boundaries.

SNARL encompasses 55 acres and is located within the Planning Area approximately eight miles southeast of the Town. The laboratory is located downstream from Convict Lake on a gently sloping alluvial fan. Elevations range from 7,075 to 7,125 feet amsl. Convict Creek provides a perennial water supply that contributes to SNARL's habitat diversity. Within SNARL, Convict Creek has a natural section and four controlled sections with dams and weirs. The flora of SNARL include species characteristic of mesic mountain habitats as well as xeric

Table 4.3-4

Status of Special Status Plants and Communities within the Planning Area

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CNPS	FS	
Plants						
Flatleaf pondweed *Potamogeton robbinsii*	None	None	G5 S2	2	None	Marshes and swamps, deepwater lakes.
Hockett Meadows lupine *Lupinus lepidus var. culbertsonii*	None	None	G3? T1 S1	1B	W	Upper montane coniferous forest meadows and seeps; 8,000-9,900'.
King's ivesia *Ivesia kingii var. kingii*	None	None	G3T2 S2	1B	None	Moist alkaline clay; 3,900-6,600'.
Lemmon's milk-vetch *Astragalus lemmonii*	SC	None	G3? S2	1B	None	Meadows, lake shores; 4,200–7,200'.
Long Valley milk-vetch *Astragalus johannis-howellii*	None	R	G2 S2	1B	W	Sagebrush flats; sandy loam soil. Usually found in swales in the vicinity of former or present hot springs activity; 6,900'.
Mono Lake lupine *Lupinus duranii*	SC	None	G2 S2	1B	W	Basin sagebrush scrub, upper montane coniferous forest; volcanic pumice substrate and barren soils, sandy and gravelly; 6,500-8,500'.
Mono milk-vetch *Astragalus monoensis var. monoensis*	SC	R	G2T2 S2	1B	S	Basin sagebrush scrub, piñon-juniper woodlands, upper montane coniferous forest; large, well-developed pumice flats, gravelly or sandy, and on road cuts; 7,500-7,900'.
Moonwort, crenulate *Botrychium crenulatum*	None	None	G3 S2	2	S	Lower montane coniferous forest meadows, marshes, and seeps.
Moonwort, grape-fern *Botrychium lunaria*	None	None	G5 S2?	2	None	Meadows and seeps; subalpine coniferous forest; upper montane coniferous forest; 7,400-11,200'.
Moonwort, mingan *Botrychium minganense*	None	None	G4 S1	2	None	Upper and lower montane coniferous forest ; 4,900-6,800'.
Moonwort, upward-lobed *Botrychium ascendens*	None	None	G2G3 S1	2	S	Lower montane coniferous forest (mesic).
Pine City sedum *Sedum pinetorum*	None	None	None	3	W	Rocky, open forest; 8,700'.
Pinzl's rockcress *Arabis pinzlae*	None	None	G2 S1	1B	S	Very steep north to east-facing avalanche chutes with deep sandy soil derived from granite; 9,800-11,600'.
Scalloped-leaved lousewort *Pedicularis crenulata*	None	None	G4 S1	2	None	Occurring under moist conditions in meadow and riparian habitats; 6,900-7,550'.
Seep kobresia *Kobresia bellardii*	None	None	S1	2	W	Subalpine-alpine meadows, mesic alpine fellfields and subalpine coniferous forest on carbonate substrates; 9,700-10,600'.

Table 4.3-4 (Continued)

Status of Special Status Plants and Communities within the Planning Area

Species	Status					Habitat Associations
	ESA	CESA	CNDDB	CNPS	FS	
Shortleaf hulsea *Hulsea brevifolia*	None	None	G3 S3	1B	S	Lower and upper montane coniferous forest; granitic or volcanic, gravelly or sandy soils; 4,900-10,500'.
Subalpine fireweed *Epilobium howellii*	None	None	G1 S1	1B	S	Meadows and subalpine coniferous forest; wet areas and mossy seeps; 6,400-8,900'.
Plant Communities						
Mono pumice flat	None	None	G1 S1	None	None	Pumice substrate; Parry rabbitbrush (*Chrysothamnus parryi*) sole or dominant shrub in canopy; bitterbrush, big sagebrush, ephedras, and rabbitbrush may be present.
Water birch riparian scrub	None	None	G? S?	None	None	Habitats seasonally flooded, saturated. Water birch sole or dominant shrub or tree in canopy. Willow (*Salix* sp.) and cottonwood (*Populus* sp.) may be present. Shrubs and ground layer sparse.

Status Codes:

ESA *Endangered Species Act of 1972 as amended*
SC *Species of Concern. Species for which the U.S. Fish & Wildlife Service has information indicating that proposing to list them as threatened or endangered species may be appropriate.*
CESA *California Endangered Species Act*
R *California Listed Rare*
CNDDB *California Natural Diversity Data Base*
G, T, S-rank
CNDDB element ranking. The global rank (G-rank) is a reflection of the overall condition of an element throughout its global range, with G1 being the most rare and G5 the least rare. Subspecies receive a T-rank attached to the G-rank. The state rank (S-rank) is a reflection of the overall condition of an element throughout California, sometimes with a threat designation attached.
CNPS *California Native Plant Society*
1B *Plants rare, threatened, or endangered in California and elsewhere.*
2 *Plants rare, threatened, or endangered in California but more common elsewhere.*
3 *Need more information*
USFS *Inyo National Forest*
W *Watch Species*
S *Sensitive Species*

Sources: Habitat Analysis Branch, CDFG, 8/25/2003; CH2M Hill 2000; NatureServe Explorer 2003; RBF Consulting 2000; Paulus 2001; Sawyer and Keelor-Wolf 1995; USDA Forest Service 1998, 2003, Personal communication

desert sites. The laboratory includes the only locality known in California for the scalloped leaved lousewort (*Pedicularis crenulata*).

4.3.1.6. Noxious Weeds

For the purpose of this Revised Draft PEIR, noxious weeds are those plant species designated as "noxious" by federal or state law, and any nonnative plants with a high capacity for multiplication and spread, thereby posing a threat to native plants. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and generally nonnative. The Planning Area is part of the Eastern Sierra Weed Management Area (WMA). WMA's function under the authority of a mutually developed memorandum of understanding and are subject to statutory and regulatory weed control requirements.

Eradication programs are in place within the Municipal Boundary for dalmatian toadflax (*Linaria genistifolia ssp. dalmatica*), and spotted knapweed (*Centaurea maculosa*) (George Milovitch, personal communication). In addition, the potential spread of perennial pepperweed (*Lepidium latifolium*) is a serious concern. There have been spottings of perennial pepperweed in the vicinity of the Planning Area in Long Valley, Owens Valley, and Antelope Valley. Other noxious weed species, which are known to occur within Mono County, include the following: halogeton (*Halogeton glomeratus*), heart podded hoarycress (*Cardaria draba*), Klamathweed (*Hypericum perforatum*), and puncturevine (*Tribulus terrestris*).

In 1998, 14 introduced species were identified in Valentine Camp. Two of these species, common dandelion (*Taraxacum officinale*) and goat's beard (*Tragopogon dubius*), are known to be locally invasive and may pose a threat to the native flora (Howald 2000). In addition to common dandelion and goat's beard, four species listed as invasive in wildlands by the California Exotic Pest Plant Council were identified at SNARL: bull thistle (*Cirsium vulgare*), tumble mustard (*Sisymbrium altissimum*), tumbleweed (*Salsola tragus*), and woolly mullein (*Verbascum thapsus*) (Orr and Howald 2000).

4.3.2 REGULATORY FRAMEWORK

4.3.2.1 Federal Endangered Species Act / California Endangered Species Act

The Federal Endangered Species Act of 1973, as amended, provides the general regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed as endangered, threatened, proposed, or candidate species

under the ESA. It is administered by the USFWS in consultation with other federal and state agencies.

The State of California enacted similar laws, the CESA in 1984 and the California Native Plant Protection Act of 1977. These laws provide the framework for protection of California-listed rare and endangered plant and animal species. The CDFG implements CESA, and maintains the CNNDB, a computerized inventory of information on the general location and status of California's rare species and natural biological communities.

The Federal and State Endangered Species Acts operate in conjunction with the CEQA and NEPA to help protect the ecosystems upon which endangered and threatened species depend. During project review, both implementing agencies are given the opportunity to comment on the potential of the project to affect listed plants and animals.

4.3.2.2 Other Statutes, Codes, and Policies Affording Limited Species Protection

CDFG Species of Special Concern

In addition to formal listing under ESA and CESA, plant and wildlife species receive additional consideration during the CEQA process. Species that may be considered for review are included on a list of Species of Special Concern, developed by the CDFG. The list tracks species in California whose numbers, reproductive success, or habitat may be threatened.

California Native Plant Society - Native Plant Species List

The CNPS is a professional society that maintains a list of plant species native to California with low numbers, limited distribution, or are otherwise threatened with extinction. The CNPS list does not afford legal status or protection for the species; however, potential impacts to populations of CNPS-listed plants that may not be considered under local policies receive consideration under CEQA review.

Migratory Bird Regulations

Raptors (birds of prey) and migratory birds are protected by a number of federal and state laws. The federal Migratory Bird Treaty Act (MBTA) prohibits the killing, possessing, or trading of migratory birds, except in accordance with regulations prescribed by the Secretary of Interior. With few exceptions most birds are considered migratory under the Act. The Bald Eagle Protection Act (PL 92-535) provides federal protection to the bald eagle and the golden eagle. Section 3503.5 of the California Fish and Game Code states that it is "unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* or to take, possess, or

destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto".

Timber Harvest

The removal of trees for commercial purposes is subject to regulations enforced by the CDF and Fire Protection.

Waters of the U.S.

Waters of the U.S. include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. The Corps regulates discharge of dredged or fill material into waters of the U.S. under Section 404 of the CWA. Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the U.S. to obtain a certification that the discharge would comply with the applicable effluent limitations and water quality standards. If disruption of wetlands is to occur, a “no net loss” policy through the CWA must be adhered to and the Corps may require a Section 404 permit.

Streambed Alteration

The CDFG has jurisdiction under Section 1600 et seq. of the California Fish and Game Code over fish and wildlife resources of the state. Under Section 1603, a private party must notify the CDFG if a proposed project would "substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds... except when the department has been notified pursuant to Section 1601". If an existing fish or wildlife resource may be substantially adversely affected by the activity, the CDFG may propose reasonable measures that would allow protection of those resources. If these measures are agreeable to the party, they may enter into an agreement with the CDFG identifying the approved activities and associated mitigation measures.

4.3.2.3 Town Municipal Codes and Ordinances

The Town has adopted the following codes that provide protection to natural resources within Town limits.

- Chapter 6.24: Prohibits feeding of wildlife.
- Chapter 8.12: Requires Refuse Disposal
- Chapter 12.08 Land Clearing Earth Work and Drainage Facilities

- Chapter 17.34 Outdoor Lighting
- Chapter 17.28 Special Purpose Zones, Article VII, Open Space/ Stream Corridor Protection Zone
- Chapter 8.24. Reclamation
- Chapter 12.10 Floodplain Management)
- Chapter 15.36 Water Efficient Landscape Regulations

4.3.3 THRESHOLDS OF SIGNIFICANCE

An evaluation of impacts on biological resources must consider both the resource itself and how that resource fits into a regional and local context. Impacts are sometimes locally adverse but not significant because they would not substantially diminish or result in the permanent loss of an important resource on a population or region-wide basis.

Based upon Appendix G of the CEQA Guidelines, the project would be considered to have a significant impact on biological resources if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.3.4 IMPACTS AND MITIGATION

Issue 4.3-1: *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS?*

Discussion: Animal species having a special rarity status could be affected by a loss or fragmentation of habitat as a result of development in accordance with the Updated Plan. The CNDDB (2003) reported one special status animal species, great gray owl, known to occur within the Planning Area (see Figure 4.3-1). The great gray owl is listed as "Endangered" under CESA, and "Sensitive" by the Department of Forestry and the USFS (see Table 4.3-1). Other special status animal species that are known to occur within the Municipal Boundary and that may conservatively be considered to have potential habitat within the UGB based on the habitat associations presented in Table 4.3-2 are the following:

- American pine marten;
- Bald eagle;
- Sage Grouse;
- Golden eagle;
- Northern goshawk;
- Northern harrier;
- Pacific fisher;
- Prairie falcon;
- Sierra Nevada mountain beaver;
- Willow flycatcher; and
- Yosemite toad.

As discussed in the Existing Conditions Section above, sage-grouse habitat in the northeast portion of the Planning Area, adjacent to and north of the Mammoth-Yosemite Airport, has been assigned a high priority for protection within the South Mono Population Management Unit (PMU) because urbanization and changing land use is considered a potential risk for the South Mono PMU. The Updated Plan would not change the land uses at the Mammoth-Yosemite Airport, which is the only area under Town jurisdiction in the vicinity of the PMU. However, the patterns of use in the PMU have the potential to change as a result of indirect effects from an increase in population in the area. As shown in Table 4.3-1 there are 11 other species that are considered to have habitat within the Municipal Boundary. Only a limited amount of American Pine Martin, Bald Eagle, Great Gray Owl, Northern Goshawk, Sierra Mountain Beaver, and Willow Fly catcher habitat is located within the Urban Growth Boundary and is primarily located within Valentine reserve with isolated pockets along Mammoth Creek. Valentine reserve is a preserved habitat conservation area and a large portion of land adjacent to Mammoth Creek Park is also owned by the Town and preserved as open space for conservation purposes. Only the Northern Harrier has potential habitat in the Eastern Sierra College Center site, which is designated IP.

Plant species with a special rarity status could be affected by a loss of numbers or habitat due to development in accordance with the Updated Plan. The CNDDB (2003) reported one special status species, Mono Lake lupine (*Lupinus duranii*), known to occur within the Planning Area (Figure 4.3-1). Mono Lake lupine is listed as a "Species of Concern" under the ESA, "1B" by the CNPS, and a "Watch" plant by the USFS (see Table 4.3-3). Other special status species that are known to occur within the Municipal Boundary and that may conservatively be considered to have potential habitat within the UGB based on the habitat associations presented in Table 4.3-4 are the following:

- Crenulate moonwort (Botrychium crenulatum);
- Grape-fern moonwort (Botrychium lunaria);
- Mingan moonwort (Botrychium minganense);
- Upward-lobed moonwort (Botrychium ascendens);
- Pine City sedum (Sedum pinetorum);
- Pinzl's rockcress (Arabis pinzlae); and
- Subalpine fireweed (*Epilobium howellii*).

As shown in Table 4.3-3 there are eight other plant species that are located within the Municipal Boundary. However, based on the locations listed in Table 4.3-3 the potential of these species within the Urban Growth Boundary is very small.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following polices and implementation measures to reduce potential impacts to candidate, sensitive, or special status species:

I.1.B.d.1 The Town of Mammoth Lakes shall coordinate with the state Department of Fish and Game, U.S. Fish and Wildlife Service, and other appropriate agencies and maintain an up-to-date inventory of all Special Status Wildlife Species and Special Status Plants and Plant Communities within the Planning Area.

I.1.B.d.2 Species, habitat and natural community preservation/conservation strategies shall be prepared to protect special status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources.

I.1.B.d.3 The Town shall maximize the protection of primary wildlife habitats through public and/or private management programs, which may include: 1) the construction of active and passive recreation and development areas away from the habitat, and 2) use of fences, or other barriers and buffer zones.

I.1.B.d.4 Future development projects with the potential to significantly impact animal or plant habitats shall assess site-specific resource values and potential impacts where the habitats of special status plant and animals species are known to exist and provide a method of protecting, monitoring, replacing or otherwise mitigating the impacts of development in and around these sensitive habitats, as required by CDFG and Department of Fish and Game.

I.1.B.e.1 The Town shall require private landowners to adopt good wildlife habitat management practices, as recommended by California Department of Fish and Game officials.

I.2.A.a.1 New development will be carefully planned in areas known to have special value for wildlife and, where allowed, locate development so that a reasonable value of the habitat for wildlife is maintained.

IV.1.B.a.1 The Town shall work closely with private and public agencies such as Mono County, Inyo National Forest, Department of Fish and Game, Bureau of Land Management, and Mammoth Mountain Ski Area to ensure that the regional natural ecosystem is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

Development associated with implementation of the Updated Plan would involve the redevelopment of land or the development of vacant lands within the UGB. The above policies and implementation measures would ensure that a current inventory of candidate, sensitive, or special status species would be maintained (I.1.B.d.1) and that the protection of sensitive sites would be maximized through public and private management programs (I.1.B.d.3). In addition, Implementation Measure I.1.B.d.4 would require a biological assessment for development projects. Such an assessment would identify sensitive species. The measure also requires the provision of protection or replacement of identified species that would be impacted so as to mitigate potential impacts. Therefore, with implementation of the above measures identified in the Updated Plan, impacts attributable to land and/or infrastructure development within the Urban Growth Boundary to species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS would be reduced to a less than significant level.

In addition to the limited potential for direct impact on biological resources within the Urban Growth Boundary, the Updated Plan has potential for indirect impact upon resources

beyond the UGB and even the Planning Area. Such potential is associated with incidental contact or intrusion impacts produced by growing resident and visitor recreational activities in areas surrounding the UGB, particularly during non-winter months. While excessive use of these areas is not indicated at present, the project does provide for a considerable growth increment. While the peak people at one time data (PAOT) is dominated by wintertime visitation, increases in non-winter months must also be expected. In the absence of data clearly establishing otherwise, it is conservatively concluded that such increased wilderness and open lands usage as may be indirectly caused by the Updated Plan could have significant impact upon one or more of the special status wildlife or plants species previously listed in Table 4.3-1 and Table 4.3-3.

Mitigation Measures

With the implementation of measures contained in the Updated Plan, development under the Plan within the Urban Growth Boundary would not result in a significant impact to candidate, sensitive, or special status species. Therefore, no mitigation measures are required. Mitigation of potential indirect impact upon special status wildlife or plant species outside of the Urban Growth Boundary and, for the most part, beyond the Municipal Boundaries cannot be feasibly implemented in the context of the Updated Plan. The Town has no jurisdiction to implement mitigation beyond its boundaries, and policies or actions which restrict access to the areas in question conflict directly with other equally important policies to enhance recreational opportunities. Thus, no mitigation measures are recommended to address this potentially significant impact.

Level of Significance After Mitigation

Impacts related to candidate, sensitive, or special status species would be less than significant due to development within the Urban Growth Boundary~~, and~~ . ~~p~~Potentially significant and unavoidable impacts from contact intrusion due to Plan induced increases in recreational visitation to wilderness and open lands areas would occur.

Issue 4.3-2: *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS?*

Discussion: Project implementation could impact riparian and other habitat areas in a number of ways. First, development in accordance with project provisions would result in the direct removal of native vegetation on construction sites. The majority of vegetation community types within the UGB are widespread and common to the eastern Sierra Nevada, and sensitive habitats would be subject to supplemental CEQA review and mitigation, if required. Project-related activities would also impact local habitat and invasive species management efforts

through the potential introduction of noxious weeds and pests into areas where surface disturbance results from new development or where straw bales are used to control erosion at construction sites. In addition, plant species that may be a threat to the native flora may be introduced in the form of horticultural cultivars used in landscaping. The effect of these indirect impacts would be minimized by the eradication programs conducted by the Eastern Sierra Weed Management Area, as well as objectives and policies within the project.

In addition, project implementation could have indirect impacts on habitat through Plan induced increases in wilderness and open land usage surrounding the Urban Growth Boundary, increased air emissions, recreational vehicle use on habitat areas, increased withdrawals of groundwater and surface water supplies, increased pollution of stormwater and runoff flows, and other related effects.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts to riparian and other sensitive natural communities:

I.1.B.c.3 All feasible project modifications shall be considered to avoid wetland disturbance. Direct or indirect losses of wetlands and/or riparian vegetation associated with discretionary application approval shall be compensated by replacement, rehabilitation, or creation of wetlands habitat mitigation as approved by appropriate state and federal agencies.

I.1.B.d.1 The Town of Mammoth Lakes shall coordinate with the state Department of Fish and Game, U.S. Fish and Wildlife Service, and other appropriate agencies and maintain an up-to-date inventory of all Special Status Wildlife Species and Special Status Plants and Plant Communities within the Planning Area.

I.1.B.d.2 Species, habitat and natural community preservation/conservation strategies shall be prepared to protect special status plant and animal species and natural communities and habitats when discretionary development is proposed on lands with such resources.

I.1.B.d.3 The Town shall maximize the protection of primary wildlife habitats through public and/or private management programs, which may include: 1) the construction of active and passive recreation and development areas away from the habitat, and 2) use of fences, or other barriers and buffer zones.

I.1.B.d.4 Future development projects with the potential to significantly impact animal or plant habitats shall assess site-specific resource values and potential impacts where the habitats of special status plant and animals species are known to exist and provide a method of protecting, monitoring, replacing or otherwise mitigating the impacts of development in and around these sensitive habitats.

I.1.B.e.1 The Town shall require private landowners to adopt good wildlife habitat management practices, as recommended by the California Department of Fish and Game.

I.2.A.a.1 New development will be carefully planned in areas known to have special value for wildlife and, where allowed, locate development so that a reasonable value of the habitat for wildlife is maintained.

I.7.A.a.4 New development will use native and compatible non-native plant species, especially drought resistant species, to the extent possible when fulfilling landscaping requirements. Use of turf shall be limited to avoid or minimize adverse impacts on native trees.

IV.1.B.a.1 The Town shall work closely with private and public agencies such as Mono County, Inyo National Forest, Department of Fish and Game, Bureau of Land Management, and Mammoth Mountain Ski Area to ensure that the regional natural ecosystem is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

As stated above, development associated with implementation of the Updated Plan would involve the redevelopment of land or the development of vacant lands within the UGB. The above policies and implementation measures would serve to establish a framework for addressing impacts to riparian habitat or other sensitive natural community. Implementation Measure I.1.B.c.3 requires that if riparian vegetation were to be impacted that replacement, rehabilitation or the creation of such vegetation be provided subject to the approval by state and federal agencies. In addition, the above policies and implementation measures would ensure the preservation of existing habitats and other sensitive natural communities through preservation and conservation strategies (I.1.B.d.2). In addition, Measure I.1.B.d.4 requires that an assessment of site-specific resource values be conducted for future development projects. The measure also requires the provision of protection, monitoring, replacing, or otherwise mitigating potential impacts in and around sensitive habitats. As such, with implementation of the above

measures identified in the Updated Plan, impacts to riparian habitats or other sensitive natural community due to development within the Urban Growth Boundary would be reduced to a less than significant level.

In addition, project induced increases in recreational wilderness and open lands usage surrounding the Urban Growth Boundary and other indirect effects would be expected to have less than significant impact on riparian habitat or sensitive natural communities. Such activities would only incrementally expand existing usage patterns which are generally respectful of these resources and do not substantively modify habitat.

Mitigation Measures

With the implementation of measures contained in the Updated Plan, the Plan would not directly or indirectly result in a significant impact to riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts from the Updated Plan related to riparian habitats or other sensitive natural community would be less than significant.

Issue 4.3-3: *Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Discussion: Maps provided by the National Wetlands Inventory identify wetlands within the Planning Area, Municipal Boundary and UGB. Therefore, development that would occur under the Updated Plan could directly and indirectly impact wetlands and other jurisdictional waters of the U.S. Direct impacts could occur if future development were to result in the elimination of wetland areas. Indirect impacts could occur if silt and other contaminants are deposited in wetlands via drainage from construction sites and developed areas. The U.S. Army Corps of Engineers regulates the fill of wetlands and other jurisdictional waters of the U.S. under Section 404 of the CWA. The CDFG recognizes wetlands for their value as high quality habitat for both plants and animals. Both agencies have policies of "no net loss" of wetlands.

On a local level, Section 12.08.050 of the Municipal Code prohibits the filling or draining of any wetland area without obtaining a permit from the appropriate agency. In addition, the Town has adopted Federal Emergency Management Agency (FEMA) requirements for setbacks within the floodplain, which would apply to the Mammoth Creek corridor. The required setback

would serve to protect biological resources. The Town would maintain its stream corridor preservation plan for the Mammoth Creek Corridor and all properties held by the Town along this corridor would be managed for open space, habitat preservation, and passive recreation.

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts to wetlands:

I.1.B.c.2 All activities within "jurisdictional" wetlands require a U.S. Army Corps of Engineers Section 404 Clean Water Act permit, California Regional Water Quality Control Board Clean Water Certification or Waiver, and shall notify the California Department of Fish and Game pursuant to Section 1600 and if necessary obtain a Lake and Streambed Alteration Agreement.

I.1.B.c.3 All feasible project modifications shall be considered to avoid wetland disturbance. Direct or indirect losses of wetlands and/or riparian vegetation associated with discretionary application approval shall be compensated by replacement, rehabilitation, or creation of wetlands habitat mitigation as approved by appropriate state and federal agencies.

I.1.B.g.3 Require new development in the vicinity of Mammoth Creek to maintain minimum setbacks and preserve stream-bank vegetation.

II.4.A.a.3 The Town shall retain, to the maximum practical extent, primary community water courses and bodies in their natural state, through criteria in the Town Development Code. Creek corridors should be carefully identified, corridor setbacks established, and strict regulations precluding riparian vegetation removal and creek regime modification should be followed.

IV.1.B.a.1 The Town shall work closely with private and public agencies such as Mono County, Inyo National Forest, Department of Fish and Game, Bureau of Land Management, and Mammoth Mountain Ski Area to ensure that the regional natural ecosystem is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

Implementation Measure I.1.B.c.3 requires that direct or indirect losses of wetlands and/or riparian vegetation associated with discretionary applications shall be compensated by replacement, rehabilitation, or creation of wetland habitat as mitigation as approved by appropriate agencies. Any development associated with implementation of the project that would be located within the wetlands areas regulated by the U.S. Army Corps of Engineers, California Regional Water Quality Control Board, and California Department of Fish and Game would be subject to review by those agencies and would require the approval of those agencies. In addition, wetlands areas eliminated or otherwise impacted by implementation of the project would be compensated, such that wetlands would be replaced, rehabilitated, or recreated, subject to the approval by state and federal agencies. Therefore, with implementation of the above measures identified in the Updated Plan, impacts to federally protected wetlands would be reduced to a less than significant level.

Mitigation Measures

With the implementation of measures contained in the Updated Plan, the Plan would not result in a significant impact to federally protected wetlands. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

Impacts from implementation of the Updated Plan related to federally-protected wetlands would be less than significant.

Issue 4.3-4: *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Discussion: The Updated Plan would allow for development of vacant lands as well as redevelopment of lands within the UGB. Development in accordance with the Updated Plan could potentially create barriers to wildlife movement and dispersal. However, the potential for development to impact wildlife migration corridors and wildlife movement would be limited since future development would be concentrated within the UGB.

The migratory route nearest to the UGB is utilized by the Mammoth Pass herd segment of the Round Valley Herd of mule deer. The route used by this herd segment heads westerly below Mammoth Rock south of the Urban Growth Boundary, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River drainage. Migrating deer from this herd segment may be impacted by increased traffic, which could result in an increase in road kills. Since development associated with the project

would only occur within the UGB, key habitat areas would not be impacted by surface disturbance resulting from residential development. As the number of residents increases, harassment by domestic pets and vehicular mortality may increase. However, these impacts would not significantly alter the herd's population in terms of numbers or sex and age ratios due to the size of the herd (approximately 2,700 deer) and the relatively small number of deer affected. Vehicular mortality is not believed to significantly alter the herd's population (CDFG et. al. 1986).

Project implementation would increase the risk of increased depredation associated with human encroachment into the habitat of mountain lions and black bears. Resulting impacts would be anticipated to include an increased habituation of bears to human food sources resulting in more frequent incidence of bears scavenging in garbage cans and wandering through residential neighborhoods or campsites with concomitant adverse impacts on the welfare of the bear population. An increase in predation on humans by mountain lions could occur in conjunction with the expanded development into mountain lion habitat. In California, there is an average of one mountain lion attack on a human every two years, and one resultant death every five years.[15]

Policies and Implementation Measures in the Updated Plan

The Updated Plan proposes the adoption of the following policies and implementation measures to reduce potential impacts to wildlife corridors and wildlife movement:

I.1.B.d.3 The Town shall maximize the protection of primary wildlife habitats through public and/or private management programs, which may include: 1) the construction of active and passive recreation and development areas away from the habitat, and 2) use of fences, or other barriers and buffer zones.

~~II~~I.1.B.e.1 The Town shall require private landowners to adopt good wildlife habitat management practices, as recommended by California Department of Fish and Game officials.

I.1.B.e.2 All town facilities shall be equipped with animal-resistant trash receptacles. The Town will work with private organizations and individuals, public agencies, and other stakeholders to assist in making sure that all trash enclosure and food storage areas are animal resistant.

[15] *http://tchester.org/sgm/lists/lion_attacks.html, updated February 4, 2005.*

I.1.B.e.3 Projects with features that have the potential to be attractive nuisances to wildlife shall include an assessment of the potential impacts from those features in the project analysis and proposed mitigation measures.

I.2.A.a.1 New development will be carefully planned in areas known to have special value for wildlife and, where allowed, locate development so that a reasonable value of the habitat for wildlife is maintained.

VII.3.D.a.2 New roads and roadway improvements shall be located, designed constructed, and maintained in a manner that prevents adverse impacts to air quality, water quality, and significant biological and scenic resources.

The introduction of new population associated with development could potentially impact wildlife species or established wildlife corridors. Specifically, there are 11 known special status animal species within the Municipal Boundary as listed on Table 4.3-1, along with the sage grouse which is listed as outside the Municipal Boundary but within the Planning Area. In addition, mountain lions and black bears have also been found to travel into the UGB. However, the implementation of wildlife management practices, coupled with the limitation of development to areas within the UGB, would reduce those impacts to a less than significant level. Moreover, future development projects would be reviewed so as to ensure that development would not interrupt wildlife or interfere with wildlife corridors. All projects are required to comply with Section 6.24 of the Municipal Code, which prohibits the feeding of wildlife.

Impacts on deer populations are considered less than significant because project implementation would not impact migration corridors, or substantially reduce populations, and fragmentation of habitat would be reduced by the fact that project development would remain within the UGB. Impacts associated with encroachment into bear habitat can be reduced to less than significant levels by the implementation measures mentioned above. In addition, Town facilities and new development would utilize animal-resistant trash receptacles as well as fences and other buffer zones to discourage the movement of wildlife into urbanized areas. The probability for an increase in potential attacks by mountain lions is considered low based on the number of such recorded incidents in California and therefore, is considered to be less than significant.

With implementation of the measures provided in the Updated Plan, impacts to the movement of any native resident or migratory fish or wildlife species, impacts to established native resident or migratory wildlife corridors, and impacts to the use of native wildlife nursery sites would be less than significant.

Mitigation Measures

In addition to the implementation measures stated above, the following mitigation measure is recommended to ensure that impacts to biological resources are reduced to a less than significant level.

4.3-1 The Town shall require developers of residential properties to include a disclosure statement that Mammoth Lakes is an area of habitat for mountain lions which indicates a potential risk, particularly to children and small pets.

Level of Significance After Mitigation

Impacts to the movement of any native resident or migratory fish or wildlife species, impacts to established native resident or migratory wildlife corridors, and impacts to the use of native wildlife nursery sites would be less than significant.

Issue 4.3-5: *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Discussion: The project is the Update of the Town's General Plan. As discussed above with regard to biological resources, the Updated Plan contains numerous policies and implementation measures to ensure the protection of biological resources within the Planning area. The Town currently has several codes that apply to development projects that provide protection to natural resources within Town limits. Municipal Code Chapter 6.24 prohibits feeding of wildlife. In addition, Municipal Code Chapter 8.12 requires proper refuse disposal so as to eliminate the availability of refuse for wildlife. Finally, Municipal Code 17.16.050 requires the preservation of trees and other vegetation.

The Updated Plan would not conflict with any adopted policy or ordinance regarding the protection of biological resources. Rather, it would supplement and strengthen existing Town policies and measures designed to protect those resources. In addition to the municipal codes referenced above, the Updated Plan contains measures to protect biological resources, and specifically provides for policies and implementation measures to protect native and large specimen trees. In fact, the Updated Plan would serve to implement additional measures to reinforce the Town's commitment to the preservation of biological resources and would provide additional protection for biological resources within the Planning Area. For example, Implementation Measure I.2.A.a.5 provides for the adoption of standards to protect trees and promote the health of the forest, which includes the replanting of native tree species removed as a result of land clearing during project construction. This measure is consistent with Municipal Code 17.16.050, which requires preservation of trees and other vegetation. Various other policies

and implementation measures contained in the Updated Plan that provide protection to biological resources include Implementation Measure I.1.B.f.1 to make every feasible effort to save large specimen trees and pursue aggressive replanting with native trees to retain the forested character of the Town. Measure I.2.A.a.3 allows new development to use clustering as feasible in order to retain and preserve existing trees and open space. Measure I.7.A.a.4 limits the use of turf to avoid or minimize impacts on native trees and encourages the use of native and compatible non-native plant species, especially drought resistant species, to the extent possible when meeting landscaping requirements. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Mitigation Measures

The Updated Plan would not conflict with any local policies or ordinances protecting biological resources. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. As such, no impacts would occur.

Issue 4.3-6: *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Discussion: There are no Habitat Conservation Plans nor Natural Community Conservation Plans in place within the Planning Area. Other approved plans that are in place within the Planning Area include the following:

- Draft Owens Basin Wetland and Aquatic Species Recovery Plan and Management Guidelines (USDI 1998). The recovery objectives stated in the plan are delisting the Owens pupfish, Owens tui chub, and the Fish Slough milkvetch, as well as protecting eight species of concern so that listing is unnecessary. Delisting criteria are established in the plan. The Hot Creek Fish Hatchery has been designated as critical habitat for the Owens tui chub. The project would not result in any of the activities described in the final rule that may adversely modify designated critical habitat as discussed in Section 4.3.1. This is because the Owens tui chub are found outside of the Urban Growth Boundary and no development under the Updated Plan is proposed outside the Urban Growth Boundary. Similarly, the project would not conflict with the management plans specific to the Conservation Areas identified in the plan.

- Sherwin Grade Deer Herd Management Plan (CDFG 1986). The goals of the management program are to maintain overall deer numbers, improve the condition of the range, and provide for high quality and diversified use of the Sherwin Grade deer (currently referred to as the Round Valley deer). The goal for habitat management of the Round Valley deer herd range is to maintain habitat quantity and quality adequate to support a population of 2,400 deer, with special emphasis on key summer, winter, and intermediate habitats. Other herd goals relate to composition and hunting harvest. Since development associated with the project would only occur within the UGB, key habitat areas would not be impacted by surface disturbance resulting from residential development. As the number of residents increases, harassment by domestic pets and vehicular mortality would increase. However, these impacts would not significantly alter the herd's population based upon number, sex and age ratios of the population and the relatively low incidence of, and effects of, vehicular mortality on the herd.
- Draft Recovery Plan for the Sierra Nevada Bighorn Sheep (*Ovis canadensis californiana*) (USFWS 2003). The objective of the recovery plan is to attain population sizes and geographic distribution of bighorn sheep in the Sierra Nevada that assure long-term viability of the overall population and thereby allow its delisting as an endangered species. Potential bighorn sheep habitat in the Sierra Nevada is divided into 17 herd units and four recovery units. Downlisting criteria is established in the plan. There are no populations, herd units, or recovery units within the Planning Area.
- Riparian Bird Conservation Plan for 14 Priority Riparian-Dependent Species (Riparian Habitat Joint Venture 2000). The Conservation Plan summarizes current scientific knowledge of the requirements or birds in riparian habitats. It provides recommendations for habitat protection, restoration, management, monitoring, and policy to ensure the long-term persistence or birds and other wildlife dependent on riparian ecosystems. The document focuses on the requirements of 14 bird species. As many as five of the 14 focal species may breed within the Planning Area. Development or human intrusion within riparian habitats may have adverse effects on the breeding success of these species. The plan contains objectives and policies in Section I.1.B and II.4.A that protect riparian communities.
- Greater Sage-Grouse Conservation Plan for the Bi-State Area of Nevada and Eastern California (Sage-Grouse Conservation Team 2004). The plan identifies the following general conservation strategies designed to conserve sage-grouse and sage-grouse habitat: 1) population and habitat management; 2) habitat enhancement and rehabilitation; 3) education and outreach; and 4) regulations and policies. Sage-grouse habitat in the northeast portion of the Planning Area has been assigned a high priority for protection within the South Mono Population Management Unit. Urbanization and changing land use is considered a potential risk for the South Mono PMU.

As indicated above, the Updated Plan contains measures to protect biological resources and would serve to implement additional measures to reinforce the Town's commitment to the preservation of biological resources and would provide additional protection for biological resources within the Planning Area. The Updated Plan would not conflict with any approved local, regional or state habitat conservation plan.

Mitigation Measures

The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no mitigation measures are required.

Level of Significance After Mitigation

The Updated Plan would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, impacts with regard to other such plans would be less than significant. Incorporation of the policies and implementation measures above would reduce impacts to biological resources to a less than significant level.