APPENDIX C

INFORMATION CONCERNING SPECIES OF ELEVATED CONCERN

This appendix includes additional information concerning species identified by resource agencies as being of elevated concern during the scoping process for the March 2008 FEIS.

WILDLIFE

During the scoping process for the preparation of this EIS the following additional upland wildlife species known to occur in the vicinity of MMH were identified as being of elevated interest by the U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and the Californian Department of Fish and Game (CDFG).

Mule deer

Mule deer are considered an important harvest species in California and the health of each migratory herd is monitored by the CDFG. Mule deer that inhabit the study area and surrounding vicinity are primarily from the Round Valley herd (Kucera 1988, Taylor 1988, U.S. Forest Service 1990). In the spring (early April), the herd typically migrates north from the Round Valley wintering range to a holding area near Mammoth Lakes. This holding area typically comprises approximately 11,300 acres at elevations between 7,200 and 8,000 feet. During this period, the deer feed on herbaceous growth. After they regain the condition lost over the winter, they migrate to summer range, located primarily on the eastern slopes of the Sierra Nevadas (Kucera 1988). Known points of concentrated migration movements are indicated in **Figure 1**.

Based on the Jones & Stokes Biological Study (2001) prepared for the Environmental Assessment of a previous proposed expansion at MMH, suitable vegetation for mule deer foraging is located on and adjacent to the airport. The area between the runway and U.S. Highway 395 is of lower quality due to high levels of disturbance from roads, airport facilities, and human activities. Based on a pellet group study, the deer utilize the western half of the airport property much more frequently, likely due to the higher habitat quality.

Sage grouse

The sage-grouse (*Centrocercus urophasianus*) is the largest of the North American grouse, ranging from 27 to 34 inches in length and weighing from five to seven pounds. It has a long, pointed tail with legs feathered to the base of the toes. Females are a mottled brown, black, and white color. Males are larger and have a large white ruff around their neck and bright yellow air sacks on their breasts, which they inflate during their mating display. The birds are found at elevations ranging from 4,000 to over 9,000 feet and are highly dependent on sagebrush for cover and food. The range of the sage-grouse in the vicinity of Mammoth Lakes is shown in Figure 1.

Sage grouse engage in a lek mating system. The males perform a strutting display that includes fanning of the tail feathers, expanding the esophageal pouches to produce a sound referred to as “plops.” The lek is considered to be the center of year-round activity for resident grouse populations. Typically, most grouse nests are located within 4 miles of the lek area; however, some females may nest more than 12 miles from the lek (Wakkinen et al. 1992).

In 2005, the USFWS declined a petition to list the sage grouse as Endangered. Greater sage grouse are currently estimated to number from approximately 100,000 to 500,000 individuals. Sage grouse populations are estimated to have declined an average of 3.5 percent per year from 1965 to 1985.

Since 1986, however, populations in several states have increased or generally stabilized and the rate of decline from 1985 to 2003 slowed to 0.37 percent annually for the species across its entire range. In addition to these data, other contributing factors to the decision to not list this species include: 92 percent of the known active leks occur in 10 core populations across eight western states, five of these populations are large and expansive, and there are approximately 160 million acres of sagebrush, a necessary habitat for sage grouse, currently exists across the western landscape. In response to the listing petition, state wildlife agencies and BLM have increased their management programs aimed at greater protection and enhancement of grouse habitat and populations.

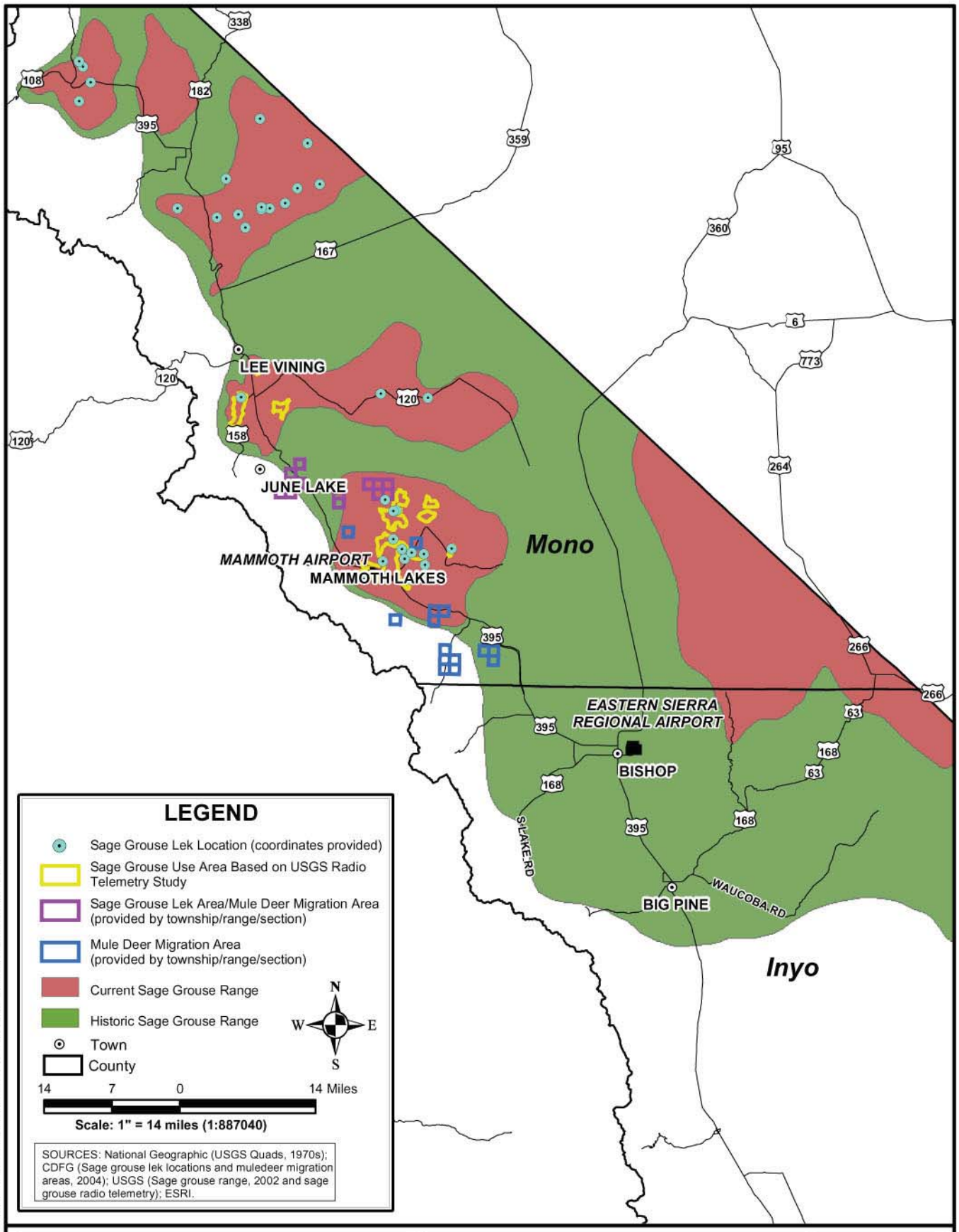
Sage grouse are found in Washington, Oregon, Idaho, Montana, North Dakota, eastern California, Nevada, Utah, western Colorado, South Dakota, Wyoming, and the Canadian provinces of Alberta and Saskatchewan. The sage grouse is a game species in 10 states. An ongoing study conducted by the USGS (Personal Communication 2004) has determined that the sage grouse utilize the area surrounding MMH for foraging, nesting, and breeding, as shown on Figure 1. URS biologists observed the response of grouse at the lek nearest to MMH to overflights of a small corporate jet aircraft (Appendix H-3).

On March 23, 2010 the USFWS announced 12-month findings for petitions to list the Greater Sage-Grouse as Threatened or Endangered under 50 CFR Part 17 (Federal Register Vol. 75, No. 55, pp 13910-14014). The USFWS found that listing of the sage-grouse rangewide is warranted, but precluded by higher priority listing actions. Concurrently, the USFWS found that listing of the Bi-State distinct population (formerly known as the Mono Basin population), which includes the populations in the vicinity of MMH, is also and separately warranted, but is also precluded by higher priority listing actions. Both the greater sage-grouse and the Bi-State distinct population have been added to the list of candidate species, which will continue to be monitored by the USFWS and managed and protected under existing federal and state programs and regulations.

Pygmy Rabbit

Pygmy rabbits (*Brachylagus idahoensis*) are a small rabbit species endemic to the Great Basin desert and surrounding intermountain areas. The U. S. Fish and Wildlife Service (USFWS) has indicated this species may occupy lands in the vicinity of MMH. Pygmy rabbits require dense stands of big sagebrush (*Artemisia tridentata*) for both food and cover. Sagebrush comprises 99 percent of their winter diet, and 51 percent of their summer diet. Also unique among western North American rabbits is the pygmy rabbit's burrowing habit. Burrow systems are typically constructed under clumps of big sagebrush, once again reinforcing the vital role of sagebrush to pygmy rabbit survival.

The non-game pygmy rabbit is considered a sensitive species/species of concern. In May 2005 the USFWS declined an initial petition to list this species. While the pygmy rabbit is not currently a federally-listed species, the USFWS continues to monitor its status. Given their reliance on sagebrush, pygmy rabbits have been characterized as habitat specialists or obligates. Consequently, reductions of suitable sagebrush habitat by agriculture, grazing, and development have had a significant impact on this species. Another factor that affects the abundance of this species is its limited ability to disperse long distances and to cross open habitat.



g:/gis/projects/1512/12004269/mxd/ml_eis_sagegrouse_muledeer_overview.mxd

SAGE GROUSE BREEDING AND MULE DEER MIGRATION AREAS

Figure 1

SPECIAL STATUS SPECIES

Sensitive plants and animals are those identified as rare or endangered, or that are depleted or declining, as listed by the U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and the California Native Plant Society (CNPS). Surveys were conducted on the property for plant and animal species and habitats that have been historically recorded from the project vicinity by the USFWS, CNPS, and the CDFG. **Tables 1** and **2** list the special status species found in Inyo and Mono Counties, as identified by the USFWS letter dated August 5, 2004. **Figure 2** indicates the locations of sensitive species in the general vicinity of Mammoth Lakes.

TABLE 1
FEDERAL STATUS SPECIES IN INYO AND MONO COUNTIES

Common Name	Scientific Name	Federal Status
Plants		
Fish Slough milk-vetch	*Astragalus lentiginosus var. piscinensis*	T
Amphibians		
Mountain yellow-legged frog	*Rana muscosa*	C
Yosemite Toad	*Bufo canorus*	C
Birds		
Bald eagle	*Haliaeetus leucocephalus*	SC
Least Bell's vireo	*Vireo bellii pisullus*	E, CH
Southwestern willow flycatcher	*Empindonax traillii extimus*	E
Yellow-billed cuckoo	*Coccyzus americanus*	C
Sage-Grouse	*Centrocercus urophasianus*	C
Fish		
Owens tui chub	*Gila bicolor snyderi*	E, CH
Owens pupfish	*Cyprinodon radiosus*	E
Mammals		
Fisher	*Martes pennanti*	C
Desert bighorn sheep	*Ovis candanensis californiana*	E

C = Candidate, E = Endangered, T = Threatened,
SC = Species of Concern, CH = Critical Habitat
Source: USFWS letter dated August 5, 2004.

TABLE 2
SPECIAL STATUS SPECIES IN VICINITY OF MMH

Common Name	Scientific Name	Federal Status	State Status	CNPS
Plants				
Alkali ivesia	*Ivesia kingii var. kingii*	--	--	1B
Lemmon's milk-vetch	*Astragalus lemmoni*	--	--	1B
Scalloped-leaved lousewort	*Pedicularis crenulata*	--	--	1B
Fish				
Owens pupfish	*Cyprinodon radiosus*	E		
Owens speckled dace	*Rhinichthys osculus sp.*	--	SC	
Owens sucker	*Catostomus fumeiventis*	--	SC	
Owens tui chub	*Gila bicolor snyderi*	E	E	--
Lahontan cutthroat trout	*Oncorhynchus clarki henshawi*	T		
Birds				
Bald eagle	*Haliaeetus leucocephalus*	T	E	
Sage-Grouse	*Centrocercus urophasianus*	C	SC	
Mammals				
Sierra Nevada bighorn sheep	*Ovis canadensis californiana*	E	T	

Sensitive Plants

No special status plant species were identified in the MMH study area during the field surveys. No Federal or State listed plant species were identified by the CNNDB, but three CNPS plant species were identified: Alkali ivesia (*Ivesia kingii* var*. kingii*), Lemmon's milk-vetch (*Astragalus lemmoni*), and scalloped-leaved lousewort (*Pedicularis crenulata*). These plant species are summarized in Table 2. The following text describes these species in further detail.

Alkali ivesia is in the family Rosaceae. It is a perennial herb that is native to California, Nevada, and Utah. It is typically associated with the Sagebrush Scrub and Alkali Sink communities. It is ranked by the California Native Plant Society as rare (List 1B).

Lemmon's milk-vetch is in the family Fabaceae. It is a perennial herb that is native to California and is also found outside of California, but is confined to western North America. It is typically found in the Sagebrush Scrub community and adjacent wetlands. It is found at elevations between 4,265 and 7,218 feet. It is ranked by the CNPS as rare (List 1B).

Scalloped-leaved lousewort is a dicot in the family Scrophulariaceae. It is a perennial herb that is native to California and is also found outside of California, but is confined to western North America. It is typically associated with meadows and seeps. It is ranked by the CNPS as rare (List 1B).

g:/gis/projects/1512/12004269/mxd/ml_eis_mammoth_utm83.mxd.

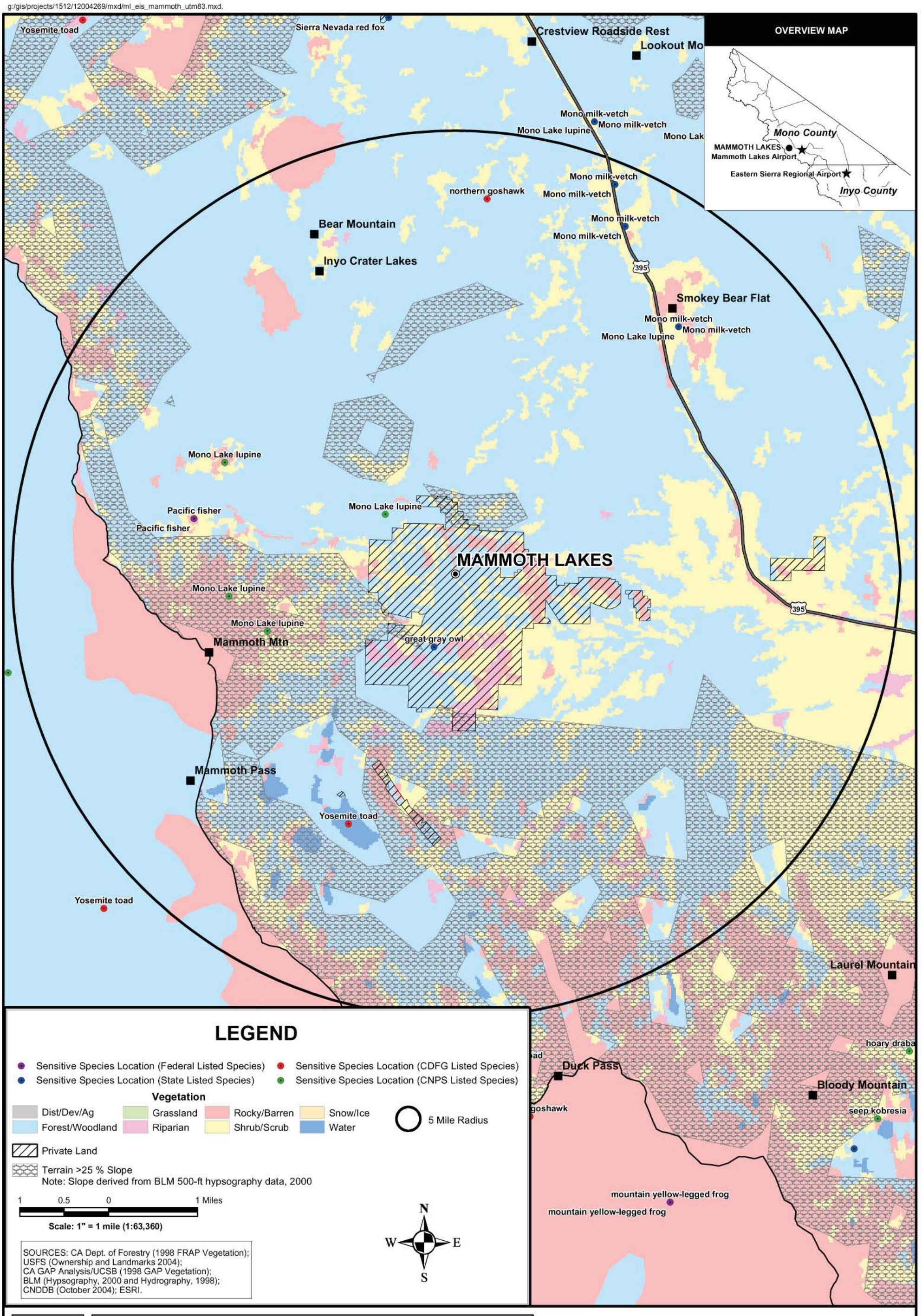


Figure 2

Vegetation and Sensitive Species Mammoth Lakes, CA

Sensitive Wildlife

According to the CNNDB, there are four species that have the potential to occur in the vicinity of MMH: Owens pupfish (*Cyprinodon radiosus*), Owens speckled dace (*Rhinichthys osculus ssp.*), Owens sucker (*Catostomus fumeiventris*), and Owens tui chub (*Gila bicolor snyderi*). All four species are small fish endemic to the Owens River and tributaries. These species are summarized in Table 2. The following text describes these species in further detail.

Owens pupfish is listed as Federally endangered. Critical Habitat has not been designated (USFWS 1998). It is a small fish with a total length of 2.5 inches. The species is sexually dimorphic: males are bright blue and females are olive green with several dark vertical bands along the sides. Pupfish occupy most available habitat where water is relatively warm and food is plentiful. Population decline has been attributed to competition and predation by non-native species and habitat modification of the Owens River. Extant populations have been propagated from a remnant stock rediscovered in Fish Slough. Extant populations occur in refuges at Fish Slough, BLM Spring, and Warm Springs.

Owens speckled dace is a state Species of Concern (USFWS 1998). They are highly variable in morphology, but are generally distinguished by small, subterminal mouths, pointed snout, small, irregularly placed scales, and torpedo-shaped body. The total body length is usually less than 90 mm. Typically, dorsal fin rays number 8 (range 6-9) and anal fin rays number 7 (range 6-8). As their common name indicates, numerous black speckles cover the body. In general, speckled dace feed on small aquatic insects and algae (Moyle 1976). They typically live three years and attain a maximum size of 80 mm in inland basins (Moyle 1976). Speckled dace from the Owens Basin are known to occupy a variety of habitats ranging from small coldwater streams and hot-spring systems, although they are rarely found in water exceeding 29 C.

Owens sucker is a state Species of Concern (USFWS 1998). Owens sucker is slate gray on the back that fades to faint blue on the laterals, and have a white belly. They occupy lakes and streams and probably require gravel substrates for spawning. They feed nocturnally on insects, mollusks, vegetation, and detritus. Threats to the Owens sucker include non-native fish (predators and competitors), introduced species that may hybridize, and water management strategies that dry habitats. They are common in Crowley and Convict Lakes in the upper Owens River and in Bishop Creek, Rock Creek, and irrigation canals near Bishop.

Owens tui chub is Federally listed as endangered (USFWS 1998). Critical habitat for the Owens tui chub includes two areas: 1) The Owens River from Long Valley Dam downstream for a distance of 8 stream miles and 2) a portion of Hot Creek and its outflows and includes areas of land within 50 feet on all sides of these drainages (50 FR 31594). It is one of several cyprinids found throughout the Great Basin and Pacific Ocean drainages. It is endemic to the Owens River basin in Mono County and is restricted to five isolated locations: Hot Creek headsprings, Owens River downstream from Crowley Lake, springs and seeps along the western shore of Owens Lake, Owns Valley Native Fish Sanctuary, and Little Hot Creek. They are opportunistic feeders with their principal food sources (chironomid larvae, caddisfly larvae, and detritus) eaten throughout the year. Owens tui chub spawn from late winter to early summer in areas of aquatic vegetation. The reasons for the decline of Owens tui chub have been attributed to the introduction

of Lahontan tui chub into Crowley Lake, predation by exotic species, and water development. The nearest occurrence of fish is located at Hot Creek headsprings, approximately 0.75 miles northwest of the MMH airport runway (USFWS 1998).

Other special status species specifically identified by the USFWS in the previous consultation include the bald eagle (*Haliaeetus leucocephalus*), Lahontan cutthroat trout (*Oncorynchus clarki henshawi*), and Sierra Nevada bighorn sheep (*Ovis canadensis californiana*). The following text describes the species in further detail.

The bald eagle is primarily a fish and carrion feeder whose winter range includes portions of Mono County, including areas adjacent to the Town of Mammoth Lakes. The species' federal status was changed from endangered to threatened in 1995 and the species was removed from the Endangered Species List in 2007. It is still protected under the Migratory Bird Treaty Act and the Golden Eagle Protection Act. They are known to congregate at sites generally in proximity to open water with perch trees and night roosts. They have been reported perching on utility poles at the Hot Creek Fish Hatchery. Once seriously endangered by hunting, loss of habitat, and the use of DDT, recent surveys have indicated that western populations are on the increase (Jones and Stokes 1996).

Lahontan cutthroat trout is a subspecies endemic to the Lahontan basin in northern Nevada, eastern California, and southern Oregon. This trout was federally listed as endangered in 1970, but was reclassified as a threatened species in 1975 (40 FR 289864). The Lahontan cutthroat is both a river- and lake-residing fish. Lahontan cutthroat typically spawn from April through July, depending on water temperature and water flow; however, spawning later than this is not uncommon. The loss of riparian vegetation, channelization, human development, water management, and hybridization with other trout have contributed to the species' decline. The closest population of Lahontan cutthroat trout is approximately 6 miles north of the project site in O'Harrel Canyon Creek, a tributary to the Owens River (Jones & Stokes 2001).

Sierra Nevada bighorn sheep is federally listed as endangered. It is one of three bighorn sheep subspecies to occur in California and is considered a distinct vertebrate population. These bighorn sheep use habitats ranging from the highest elevations (13,120 plus feet) along the crest of the Sierra Nevada to winter ranges at the eastern base of the range as low as 4,760 feet. These habitats range from Great Basin sagebrush scrub to alpine. In 1995 these bighorn sheep hit a population low of about 100 total individuals, distributed across 5 separate areas of the southern and central Sierra Nevada, but has subsequently increased to about 250 individuals in 2001 (USFWS 2003). The populations of sheep closest to the MMH project site are in Lee Vining Canyon and Wheeler Crest (USWFS 2003). The Wheeler Crest population is approximately 12 miles southeast of the airport and the Lee Vining population is approximately 20 miles northwest of the airport.