IV. ENVIRONMENTAL IMPACT ANALYSIS
D. BIOLOGICAL RESOURCES

INTRODUCTION

This section of the Draft Environmental Impact Report (Draft EIR) provides a description of the biological resources on the Project site, including the vegetation communities, wildlife, special-status species, sensitive natural communities; a discussion of the regulations that serve to protect sensitive resources; an assessment of the potential impacts of the Project; and recommendations to minimize and mitigate potentially significant impacts on sensitive resources. Various technical reports were prepared and reviewed to analyze the potential biological resources impacts associated with the Project. These technical reports are summarized in the Backgrounds and Methods section below and are included in Appendix D of this EIR.

ENVIRONMENTAL SETTING

Regional Setting

The Project site is located within the Town of Mammoth Lakes, Mono County, California. The Town of Mammoth Lakes (Town) is located on the eastern slopes of the Sierra Nevada Mountain Range at an elevation of approximately 7,900 feet (2,410 meters) above mean sea level (msl) within Section 34, Township 3 South, Range 27 East. It is located approximately 168 miles south of Reno, Nevada, and approximately 310 miles north of Los Angeles, California. Neighboring communities of the Town include June Lake to the northwest, Benton to the east, and Tom's Place to the southeast (refer to Figure II-1 and Figure II-2). Regional access is provided by U.S. Highway 395 and California State Highway 203. Major arterial which provide access to the site include Minaret Road to the north, Fairway Drive and Old Mammoth Road in the central portions of the site, and Sherwin Creek Road to the east.

Local Setting

The Project site is located in southeast Mammoth Lakes where Old Mammoth Road intersects with Minaret Road. As previously discussed in Section II (Environmental Setting) of this Draft EIR, the Project site is approximately 237 acres in extent and is composed of Assessor's Parcel Number (APN) 40-040-20 located on the north side of Old Mammoth Road and on the west side of Minaret Road, and seven parcels (APNs: 40-070-10, 40-070-11, 40-070-12, 40-070-13, 40-070-23, 40-140-04, and 40-140-05) located on the south side of Old Mammoth Road (refer to Figure II-1 through Figure II-3). The parcel north of Old Mammoth Road and west of Minaret Road comprises a total of approximately 38-acres. Of this acreage, the approved Snowcreek VII development encompasses approximately 23 acres of the southwest portion of the parcel, and land designated as open space encompasses approximately 15 acres of the northeast portion. The seven parcels south of Old Mammoth Road comprise a total of approximately 222 acres, of which approximately 56 acres (APN 40-070-23) is occupied by the existing nine-hole golf course. The Project site is bounded to the south and east by United States Forest Service

(USFS) land that is heavily used for both summer and winter recreation activities and to the north and west by residential developments. The overall terrain of the site is relatively flat, with a slight rise along the southerly boundary. Elevations range from approximately 7,870 to 7,940 feet (2,400 to 2,420 meters). Mammoth Creek runs west to east through the northern portion of the site. The vegetation communities and wildlife habitats found on the site are basin sagebrush, willow-alder riparian, annual grasses and forbs, wet meadow, perennial grasses and forbs, tule-cattail, non-native/ornamental grass, barren (retention basins), water, and developed.

As previously discussed in Section II (Environmental Setting) and illustrated in Figure II-3 of this Draft EIR "Project site", "study area", and "development area" are used throughout this section of the Draft EIR. These terms are defined as follows:

1. **Project Site:** The Project site includes the parcel north of Old Mammoth Road and west of Minaret Road, and the seven parcels south of Old Mammoth Road.

2. **Study Area:** The study area occupies portions of the Project site, as defined above. The study area is the portion of the Project site that has been analyzed in this section of the Draft EIR. The study area is made up of the property that will be physically developed and the property that will be preserved as open space. It is essentially the same as the Project site; however it does not include the portion of APN 40-040-20 north of Old Mammoth Road that is Snowcreek VII.

3. **Development Area:** The development area is the area where physical development will occur. It is the same as the study area, but it does not include the land designated as open space and the existing golf course ponds and associated drainages.

REGULATORY FRAMEWORK

The following discussion identifies federal, state and local environmental regulations that serve to protect sensitive resources relevant to the California Environmental Quality Act (CEQA) review process.

Federal

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has four major components: provisions for listing species, requirements for consultation with the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries), prohibitions against "taking" of listed species, and provisions for permits that allow incidental "take." The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the NOAA Fisheries share the responsibility for administration of the FESA.

During the CEQA review process, each agency is given the opportunity to comment on the potential of the Project to affect listed plants and animals.

Sensitive Species

The USFS designates plant and animal species identified by a regional forester that are not listed or proposed for listing under FESA for which population viability is a concern, as evidenced by significant current or predicted downward trend in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution, as "sensitive." Although these species generally have no special legal status, they are given special consideration under the CEQA during project review.

Clean Water Act Section 404 & 401

The United States Army Corps of Engineers (Corps) and the United States Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters of the United States are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4(a), (b), (c)). Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (such as dams and levees), infrastructure developments (such as highways and airports) and mining projects. Section 404 of the CWA requires a federal license or permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the Clean Water Act (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 United States to obtain a certification from the state in which the discharge originates or would originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the affected waters at the point where the discharge originates or would originate, that the discharge will comply with the applicable effluent limitations and water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and its nine Regional Water Quality Control Boards (RWQCBs).

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 U.S.C. Sections 661-667e, March 10, 1994, as amended 1946, 1958, 1978, and 1995) requires that whenever waters or channel of a stream or other body of water are proposed or authorized to be modified by a public or private agency under a federal license or permit, the federal agency must first consult with the USFWS and/or NOAA Fisheries and with the head of the agency exercising administration over the wildlife resources of the state where construction will occur (in this case the California Department of Fish and Game (CDFG)), with a view to conservation of birds, fish, mammals and all other classes of wild animals and all types of aquatic and land vegetation upon which wildlife is dependent.

The Migratory Bird Treaty Act & Bald and Golden Eagle Protection Act

The Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations (CFR) Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. Disturbances that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA.

The Bald Eagle Protection Act (16 U.S.C. 668) was passed in 1940 to protect bald eagles and was later amended to include golden eagles. Under the act it is unlawful to import, export, take, sell, purchase, or barter any bald eagle or golden eagle, their parts, products, nests, or eggs. Take includes pursuing, shooting, poisoning, wounding, killing, capturing, trapping, collecting, molesting, or disturbing eagles.

State

California Endangered Species Act

The State of California enacted similar laws to the FESA, the California Native Plant Protection Act (NPPA) in 1977 and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the FESA, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species, but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The CDFG implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDB), a computerized inventory of information on the general location and status of California's

rarest plants, animals, and natural communities. During the CEQA review process, the CDFG is given the opportunity to comment on the potential of the Project to affect listed plants and animals.

Fully Protected Species & Species of Special Concern

The classification of "fully protected" was the CDFG's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with "fully protected" species states that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species," although take may be authorized for necessary scientific research. This language makes the "fully protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFG to authorize take resulting from recovery activities for state-listed species.

Species of special concern are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFG because are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFG, land managers, consulting biologist, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under the CEQA during Project review.

California Fish and Game Code Sections 3503 & 3513

According to Section 3503 of the California Fish and Game Code it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (except English sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*)). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MTBA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFG.

California Native Plant Society

The California Native Plant Society (CNPS) publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version

(www.cnps.org/rareplants/inventory/6thedition.htm). The Inventory assigns plants to the following categories:

- 1A – Presumed extinct in California
- 1B – Rare, threatened, or endangered in California and elsewhere
- 2 – Rare, threatened, or endangered in California, but more common elsewhere
- 3 – Plants for which more information is needed
- 4 – Plants of limited distribution

Additional endangerment codes are assigned to each taxa as follows:

- 1 – Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).
- 2 – Fairly endangered in California (20-80% occurrences threatened).
- 3 – Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and are given special consideration under CEQA during Project review. Although plants on List 3 and 4 have little or no protection under CEQA, they are usually included in the Project review for completeness.

Porter-Cologne Water Quality Control Act

Waters of the State are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The RWQCB protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These waterbodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to waters of the State, the RWQCB has the option to regulate such activities under its State authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

California Fish and Game Code Section 1600

Streams, lakes, and riparian vegetation as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFG under Sections 1600-1616 of the California Fish and Game Code. Any activity that will do one or more of the following: 1) substantially obstruct or divert the natural flow of a river,

stream, or lake; 2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or 3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake; generally require a 1602 Lake and Streambed Alteration Agreement. The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.[1] Riparian is defined as, "on, or pertaining to, the banks of a stream;" therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself."[2] Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFG.

Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by federal, state, and local conservation plans, policies or regulations. The CDFG ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its CNDDB. Sensitive vegetation communities are also identified by CDFG on its List of California Natural Communities Recognized by the CNDDB. Impacts to sensitive natural communities and habitats identified in local or regional plans, policies, regulations or by federal or state agencies must be considered and evaluated under the CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

Local

In addition to federal and state regulations, the Town's General Plan defines certain goals, policies, and implementation measures protecting natural resources. Also, the Town has adopted various codes and ordinances that provide protection to natural resources within the Town's limits.

Town of Mammoth Lakes General Plan

The Town's current General Plan was adopted in 1987. The 1987 General Plan is currently in the process of being updated following a four-year planning and review process. A Draft Program EIR was

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[1] *California Department of Fish and Game. Environmental Services Division (ESD). 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code.*

[2] *California Department of Fish and Game. Environmental Services Division (ESD). 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code.*

previously prepared and circulated regarding an earlier version of the General Plan Update. A Notice of Preparation (NOP) for the Draft Program EIR was distributed on April 25, 2003. A Draft Program EIR was prepared and distributed to the public for review from February to May 2005 for public comments. Based on the extent and range of comments received, the Town determined that the proposed General Plan should be revised to the extent that required recirculation of a Revised Draft Program EIR. The Revised Draft Program EIR was circulated for public review from October 31, 2005 to December 14, 2005. The Town adopted the 2007 General Plan on August 15, 2007 and is currently considering the Revised Final Program EIR on the General Plan Update for certification. Because the certification of the Revised Final Program EIR is an ongoing process, the standard for analysis used in this Draft EIR is based on both the 1987 General Plan and the 2007 General Plan. The applicable goals, policies and implementation measures protecting natural resources from the 1987 General Plan are listed below.

Natural Vegetative Resources

Goals:

1. To protect natural vegetative communities from abuse, misuse or degradation from the inappropriate use of land.
2. To encourage uses of natural areas which are compatible with maintenance of such areas.
3. To provide improved information on vegetation through inventories, mapping programs, and environmental analyses.
4. To protect vegetative resources from wildland fires.
5. To protect and preserve areas containing heritage trees or groves and mixed age stands of native trees.
6. To protect rare, endangered, or unique plant species and communities from reduction of their range and degradation of their environment.
7. To protect and enhance watershed quality.

Policies:

1. The Town shall preserve the resort-alpine character of Mammoth Lakes through the adoption of tree preservation standards which retain heritage trees[3] and groves where reasonable, and retain to the maximum extent feasible, the forest canopy and forested character of the Town. Native tree species should be planted to help offset the loss of trees unavoidably removed during construction.
2. The Town shall inventory and map all natural vegetation with an emphasis on the location and identification of rare, unique, and endangered species.

[3] *i.e., significant stands of old growth trees of unique or heritage quality, and large individual specimens.*

3. Riparian and in-channel[4] vegetation shall be preserved or restored to the maximum extent possible to protect water quality and the wildlife habitat associated with riparian corridors, through the application of design criteria and incentives in the Town Development Code.
4. The Town in coordination with Mono County, the USFS, the Mammoth Lakes Fire Protection District, and other nearby fire districts shall implement a "Fire Safe" program, similar to that endorsed by the County Board of Supervisors Association.
5. Vegetation species which are rare, unique, or endangered shall be protected from destruction or alteration to their environment which would impair their vigor.
6. Natural vegetation shall be maintained in deer migration corridors through the application of design criteria in the Town Development Code.
7. Sensitive habitat areas shall be protected through open space buffers, fencing and signage, construction of roads, trails and paths away from sensitive areas, and reduction of removal of development densities near sensitive areas.
8. Landscaping plantings shall be required to: 1) be of the native plant species they replace, and/or non-invasive, and 2) drought resistant, to the greatest extent feasible, in accordance with design criteria in the Town Development Code.
9. Landscaping plans which require intensive summer irrigation, fertilization and intensive landscaping should be discouraged by design criteria and disincentives in the Town Development Code.
10. Motorcycles, all-terrain bicycles, and other vehicles shall be restricted in ecologically sensitive areas.

Wildlife Resources

Goals:

1. To identify and avoid degradation and destruction of wildlife and natural wildlife habitats.
2. To protect the deer herds and their migration routes.
3. To conserve and develop wildlife resources which provide outdoor recreation, provide economic benefits, or have scientific or education value.

Policies:

1. Through development controls and incentives, the Town shall identify: 1) primary habitat areas which shall be protected from intrusion by development and human activity; and 2) other habitat areas in which the impact of development and human activity will be minimized.
2. The Town shall maximize the protection of primary wildlife habitats through public and/or private management programs which include: 1) requiring (encouraging) the construction of

[4] *i.e., the bank vegetation between the water's edge and the topographic break at the level of the surrounding terrain.*

active and passive recreation and development areas away from the habitat; and 2) use fences, or other barriers and buffer zones.

3. The Town shall minimize the impact of development and human activity on non-primary habitat areas through: 1) retaining of natural vegetation in proposed development areas; 2) providing buffers where necessary and design controls; 3) by enforcing leash laws and providing public information concerning the potential destruction of wildlife by domestic pets; and 4) by clustering development away from these areas to the maximum extent practicable.
4. The Town shall protect the deer herds and their migration corridors to the maximum practical extent through: a) provision of open space buffers between developments adjacent to migration corridors; b) limited construction of new roads crossing migration routes; and c) modification of existing road impacts to deer migration areas by measures which could include: 1) posting signs; 2) limiting driving speeds; and 3) devising channels for migrating animals.
5. In-stream water quality and quantity shall be maintained to preserve riparian habitats.
6. Noise level and congregation of people and/or equipment shall be kept to levels compatible with the affected species.

Water Resources

Goals:

1. To maintain and improve the quality and dependability of water sources.
2. To safeguard the productive capacity of surface and ground waters, the flood carrying capacity of streams, and the storage capacity of reservoirs.
3. To provide for the aesthetic enjoyment and other beneficial uses of Mammoth Lakes' water resources.
4. To minimize flooding, sedimentation, and water pollution so as to avoid property damage, safety hazards, and disruption of the areas' ecology.
5. To identify, preserve, and enhance selected water resources and resource areas, in response to their open space and conservation value, and their future use and enjoyment by residents and visitors.

Policies:

1. The quality and quantity of surface and ground waters should be maintained at acceptable levels as determined by appropriate agencies.
2. 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 shall be carefully identified, corridor setbacks established and strict regulations precluding riparian vegetation removal and creek regimen modification shall be adopted.
3. The Town shall develop a stream corridor preservation plan for the Mammoth Creek corridor. An Open Space Stream Conservation corridor (OSSC) has been designated along the creek.

4. The Town shall carefully regulate development encroachment into flood plains and the perimeter of natural waterbodies.
5. The Town shall carefully regulate construction and other activities and development, that which would cause or accelerate erosion sedimentation, water pollution, and runoff volumes.

Open Space

Goals:

1. To protect the natural and man-made resources of Mammoth Lakes for the purpose of: 1) protection of the health and safety of the community; 2) preservation of natural resources; 3) provision of outdoor recreation; and 4) management of natural resources.
2. To protect the community's natural beauty.
3. To minimize disturbance of the natural terrain and native vegetation.

Policies:

1. The Town shall develop criteria in the Town Development Code which implement the resource and open space goals and policies in this element and in the other elements and sections of the General Plan.
2. The Town shall designate Special Conservation Planning Areas within the community which have special resources and open space value as defined by policies in the General Plan and by criteria in the Town Development Code. These special conservation areas will be subject to special design and development controls set forth in the Development Code.
3. The Town may use, as appropriate, development clustering or transfers of development rights (TDRs) in areas of formally designated open space of Special Conservation Planning Areas.

Town of Mammoth Lakes Municipal Code

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

- Chapter 6.24 Feeding Wildlife Prohibited – Prohibits feeding or in any manner providing food for one or more non-domesticated mammalian predators or rodents, including but not limited to bears, mountain lions, coyotes, raccoons, mice or squirrels, except in those instances outlined in Chapter 6.24-020 (e.g., person is the owner of non-domesticated animal and possess authorization from the appropriate agency(ies) and where person provides foods for trapped, injured or unweaned non-domesticated animal between the time the agency in charge of animal control is notified and such animal is picked-up).
- Chapter 12.08 Land Clearing, Earthwork, and Drainage Facilities – Regulates work on public and private property in order to control grading, earthwork, clearing, erosion, sedimentation, drainage interference, and to promote the conservation of natural resources, including the natural

beauties of the land, streams and watersheds, hills, trees and vegetation; to protect the public health and safety; and to generally preserve the terrain and the flora in their natural state as much as possible.

- Chapter 12.28 Animal Poisoning and Trapping – Prohibits the use or attempt to use poison on any animal or use or set any trap to confine, hold, grasp, clamp, crush any animal located within the boundaries described in Section 12.28.050 located in the Town, except in those instances outlined in Chapter 12.28-030 (e.g., any officer, employee or agent or person acting with permission of the animal control department of the Town acting in his or her official capacity, any owner or lessee or renter of real property or the agent of such owner or lessee or renter may poison or trap mice, rats, rodents and other vermin of less than five pounds live body weight, etc.).
- Chapter 15.36 Water-Efficient Landscaping Regulations – Promotes the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible, establishes a structure for designing, installing, and maintaining water efficient landscapes in new projects; and establishes provisions for water management practices and water waste prevention for established landscapes.
- Chapter 17.16.050 Grading and Clearing (B) – Requires the preservation of existing trees and vegetation in all residential zones. Existing trees and vegetation shall be preserved to the maximum extent possible. No live trees over six inches in diameter shall be removed without prior approval of the planning director. The director shall base his approval upon the health of the tree(s), the necessity to remove the tree(s) because of building or driveway construction or snow removal/storage, potential hazard or solar access. Creation of views, lawns or similar amenities shall not be sufficient cause to remove native trees. As mitigation for tree removal, the planning director may require replacement plantings. Required replacement shall not exceed a total trunk diameter equal to that removed and shall be limited to plantings in areas suitable for tree replacement.
- Chapter 17.34 Outdoor Lighting – Provides rules and regulations for outdoor lighting within the Town to promote safe and pleasant nighttime environment for residents and visitors; to protect and improve safe travel for all modes of transportation; to prevent nuisances cause by unnecessary light intensity, direct glare, and light trespass; to protect the ability to view the night sky by restricting unnecessary upward projection of light; to phase out existing non-conforming fixtures that violate this chapter, including those owned by the Town and other public agencies, and to promote lighting practices and systems to conserve energy.

BACKGROUND AND METHODS

The applicant's consultants completed the following biological resources reports for the Project site.

- *Snowcreek 7 – Preliminary Biological Assessment* prepared by Denise Duffy & Associates, Inc., October 20, 2005.

- *Snowcreek 8 – Biological Assessment* prepared by Denise Duffy & Associates, Inc., October 11, 2006.
- *Snowcreek 8 – Addendum to Biological Assessment* prepared by Denise Duffy & Associates, Inc., November 16, 2006.
- *Hilltop Site – Snowcreek Area 7 Wetland Delineation Report* prepared by Resource Concepts, Inc., August 2005.
- *Identification/Delineation of Wetlands on a Portion of Snowcreek Resort Property in Mammoth Lakes (Mono County), California* prepared by D.R. Sanders and Associates, Inc., June 27, 2002.

The general purpose of the biological assessments prepared by Denise Duffy & Associates, Inc. (DD&A) was to (1) provide a description of the existing biological conditions of the site, (2) determine the potential for special-status plant and animal species and sensitive habitats to occur on the site, (3) identify potential impacts to biological resources that may occur as a result of the Project, and (4) provide avoidance and minimization measures to reduce potential impacts. DD&A reviewed available background information pertaining to the biological resources in the vicinity of the Project site and conducted general vegetation and animal surveys on the site on August 8-10, 2005. On August 24, 2006 DD&A revisited a portion of the site to determine whether existing conditions had changed since their previous surveys.

The wetland delineations on the site evaluated the nature and extent of areas that could be considered jurisdictional waters of the United States, including wetlands. Resource Concepts, Inc. (RCI) completed the wetland studies on the northernmost parcel (APN 40-040-20) of the site, located on the north side of Old Mammoth Road, on July 19, 2005, while D.R. Sanders and Associates, Inc. (DRSA) completed the studies on a portion of the parcels located on the south side of the Old Mammoth Road on May 8-9, 2002. DRSA surveyed five of the seven parcels (APN 40-070-10, 40-070-11, 40-070-12, 40-140-04, and 40-140-05).

The EIR consultant, Christopher A. Joseph & Associates (CAJA), reviewed the biological resources reports mentioned above to verify the adequacy, completeness, and accuracy of these reports for their use in this section of the Draft EIR. CAJA also conducted a field reconnaissance of the study area on October 25, 2006 to evaluate the impacts of the Project on biological resources. The methods used to assess the biological resources in the study area are described in more detail below. Prior to conducting the field reconnaissance, CAJA also reviewed the following background documents.

- *Proposed Draft Environmental Impact Report for Snowcreek at Mammoth* prepared by Urbanomic Research Associates, August 1974.
- *Draft Environmental Impact Report for the Updated Master Plan for Snowcreek at Mammoth Lakes* prepared by Triad Engineering, April 1981.
- *The Town of Mammoth Lakes General Plan* prepared by the Town of Mammoth Lakes, October 1987.

- *Final Environmental Impact Statement for Sherwin Ski Area* prepared by the United States Department of Agriculture, Forest Service, 1990.
- *Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project* prepared by the United States Department of Agriculture, Forest Service, June 1997.
- *Draft Environmental Impact Report/Environmental Impact Statement for the Proposed Changes in Mammoth Creek Instream Flow Requirements, Change of Point of Measurement, and Change of Place of Use*, prepared by CH2MHill/Sacramento, November 2000.
- *Snow Creek Land Exchange Environmental Assessment* prepared by the United States Department of Agriculture, Forest Service, Pacific Southwest Region, Inyo National Forest, 2003.
- *Revised Draft Program Environmental Impact Report for the Town of Mammoth Lakes 2005 General Plan Update* prepared by the Town of Mammoth Lakes, October 2005.

CAJA also contacted representatives for the Corps, CDFG, and the RWQCB to discuss the Project and potential impacts on jurisdictional resources.

Vegetation Communities

The vegetation communities identified in the study area are classified, based on the USFS's CALVEG (Classification and Assessment with Landsat of Visible Ecological Groupings) system.[5] The CALVEG system is a hierarchical classification system of vegetation designed to assess vegetation-related resources throughout California. The Pacific Southwest Region of the USFS initiated this system in the late 1970s to describe and map natural vegetation within the state.

Special Status Species

For the purposes of this analysis, special-status species include those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or NOAA Fisheries under the FESA; those listed or proposed for listing as rare, threatened, or endangered by the CDFG under the CESA; plants occurring on List 1A, List 1B, and List 2 of the CNPS Inventory; plants and animals designated as "species of special concern" or "fully protected" by the CDFG; and plants and animals designated as "sensitive" by the USFS.

The potential occurrence of special-status species in the study area was evaluated by first developing a list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the Project site based on a search of the CNDDB and CNPS Electronic Inventory records, including the Old Mammoth (434B) U.S. Geological Service (USGS) 7.5-Minute Quadrangle and the eight surrounding

[5] *U.S. Forest Service. The CALVEG System. Accessed November 28, 2006. Available from http://www.fs.fed.us/r5/rsl/projects/classification/system.*

USGS quadrangles[6,7] and review of the USFWS List of Listed, Proposed, and Candidate Species Which May Occur in Mono County,[8] *The Town of Mammoth Lakes General Plan,*[9] and *The Town of Mammoth Lakes 2005 General Plan Update Draft EIR.*.[10] Each species was then evaluated for its potential to occur in the study area according to the following criteria:

(1) **No**. Species listed as having "no" potential to occur in the study area are those species for which:

- There is no suitable habitat present in the study area (i.e., habitats in the study area are unsuitable for the species requirements (e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, disturbance regime, etc.).
- The study area has been surveyed during the proper time of year with negative results for the species.

(2) **Low**. Species listed as having a "low" potential to occur in the study area are those species for which:

- There are no known records of occurrence in the vicinity of the Project site; and/or
- There is marginal or very limited suitable habitat present in the study area;

(3) **Medium**. Species listed as having a "medium" potential to occur in the study area are those species for which:

- There are known records of occurrence in the vicinity of the Project site; and/or
- There is marginal suitable habitat present in the study area.

(4) **High**. Species listed as having a "high" potential to occur in the study area are those species for which:

- There are known records of occurrence in the vicinity of the Project site (there are many records and/or records in close proximity); and/or

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6 *California Department of Fish and Game. 2006 California Natural Diversity Database (CNDDB) Rarefind [CD-ROM], Wildlife Habitat Data Analysis Branch, California Department of Fish and Game. Sacramento: California.*

7 *California Native Plant Society. 2006. Inventory of Rare and Endangered Plants (online edition, v7-06d). California Native Plant Society, Sacramento. Accessed on November 6, 2006 from http://cnps.org/inventory.*

8 *U.S. Fish and Wildlife Service. November 6, 2006. Listed, Proposed, and Candidate Species which May Occur in Mono County. Ventura (CA): Ventura Fish and Wildlife Office. Accessed November 6, 2006. Available from http://www.fws.gov/ventura/esprograms/listing%5Fch/*

9 *Town of Mammoth Lakes. 1987. Town of Mammoth Lakes General Plan.*

10 *Town of Mammoth Lakes. 2005. Revised Draft Program Environmental Impact Report for the Town of Mammoth Lakes 2005 General Plan Update.*

- There is suitable habitat present in the study area.

(5) **Present**. Species listed as "present" in the study area are those species for which:

- The species was observed in the study area.

Table IV.D-1, beginning on page 24, presents the list of special-status plants and animals that are known to or have the potential to occur in the vicinity of the Project site, their habitat requirements, and a rating of potential for occurrence in the study area. Only those species identified as having a "medium" or "high" potential to occur in the study area, and those identified as "present" are discussed further in this section of the Draft EIR.

Sensitive Natural Communities

Sensitive natural communities include those such as riparian habitats, wetlands, and habitats for protected species. These communities are usually identified in local or regional plans, policies, or regulations, or by federal or state agencies (e.g., USFWS, Corps, CDFG, RWQCB). Vegetation communities and wildlife habitats identified in the study area were evaluated to determine if they are considered sensitive by local, state, or federal agencies. The specific methods used to determine potential presence of sensitive natural communities are described in more detail below.

Riparian Habitat

A review of aerial photographs and Project site photographs, and an on-site inspection of the drainages, ponds, and other aquatic features was conducted to determine if the banks of these features support hydrophytic or stream-dependent woody plant species (i.e., riparian species). In addition, the biological and wetland assessments were reviewed to determine whether riparian habitat was noted during surveys conducted by the applicant's consultants.

Waters of the United States & Waters of the State

The presence and extent of waters of the United States and waters of the State in the study area were inferred by reviewing the wetland delineation reports completed by the applicant's consultants and the following letters from the Corps to the applicant regarding the extent of its jurisdiction on the Project site, pursuant to Section 404 of the CWA.

- *U.S. Army Corps of Engineers, Letter to Chadmar Group, Resource Concepts, Inc. February 1, 2006. File Number 200600051-BAH.*
- *U.S. Army Corps of Engineers, Letter to Dempsy Construction Corporation. October 17, 2002.*
- *U.S. Army Corps of Engineers, Letter to Dempsy Construction Corporation. July 8, 2003.*

The delineations were based on the technical guidelines and methods in the *1987 Corps of Engineers Wetland Delineation Manual.*[11] Under these procedures, an area is a wetland if positive wetland indicators are present for each of the three wetland parameters – (1) vegetation, (2) soil, and (3) hydrology. If positive wetland indicators cannot be determined for any one of these parameters, the area is not a wetland. In the absence of adjacent wetlands, the Corps jurisdiction extends to the ordinary high water mark (OHWM) of the water. Because the delineations did not encompass all portions of the Project site, CAJA conducted a reconnaissance-level survey of those portions of the study area that were not evaluated.

EXISTING CONDITIONS

Vegetation Communities and Wildlife Habitats

Vegetation communities and wildlife habitats identified in the study area are described below and illustrated in Figure IV.D-1. Plant species identified during general vegetation and animal surveys conducted by the applicant's consultant are listed in Appendix D. As discussed above in the Background and Methods section, descriptions below are derived from the CALVEG classification system, except where specific comments are made regarding conditions in the study area.

Basin Sagebrush

Basin sagebrush is found within a wide elevation range, mainly from 3,600 to 9,800 feet (1,098 to 2,990 meters), and is very prominent on the eastern slopes of the Sierras and on the Kern plateau. Basin sagebrush is usually found on frigid soils having little or no soil profile development and in coarse depositional areas. In the study area, basin sagebrush is one of the primary vegetation communities in the development area and is located in topographically higher locations. Basin sagebrush (*Artemisia tridentata*) is the dominant shrub in this vegetation community in the study area; common associated shrubs include gray rabbitbrush (*Chrysothamnus nauseosus*) and bitterbrush (*Purshia tridentata*), as well as other scattered native shrubs such as mountain snowberry (*Symphoricarpus vaccinoides*) and squaw currant (*Ribes cereum*). The relatively open shrub canopy in this community includes areas of bare ground, as well as sparsely distributed perennial and annual grasses and forbs. There are also Jeffrey pine (*Pinus jeffreyi*) and lodgepole pine (*Pinus contorta*) scattered throughout the basin sagebrush in the study area.

Willow-Alder Riparian

Willow-alder riparian vegetation is generally found along streams or in seepage areas in the northern Sierras, at elevations generally between 2,600 and 7,000 (792 and 2,130 meters). In the study area,

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[11] *Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-7, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss..*

willow-alder riparian vegetation is found outside of the development area, primarily along Mammoth Creek in the open space area; however, small patches are also found around the existing golf course ponds. Willow (*Salix lucida, S. planifolia*) is the dominant tree in this vegetation community, forming somewhat dense canopy, with patches of mountain alder (*Alnus tenuifolia*) and quaking aspen (*Populus tremuloides*) occurring throughout. The understory is generally sparse and consists of perennial grasses and wetland forbs.

Annual Grasses and Forbs

Annual grasses and forbs are generally found in areas which have been disturbed or burned, and are found at a wide variety of elevations and soil types. In the study area, this vegetation community is found within the development area, predominantly in the vicinity of Fairway Drive where previous development activities associated with nearby residences and the golf course have likely disturbed the previously existing natural vegetation. In the *Snowcreek 8 – Biological Assessment,* this area was mapped as developed/disturbed; however, it has been reclassified for the purposes of this section of the Draft EIR to more closely match the vegetation community descriptions in the CALVEG system. Areas of cleared or stockpiled dead vegetation were observed within this community near Fairway Drive. Annual grasses and forbs vegetation is dominated by non-native annual grasses, such as foxtail barley (*Hordeum jubatum*) and wild oat (*Avena* sp.), as well as non-native forbs including toadflax (*Linaria* sp.) and mustard (*Brassica* sp.). Native species observed interspersed through this vegetation community include basin sagebrush, gray rabbitbrush, squirreltail (*Elymus elymoides*), and yarrow (*Achillea* sp.).

Wet Meadow

Wet meadow is generally found in low-lying areas or depressions near a perennial water source, such as a lakeshore or stream bank, or where the water table is near the surface year round. In the study area, this vegetation community is found outside of the development area and is adjacent to the willow-alder riparian community associated with Mammoth Creek in the open space area. The wet meadow is within the area designated as open space. Wet meadow vegetation in the study area is composed of sedge (*Carex jonesii, C. lasiocarpa, C. nebrascensis*) and Baltic rush (*Juncus balticus*), and contains other perennial forbs such as corn lily (*Veratrum californicum*), cow parsnip (*Heracleum sphondylium*), meadow lupine (*Lupinus polyphyllus*), willow herb (*Epilobium* sp.). Grasses present in this community include reedgrass (*Calamagrostis canadensis*) and bentgrass (*Agrostis idahoensis*).

Perennial Grasses and Forbs

Perennial grasses and forbs are generally found in dry to moist grassland or meadows, in which it is difficult to determine species composition, and it is often difficult to separate it from the wet meadows and alpine grasses and forbs communities. Perennial grasses and forbs communities generally are within elevations of about 6,800 to 11,200 feet (2,074 to 3,416 meters), spanning the mid-montane to alpine regions. In the study area, this vegetation community is found within the development area,

predominantly in the southern portion of the study area east of Fairway Drive. In the *Snowcreek 8 – Biological Assessment*, this area was mapped as meadow; however, it has been reclassified for the purposes of this document to more closely match the vegetation community descriptions in the CALVEG system. This community is dominated perennial grasses such as creeping wild rye (*Leymus triticoides*), squirreltail, and needlegrass (*Achnatherum* spp.), as well as Baltic rush, Nebraska sedge (*Carex nebrascensis*), and Rocky Mountain iris (*Iris missouriensis*). Other annual grasses and forbs are present throughout.

Tule-Cattail

Tule-cattail vegetation occurs around the margins of lakes and springs that are permanently flooded and usually accumulate deep, peaty soils. In the study area, this vegetation community is found outside of the development area along the edges of a few constructed ponds on the golf course, and within shallow artificial drainages connecting these ponds. The tule-cattail vegetation in the study area is dominated by cattails (*Typha* sp.), but also supports sedges, rushes, and a few quaking aspen and willow.

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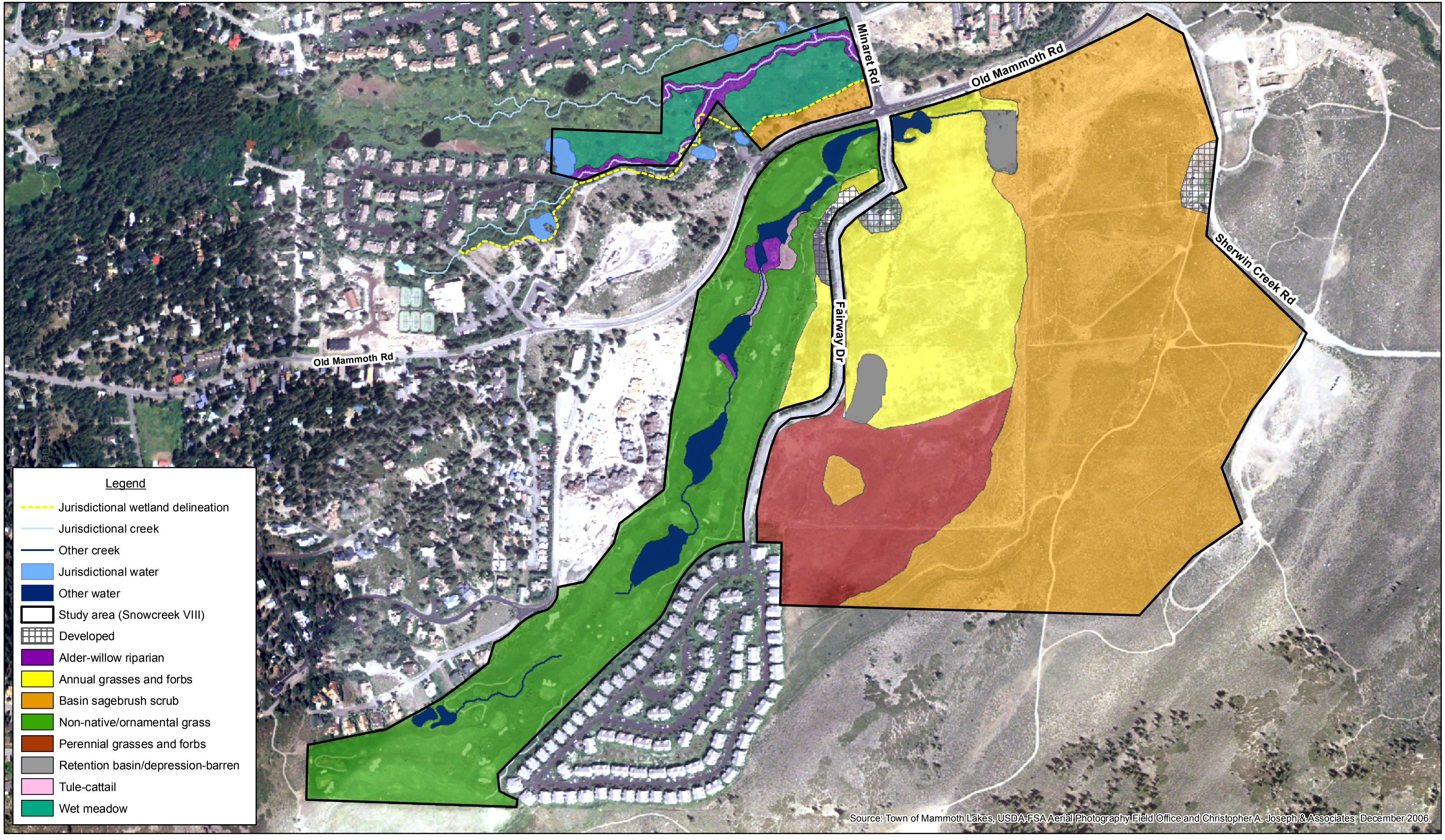

CHRISTOPHER A. JOSEPH & ASSOCIATES
Environmental Planning and Research

NORTH

0 500 1,000 1,500 2,000
Feet

Figure IV.D-1
Plant Communities

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Non-native/Ornamental Grass

Non-native/ornamental grass occurs in association with heavily landscaped areas such as urban and residential developments, parks, recreational areas, highways, cemeteries, and golf courses. In the study area, this vegetation community is found within the development area on the existing nine-hole golf course, and is composed of managed turfgrass. Associated landscape trees and shrubs are found within and surrounding the golf course.

Barren (Retention Basins)

Landscapes generally devoid of vegetation are labeled as barren, including areas in which surface lithology is dominant, such as exposed bedrock, cliffs, interior sandy or gypsum areas, and the like. It does not include areas considered as modified or developed, as in urban areas. In the *Snowcreek 8 – Biological Assessment*, these areas were mapped as retention basins; however, they have been somewhat reclassified for the purposes of this section of the Draft EIR to more closely match the descriptions in the CALVEG system. In the study area, barren areas are found within the development area in the two retention basins; one active basin south of Old Mammoth Road, which receives overflow water from the golf course ponds, and one former basin east of Fairway Drive, which no longer regularly receives or holds water. These basins are generally unvegetated and consist of exposed, pale silty soil and/or cobbles. Scattered willows (*Salix* spp.) are present in the retention basin south of Old Mammoth Road.

Water

Water consists of areas of permanent or nearly permanent water, including lakes, streams canals and similar water bodies. These areas are generally unvegetated except along the edges, which may support tule-cattail, wet meadow, or riparian vegetation. In the study area, water is found outside the development area within Mammoth Creek and several ponds near Mammoth Creek in the open space area, as well as the golf course ponds and associated drainages.

Developed

Developed areas are dominated by urban structures, residential units, or other developed land use elements such as highways, city parks, cemeteries and the like. In the study area, developed areas are found in the development area and include the Snowcreek Sales Office, golf course parking lots and structures, and the USFS pack station along Sherwin Creek Road.

Wildlife

The vegetation communities present in the study area and the surrounding area likely provides habitat for a wide variety of wildlife species. Basin sagebrush is generally very important to wildlife because it often serves as habitat for some of the more important game animals and occupies such a vast area. It is a major winter-range habitat for migratory mule deer (*Odocoileus hemionus*) herds. Riparian communities

have an exceptional high value for wildlife species, providing water, thermal cover, movement corridor, and diverse nesting and feeding opportunities. Adjacent waters and ponds provide suitable habitat for aquatic species (e.g., brown trout [*Salmo trutta*], rainbow trout [*Oncorhynchus mykiss*], western toad [*Bufo boreas*], Pacific tree frog [*Hyla regilla*]) and waterfowl (e.g., mallard [*Anas platyrhynchos*], northern pintail [*Anas acuta*]). Although the wet meadow and tule-cattail communities are generally too wet to support small mammals, various amphibians and reptiles, and birds are often abundant in these communities. Many wildlife species use the annual grasses and forbs and perennial grasses and forbs communities for foraging, but some may require special habitat features, such as cliffs, caves, and ponds, for breeding, resting, and escape cover. Mammals typically found in the grasses and forbs communities include jackrabbit (*Lepus* sp.), ground squirrel (*Spermophilus* sp.), vole (*Microtus* sp.), badger (*Taxidea taxus*), and coyote (*Canis latrans*). Common birds known to breed in these habitats include horned lark (*Eremophila alpestris*) and meadow lark (*Sturnella neglecta*). Given the proximity of the non-native/ornamental grass, barren, and developed communities to the natural vegetation communities in the study area, many of the wildlife species using these other habitats may occasionally occur within the disturbed areas in the study area, especially those animals less sensitive to human-related disturbances.

The following wildlife species were observed in the study area during CAJA's field reconnaissance: American coot (*Fulica americana*), American kestrel (*Falco sparverius*), Clark's nutcracker (*Nucifraga columbiana*), common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), pigeon (*Columba* sp.), red-tailed hawk (*Buteojamaicensis*), and red-wing blackbird (*Agelaius phoeniceus*). Evidence of mule deer (e.g., pellets) and jackrabbit (e.g., carcass) were also observed.

Special-Status Species

As discussed above in the Background and Methods section, the special-status plant and animal species evaluated for their potential to occur in the study area are listed below in Table IV.D-1. Those species rated as having a "medium" or "high" potential for occurrence or identified as "present" are discussed further below. The plants and animals rated as having "no" or "low" potential for occurrence are not discussed because these species are not likely to occur in the study area due to the fact that the general habitat and/or micro-habitat requirements for the species are not present, the species distribution does not include the study area, or the species was not detected during field surveys.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Plant Species	Status[1]					Habitat/Blooming Period	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CNPS	USFS		
Arabis cobrensis (Masonic rock cress)	--	--	G5/S1S2	2.3	S	Sandy soils in Great Basin scrub and pinyon and juniper woodland; 4,510-10,190 feet (ft) (1,375-3,105 meters (m)); June-July.	**Medium**. There is suitable habitat within the basin sagebrush community present in the study area.
Arabis pinzliae (Pinlz's rock cress)	--	--	G2/S1.3	1B.3	S	Alpine boulder and rock fields and scree or sandy soils in subalpine coniferous forest; 9,840-10,990 ft (3,000-3,350 m); July.	**No**. Although there is an occurrence recorded approximately 8 miles (mi) northwest (NW) of the Project site, there is no suitable habitat present in the study area. The study area does not support habitats this species typically inhabits and is below the elevation range occupied by this species.
Astragalus johannis-howellii (Long Valley milk-vetch)	--	R	G2/S2.2	1B.2	--	Sandy volcanic ash or pumice in Great Basin or sagebrush scrub; 6,690-8,300 ft (2,040-2,530 m); June-August.	**Low**. Although there is suitable scrub habitat present in the study area and the nearest occurrence is about 7 mi northeast (NE) of the Project site, sandy volcanic ash or pumice soils are not present. In addition, this species was not observed during 2005 and 2006 surveys conducted over the majority of the scrub habitat on the Project site.
Astragalus lemmonii (Lemmon's milk-vetch)	--	--	G3?/S2.2	1B.2	--	Great Basin scrub, meadows and seeps, and lake shore marshes and swamps; 4,200-7,220 ft (1,280-2,200 m); May-August.	**Medium**. There is suitable habitat within the wet meadow present in the study area. Additionally, there are two occurrences of recorded within approximately 12 mi of the Project site.
Astragalus lentiginosus var. *piscinensis* (Fish Slough milk-vetch)	T	--	G5T1/S1.1	1B.1	--	Alkaline playas, on mounds in alkali meadows with sparse vegetative cover; 3,710-4,270 ft (1,130-1,300 m); June-July.	**No**. The study area does not support habitats this species typically inhabits and is above the elevation range occupied by this species.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Plant Species	Status[1]					Habitat/Blooming Period	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CNPS	USFS		
Astragalus monoensis var. *monoensis* (Mono milk-vetch)	--	R	G2T2/S2	1B.2	S	Pumice flats with sparse vegetative cover in Great Basin scrub and upper montane coniferous forest; 3,890-11,010 ft (2,110-3,355 m); June-August.	**Low**. Although there is suitable scrub habitat present in the study area and the nearest occurrence is about 3 mi NE of the Project site, sparsely vegetated pumice flats are not present. In addition, this species was not observed during 2005 and 2006 surveys conducted over the majority of the scrub habitat on the Project site.
Botrychium ascendens (upswept moonwort)	--	--	G2G3/S1.3?	2.3	S	Mesic lower montane coniferous forest; 4,920-7,500 ft (1,500-2,285 m); July-August.	**No**. There is no suitable habitat present in the study area. The study area does not support habitats this species typically inhabits. Additionally, there are no occurrences recorded in the vicinity[3] of the Project site.
Botrychium crenulatum (scalloped moonwort)	--	--	G3/S2.2	2.2	S	Bogs and fens, lower montane coniferous forest, meadows and seeps, and freshwater marshes and swamps; moist meadows near creeks; 4,920-10,760 ft (1,500-3,280 m); June-September.	**Medium**. Although there are no occurrences recorded in the vicinity of the Project site, there is suitable habitat for this species within the wet meadow community in the study area.
Botrychium lunaria (common moonwort)	--	--	G5/S2?	2.3	--	Meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest; 7,480-11,150 ft (2,280-3,400 m); August.	**Medium**. Although there are no occurrences recorded in the vicinity of the Project site, there is suitable habitat for this species within the wet meadow community in the study area.
Botrychium minganense (mingan moonwort)	--	--	G4/S1.2	2.2	S	Mesic lower montane coniferous forest and upper montane coniferous forest; creek banks in mixed conifer forest; 4,920-6,740 ft (1,500-2,055 m); July-September.	**No**. The study area does not support habitats this species typically inhabits.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Plant Species	Status[1]					Habitat/Blooming Period	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CNPS	USFS		
Carex scirpoidea ssp. *pseudoscirpoidea* (single-spiked sedge)	--	--	G5T5/S1.2	2.2	--	Mesic, often carbonate or limestone alpine boulder and rock fields, meadow and seeps, and subalpine coniferous forest; 10,500-12,140 ft (3,200-3,700 m); July-September.	**No**. The study area is below the elevation range occupied by this species.
Centarium namophilum (spring-loving centaury)	T	--	--	--	--	Moist soils in generally alkaline scrub in valley bottoms; <4,920 ft (<1500 m).	**No**. The study area does not support habitats this species typically inhabits.
Crepis runcinata ssp.*hallii* (Hall's meadow hawksbeard)	--	--	G5T3?/S2?	2.1	--	Mesic, alkaline soils in Mojavean desert scrub and pinyon juniper woodland; 4,100-6,490 ft (1,250-1,978 m); May-July.	**No**. Although there is an occurrence recorded approximately 9 mi NE of the Project site, the study area does not support habitats this species typically inhabits and is above the elevation range occupied by this species.
Draba breweri var. *cana* (hoary draba)	--	--	G5T5/S1.3	2.3	--	Carbonate soils in alpine boulder and rock fields, meadows and seeps, and subalpine coniferous forest; 9,840-11,500 ft (3,000-3,505 m); July.	**No**. Although there are several occurrences recorded within approximately 8 mi of the Project site, the study area is below the elevation range occupied by this species. Species known from only two occurrences.
Draba incrassata (Sweetwater Mountains draba)	--	--	G3/S3.3	1B.3	--	Rhyolitic talus in alpine boulder and rock fields; 8,200-13,010 ft (2,500-3,965 m); July-August.	**No**. Although there is an occurrence recorded approximately 9 mi southeast (SE) of the Project site, the study area does not support habitats this species typically inhabits.
Draba lonchocarpa var. *lonchocarpa* (spear-fruited draba)	--	--	G5T5/S1.3	2.3	--	Carbonate/limestone, scree in alpine boulder and rock fields; 9,840-10,810 ft (3,000-3,295 m); June-July.	**No**. Although there is an occurrence recorded approximately 7 mi SE of the Project site, the study area does not support habitats this species typically inhabits and is below the elevation range occupied by this species.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Plant Species	Status[1]					Habitat/Blooming Period	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CNPS	USFS		
Draba praealta (subalpine draba)	--	--	G5/S2.3	2.3	--	Mesic meadows and seeps; 8,200-11,200 ft (2,500-3,415 m); July-August.	**Medium**. There is suitable habitat within the wet meadow community present in the study area. Additionally, there is an occurrence recorded approximately 7 mi SE of the Project site.
Elymus scribneri (Scribner's wheat grass)	--	--	G5/S2?	2.3	--	Alpine boulder and rock fields, on rocky slopes; 9,510-13,780 ft (2,900-4,200 m); July-August.	**No**. Although there is an occurrence recorded approximately 8 mi SE of the Project site, the study area does not support habitats this species typically inhabits and is below the elevation range occupied by this species.
Epilobium howellii (subalpine fireweed)	--	--	G2/S2.3	1B.3	--	Meadows and seeps and mesic subalpine coniferous forest; wet meadows and mossy seeps; 6,560-8,860 ft (2,000-2,700 m); July-August.	**High**. There is suitable habitat within the wet meadow community present in the study area. Additionally, there are two occurrences recorded within approximately 5 mi of the Project site. The nearest occurrence is approximately 1 mi west (W) of the Project site.
Helodium blandowii (Blandow's bog-moss)	--	--	G5/S1.3	2.3	--	Meadows and seeps and damp soils in subalpine coniferous forest; 6,560-8,860 ft (2,000-2,700 m).	**Medium**. There is suitable habitat within the wet meadow community present in the study area. Additionally, there is an occurrence recorded approximately 14 mi SE of the Project site.
Hulsea brevifolia (short-leaved hulsea)	--	--	G3/S3.2	1B.2	S	Granitic or volcanic, gravelly or sandy soils in lower montane coniferous forest and upper montane coniferous forest; 4,920-10,500 ft (1,500-3,200 m); May-August.	**No**. Although there are two occurrences recorded within 6 mi of the Project site, there is no suitable habitat present in the study area. The study area does not support habitats this species typically inhabits.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Plant Species	Status[1]					Habitat/Blooming Period	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CNPS	USFS		
Hulsea vestita ssp. *inyoensis* (Inyo hulsea)	--	--	G5T2T3/S1.2	2.2	S	Rocky soils in chenopod scrub, Great Basin scrub, and pinyon and juniper woodland, in volcanic ash on steep slopes; 5,400-9,840 ft (1,645-3,000 m); April-June.	**Low**. Although suitable scrub habitat is present on the in the study area, no volcanic ash or rocky soils are present on steep slopes and there are no occurrences recorded in the vicinity of the Project site.
Ivesia kingii var. *kingii* (alkali ivesia)	--	--	G3T2Q/S2.2	1B.2	--	Mesic, alkaline clay soils in Great Basin scrub, meadows and seeps, and playas; 3,940-6,990 ft (1,200-2,130 m); May-August.	**No**. Although there are several occurrences recorded within 11 mi of the Project site, there is no suitable habitat present in the study area.
Kobresia bellardii (seep kobresia)	--	--	G5/S1.3	2.3	--	Alpine boulder and rock fields, meadows and seeps, and subalpine coniferous forest; 9,690-10,600 ft (2,955-3,230 m); August.	**No**. Although there is an occurrence recorded approximately 5 mi SE of the Project site, the study area does not support habitats this species typically inhabits.
Lupinus duranii (Mono Lake lupine)	--	--	G2/S2.2	1B.2	--	Volcanic pumice, gravelly soils in Great Basin scrub, subalpine coniferous forest, and upper montane coniferous forest; 6,560-9,840 ft (2,000-3,000 m); May-August.	**Low**. Although there is suitable scrub habitat in the study area and the nearest occurrence of this species is approximately 1 mi northwest (NW) of the Project site, volcanic pumice or gravel soils are not present. In addition, this species was not observed during 2005 and 2006 surveys conducted over the majority of the scrub habitat on the Project site.
Lupinus lepidus var. *culbertsonii* (Hockett Meadows lupine)	--	--	G3?T1/S1.3	1B.3	--	Meadows and seeps and mesic rocky soils in upper montane coniferous forest; 8,000-9,840 ft (2,440-3,000 m); July-August.	**Medium**. There is suitable habitat within wet meadow community present in the study area.
Pedicularis crenulata (scalloped-leaved lousewort)	--	--	G4/S1.2	2.2	--	Mesic meadows and seep; 6,890-7,550 ft (2,100-2,300 m); June-July.	**Medium**. Although there are no occurrences recorded in the vicinity of the Project site, there is suitable habitat within the wet meadow community present in the study area.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Plant Species	Status[1]					Habitat/Blooming Period	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CNPS	USFS		
Phacelia inyoensis (Inyo phacelia)	--	--	G3/S2.3	1B.2	--	Alkaline soils in meadows and seeps; 3,000-10,500 ft (915-3,200 m); April-August.	**No**. Although there are two occurrences recorded within 2 mi of the Project site, there is no suitable habitat present in the study area.
Potamogeton filiformis (slender-leaved pondweed)	--	--	G5/S1S2	2.2	--	Assorted shallow freshwater marshes and swamps; 980-7,050 ft (300-2,150 m); May-July.	**No**. Although there is an occurrence recorded in the vicinity of the Project site, there is no suitable habitat present in the study area.
Potamogeton robbinsii (Robbins's pondweed)	--	--	G5/SG2.3	2.3	--	Deep water, lakes, marshes and swamps; 5,200-10,830 ft (1,585-3,300 m); July-August.	**Medium**. There is suitable habitat within the open water ponds present in the study area. Additionally, there is an occurrence recorded approximately 5 mi W of the Project site. Only a portion of the ponds in the study area were surveyed in 2005 and 2006.
Salix brachycarpa ssp.*brachycarpa* (short-fruited willow)	--	--	G5T5/S1.3	2.3	--	Carbonate alpine dwarf scrub, meadows and seeps, and subalpine coniferous forest; 9,840-11,490 ft (3,000-3,500 m); June-July.	**No**. Although there are occurrences recorded within 9 mi of the Project site, the study area is below the elevation range occupied by this species.
Salix nivalis (snow willow)	--	--	G5/S1.3	2.3	--	Alpine dwarf scrub; 10,170-11,490 ft (3,100-3,500 m); July-August.	**No**. There is no suitable habitat present in the study area. The study area does not support habitats this species typically inhabits and is below the elevation range occupied by this species.
Scirpus pumilus (dwarf bulrush)	--	--	G5/S1.2	2.2	--	Riverbanks, carbonate soils in bogs and fens, marshes and swamps, and riparian scrub; 9,430-10,660 ft (2,875-3,250 m); August.	**No**. Although, there are two occurrences recorded within approximately 9 mi of the Project site, the study area is below the elevation range occupied by this species.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Plant Species	Status[1]					Habitat/Blooming Period	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CNPS	USFS		
Sedum pinetorum (Pine City sedum)	--	--	GUGH/SH	3	--	Rocky, open forest; 8,690 ft (2,650 m); July.	**No**. There is no suitable habitat present in the study area.
Sphaeromeria potentilloides var.*nitrophila* (alkali tansy-sage)	--	--	G5T4/S2.2	2.2	--	Usually alkaline meadows and seeps and playas; 6,890-7,870 ft (2,100-2,400 m); June-July.	**No**. Although, there are two occurrences recorded within approximately 13 mi of the Project site, there is no suitable habitat present in the study area.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Invertebrates							
Ambrysus funebris (Nevares Spring naucorid bug)	C	--	G1/S1	--	--	Endemic to the Travertine-Nevares Springs Complex within the boundary of Death Valley National Park. Prefers stream riffles that are swift enough to keep sand and silt from accumulating, but not so fast that coarse, gravelly substrates are removed. Water velocity and substrate size play a significant role in the presence or absence of the naucorid.	**No**. The Project site is outside of the naucorid's known distribution. A hundred percent of the naucorid's distribution is confined to federal lands that are administered by the National Park Service, Death Valley National Park. Additionally, the flightless nature of the species suggests it is unable to disperse to, or colonize, new aquatic habitats.
Pyrgulopsis owensensis (Owens Valley springsnail)	--	--	G1G2/S1S2	--	S	Inhabit springs and short sections of spring brook located below 2,286 m (7,500 ft) with good water quality, a sand or gravel substrate and aquatic vegetation where water velocities are moderate.	**No**. There is no suitable habitat present in the study area. The study area is above the elevation range occupied by this species. Additionally, there are no occurrences recorded in the vicinity of the Project site.
Pyrgulopsis wongi (Wong's springsnail)	--	--	G1G2/S1S2	--	S	Inhabit springs and short sections of spring brook located below 2,286 m (7,500 ft) with good water quality, a	**No**. There is no suitable habitat present in the study area. The study area is above the elevation range

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
						sand or gravel substrate and aquatic vegetation where water velocities are moderate.	occupied by this species. Additionally, there are no occurrences recorded in the vicinity of the Project site.
Fish							
Catostomus fumeiventris (Owens sucker)	--	--	G3/S3	CSC	--	Widely distributed throughout Owens Valley, including Mammoth and Hot creeks. Most abundant in sections with long runs and few riffles, and a substrate consisting mostly of fine material, with lesser amounts of gravel and rubble.	**Low**. Although this species is known to occur in Mammoth Creek, it is found in the lower reaches of the creek, east of Highway 395 to the confluence of Mammoth Creek and Hot Creek.[4]
Gila bicolor snyderi (Owen's tui chub)	E	E	G4T1/S1	--	--	Found in three known locations in Owens River drainage, including Hot Creek headsprings and Little Hot Creek. Primary habitat requirements include high quality, cool water with adequate cover in the form of rocks, undercut banks, or aquatic vegetation, and a sufficient insect food base.	**Low**. Although the lower reaches of Mammoth Creek supports an abundance of tui chub, these fish are believed to represent a hybridized population of Owens tui chub and Lahontan tui chub. Because of the introduction of Lahontan tui chubs into the Owens Valley, the only pure populations of Owens tui chub are restricted to locations where they remain isolated from interaction with Lahontan tui chubs or hybridized populations. The nearest pure population of Owen tui chub occur at the Hot Creek headsprings immediately upstream of the Hot Creek Fish Hatchery and at Little Hot Creek Pond.
Oncorhynchus clarkii henshawi (Lahontan cutthroat trout)	T	--	G4T3/S2	--	--	Inhabit lakes and streams and require spawning and nursery habitat characterized by cool water, pools in close proximity to cover and velocity	**No**. Lahontan cutthroat trout are not established in Mammoth Creek.[4]

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
						breaks, well vegetated and stable stream banks, and relatively silt free rocky substrate in riffle-run areas.	
Oncorhynchus clarkii seleniris (Paiute cutthroat trout)	T	--	G4T1T2/S1S2	CSC	--	Requires cool, well-oxygenated waters. Prefer stream pool habitat in low gradient meadows with undercut or overhanging banks and abundant riparian vegetation.	**No**. Paiute cutthroat trout are not established in Mammoth Creek.[4]
Rhinichthys osculus ssp. *2*[5] (Owens speckled dace)	--	--	G5T1T2Q/S1S2	CSC	--	Habitat generalist, able to occupy habitats as diverse as thermal springs, headwater, streams, and large rivers.	**Low**. This species is not likely to be found within the reach of Mammoth Creek in the study area because of the presence of non-native fish species (e.g., brown trout (*Salmo trutta*)) and the remaining populations are small and isolated. The current distribution of this species is restricted to several isolated locations in Owens Valley and Long Valley, including Whitmore Hot Springs and Little Alkali Lake.
Amphibians/Reptiles							
Bufo canorus (Yosemite toad)	C	--	G1G2/S1S2	CSC	S	Frequents wet mountain meadows and forest borders in elevations ranging from 6,400-11,318 ft (1,950-3,450 m). mostly above 9,000 ft (2,740 m). Obtains shelter in rodent burrows as well as in dense vegetation. Breeds in shallow edges of snow melt pools and ponds or along margins of lakes and slow-moving streams.	**Medium**. There is suitable habitat within the vegetation communities and waters present in the study area. Additionally, there are several occurrences recorded within approximately 12 mi of the Project site. The nearest occurrence is approximately 2 mi SW of the Project site.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Rana muscosa (mountain yellow-legged frog)	E[6]	--	G2/S2	CSC	S	Sunny riverbanks, meadow streams, isolated pools, and lake borders within the Sierra Nevada in elevations ranging from 600-12,000 ft (1,800-3,600 m). Seems to prefer sloping banks with rocks or vegetation to water's edge. Sierran frogs are most abundant in high elevation lakes and slow-moving portion of streams. Wintering sites include areas near shore under ledges and in deep underwater crevices.	**Low**. There is suitable habitat within the vegetation communities and waters present in the study area. Additionally, there are several occurrences of recorded within approximately 19 mi of the Project site. The nearest occurrence is approximately 6 mi SE of the Project site. However, waters in the study area, specifically Mammoth Creek, support a well-established population of brown trout, which are known to have a detrimental impact on yellow-legged frog populations.
Birds							
Accipiter gentilis (northern goshawk) nesting	--	--	G5/S3	CSC	S	Nest and forage in a variety of habitats including deciduous, coniferous, and mixed forests. Has a complexity of habitat needs in the breeding season, which vary among forest types and regions. Typically nests in mature or old-growth forests, and generally selects larger tracts of forest over smaller tracts. Forages in both heavily forested and relatively open habitats.	**Low**. Although there are several occurrences recorded within approximately 17 mi of the Project site, typical nesting habitat is not present on the site. The nearest occurrence is approximately 4 mi south (S) of the Project site. Goshawks may occasionally forage in the study area.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Aquila chrysaetos (golden eagle) nesting and foraging	--	--	G5/S3	CSC, FP	--	Breeds in open and semi-open habitats (e.g., tundra, shrublands, grasslands, woodland-brushlands, and coniferous forest). Also, in farmlands and riparian. Nests on rock ledge of cliffs, but also in large trees. Pair may have several alternate nests; may use the same nest in consecutive years or shift to alternate nest used in different years. Typically forages in open habitats (e.g., grassland or steppe-like).	**Low**. There is marginal nesting and foraging habitat present in the study area. However, there are no known occurrences in the vicinity of the Project site and the proximity to human-related activities likely precludes golden eagles from nesting in the study area.
Buteo swainsoni (Swainson's hawk) nesting	--	T	G5/S2	--	S	Require large, open grasslands with abundant prey in association with suitable nest trees. Suitable foraging habitat include native grasslands or lightly grazed pastures, alfalfa and other hay crops, certain grain and row croplands, sparse shrublands, and small, open woodlands. Suitable nest sites may be found in mature riparian forest, lone trees, or groves of oaks, other trees in agricultural fields, and mature roadside trees.	**Low**. Although there is suitable foraging habitat present in the study area, Swainson's hawk is not expected to nest in the study area. In the Great Basin, nests are usually in junipers[7]. There is an occurrence recorded within approximately 18 mi of the Project site.
Centrocercus urophasianus (greater sage-grouse) nesting and leks	--	--	G4/S3	CSC	S	Adopted to a mosaic of sagebrush habitats including relatively tall sagebrush, relatively low sagebrush, forb-rich mosaics of low and tall sagebrush, riparian meadows, steppe dominated by native grasses and forbs, scrub willow and sagebrush savannas with juniper (*Juniperus* spp.), ponderosa pine (*Pinus ponderosa*), or quaking aspen	**Low**. Although there is suitable habitat present in the study area and there are occurrences recorded in the vicinity of the Project site, no grouse or leks have been documented on the site. There are several leks near the site. Lek 7, as designated by the Bureau of Land Management (BLM) is the closest, located 1.25 mi north of the Mammoth Yosemite Airport, and

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
						(*Populus tremuloides*). Leks placed on sites surrounded by potential nesting habitat. Nest habitat, usually dominated by big sagebrush (*Artemisia tridentata* ssp. *tridentate* and *A.* ssp. *wyomingensis*).	north of Hot Creek. This lek has been inactive in the recent past. There are six other known leks on BLM-administrated lands situated between 2.5 and 4.5 mi form the airport. Other leks are located greater than 7 mi from the Project site.
Circus cyaneus (northern harrier) nesting	--	--	G5S3	CSC	--	Marshes, meadows, grasslands, and cultivated fields. Perches on ground or on stumps or posts. 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.	**Low**. Although there is suitable nesting and foraging habitat present in the study area and harriers have been observed in the vicinity of the Project site, harriers are not expected to nest in the study area. The proximity to human-related activities and the elevation of the site likely precludes harriers from nesting in the study area.
Coccyzus americanus occidentalis (western yellow-billed cuckoo) nesting	C	E	G5T2/S1	--	S	Prefers open woodland with clearings and low, dense, scrubby vegetation; often associated with watercourses. Nest placed in willows (*Salix* sp.), but cottonwood (*Populus* sp.) used extensively for foraging.	**No**. The Project site is outside of the known breeding distribution of the western yellow-billed cuckoo. Likely found only along the upper Sacramento Valley portion of the Sacramento River, the Feather River in Sutter County, the south fork of the Kern River in Kern County, and along the Santa Ana, Amargosa, and lower Colorado rivers.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Empidonax traillii (willow flycatcher) nesting	--	E[8]	G5/S1S2	--	S	In general, prefers moist, shrubby areas, often with standing or running water; e.g., in California restricted to thickets of willows, whether along streams in broad valleys, in canyon bottoms, around mountain-side seepages, or at the margins of ponds and lakes.	**Medium**. There is suitable nesting and foraging habitat within the willow-alder riparian community present in the study area. Additionally, there is an occurrence recorded approximately 11 mi NW of the Project site.
Falco mexicanus (prairie falcon) nesting	--	--	G5/S3	CSC	--	Primarily open habitats, especially in mountainous areas, steppe, plains or prairies. Typically nests in potholes or well-sheltered ledges on rocky cliffs or steep earth embankments, 10 to more than 100 m above the base. May nest in man-made excavations on otherwise unsuitable cliffs. Vertical cliffs with rock structure overhanging the site are preferred.	**Low**. There is no suitable nesting habitat present in the study area. However, there is suitable foraging habitat present. Prairie falcon may occasionally forage within the low vegetation communities in the study area. There are no occurrences recorded in the vicinity of the Project site.
Haliaeetus leucocephalus (bald eagle) nesting and wintering	PD T	E	G4/S2	FP	--	In winter may be found throughout most of California at lakes, reservoirs, rivers, and some rangelands and coastal wetlands. Breeding habitats are mainly in mountain and foothill forest and woodlands near reservoirs, lakes, and rivers. Most breeding territories are in northern California, but the eagles also nest in scattered locations in the central and southern Sierra Nevada mountains and foothills, in several locations from the central coast range to inland southern California, and on Santa Catalina Island.	**Low**. Although there are known occurrences of wintering bald eagles in the vicinity of the Project site, the study area does not support suitable breeding habitat and suitable foraging habitat is very limited. Wintering eagles are known to forage along Convict Creek, Crowley Lake, Hot Creek, Upper Owens River, Hot Creek Hatchery, Lake Mary, Twin Lakes, and the alkali ponds and flats east of the Mammoth Yosemite Airport.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Riparia riparia (bank swallow) nesting	--	T	G5/S2S3	--	--	Nests in erodible soils on vertical or near-vertical banks and bluffs in lowland areas dominated by rivers, streams, lakes, and oceans. Foraging habitat surrounding nesting colony include wetlands, open water, grasslands, riparian woodlands, agricultural areas, shrublands, and occasionally upland woodlands.	**Low**. There is no suitable nesting habitat present in the study area. There is however suitable foraging habitat within the vegetation communities present in the study area. Bank swallows have been observed in an abandoned gravel quarry north of the Mammoth Yosemite Airport.
Strix nebulosa (great gray owl) nesting	E	--	G5/S1	--	S	Dense deciduous or coniferous forest adjacent to montane meadows and other openings. Favors abandoned nests of other birds of preys, but will nest on the tops of broken trees or on artificial platforms.	**Low**. Although there is no suitable nesting habitat present in the study area, there is suitable foraging habitat within the wet meadow community present in the study area. Additionally, there is an occurrence were the general area mapped for the record encompasses the Project site.
Strix occidentalis occidentalis (California spotted owl)	--	--	G3T3/S3	CSC	S	At low elevations (sea level to 1,000 m (3,280 ft), occupies habitats dominated by hardwoods, primarily oaks. At high elevations, owl habitats are increasingly dominated by conifers until, at the highest elevations, hardwoods are nearly or completely lacking. Nesting and roosting habitat are generally complex in structure (many trees in different diameter classes) with high canopy closure. A critical element of this complex forest structure is the presence of large trees (>90 cm diameter at breast height).	**No**. There is no suitable habitat present in the study area. The study area is above the elevation range occupied by spotted owls.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Mammals							
Aplodontia rufa californica (Sierra Nevada mountain beaver)	--	--	G5T3T4/S3?	CSC	--	Dense growth of small deciduous trees and shrubs and soft soil for burrowing along streams or wet meadows.	**High**. There is suitable habitat within the willow-alder riparian community present in the study area. Additionally, this species is known to inhabit the riparian habitat along Mammoth Creek.[9]
Corynorhinus townsendii (Townsend's big-eared bat)	--	--	G4/S2S3	CSC	S	Reported in a wide variety of habitat types ranging from sea level to 3,300 m (9,840 ft). Habitat associations include: coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Maternity and hibernation colonies typically are in caves and mine tunnels. Uses caves and buildings for night roost.	**Low**. Although the bat's known distribution includes the Project site, there are no occurrences recorded in the vicinity of the site. Additionally, the study area lacks typical roosting habitat, which the bat's distribution is strongly correlated to.
Gulo gulo (California wolverine)	--	--	G4/S2	FP	S	Alpine and arctic tundra, boreal and mountain forest (primarily coniferous). Usually in areas with snow on the ground in winter. Riparian areas may be important winter habitat. May disperse through atypical habitat. When inactive, occupies den in cave, rock crevice, under fallen tree, in thicket, or similar site.	**Low**. Although wolverine could disperse through the study area during the winter, the study area does not support the typical habitat used by the species. There is a record of tracks observed approximately 6 mi SE of the Project site.
Lasiurus blossevillii (western red bat)	--	--	G5/S2S3	--	S	Closely associated with cottonwoods (*Populus* sp.) in riparian areas at elevations below 1,980 m (6,500 ft).	**Low**. Although the study area is above the elevation range occupied western red bat, suitable habitat is present in the study area.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Lupus townsendii townsendii (western white-tailed jackrabbit)	--	--	G5T3/S3?	CSC	--	Sagebrush, subalpine conifer, juniper, alpine dwarf-scrub, and perennial grassland. Also, use low sagebrush, wet meadow, and early successional stages of various coniferous communities. Within these communities prefers open areas with scattered scrubs and exposed flat-topped hills with stands of trees, brush, and herbaceous understory. Rests by day usually in shallow depression at base of bush or beside or in a cavity in the snow.	**High**. There is suitable habitat present in the study area. Additionally, there are two occurrences recorded within approximately 5 mi of the Project site.
Martes americana sierrae (American marten)	--	--	G5T3T4/S3S4	--	S	Mature, dense conifer forest or mixed conifer-hardwood forests with woody debris on the forest floor.	**No**. Although there are several occurrences recorded within approximately 7 mi of the Project site, there is no suitable habitat present in the study area.
Martes pennanti (pacifica) DPS (Pacific fisher)	C[10]	--	G5T3T4Q/S2S3	CSC	S	Use large areas of primarily coniferous forests with fairly dense canopies and large trees, snags, and down logs.	**No**. Although there are two occurrences recorded within 8 mi of the Project site, there is no suitable habitat present in the study area.
Ovis canadensis californiana (California bighorn sheep)	E	E	G4T1/S1	FP	--	Use habitats ranging from the highest elevations along the crest of the Sierra Nevada (13,120+ft (4,000+m)) to winter ranges at the eastern base of the range as low as 1,450 m (4,760 ft). These habitats range from Great Basin sagebrush scrub to alpine. Within this range, primary elements of preferred habitats are visual openness and close proximity to steep rocky escape terrain.	**No**. Although populations of bighorn sheep occur in the vicinity of the Project site, the primary elements of the species preferred habitats are not present.

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Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		
Sorex lyelli (Mount Lyell shrew)	--	--	G2G3/S2S3	CSC	--	Primarily found in wetland communities, near streams, in grassy areas, under willows, and in sagebrush steppe communities in elevations ranging from 6,900-10,350 ft (2,100-3,155 m).	**High**. There is suitable habitat present in the study area. Additionally, there are two occurrences recorded within 19 mi the Project site. The general area of one of these occurrences encompasses the Project site.
Taxidea taxus American badger	--	--	G5S4	CSC	--	Prefers open areas and may also frequent brushlands with little groundcover. When inactive, occupies underground burrow.	**High**. There is suitable habitat present in the study area and badger are known to occur in the vicinity of the Project site.[9]
Vulpes vulpes necator (Sierra Nevada red fox)	--	T	G5T3/S1	--	S	Various habitats in alpine and subalpine zones; preferred habitat apparently 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. Occurs above 4,000 ft (1,220 m), usually above 7,000 ft (2,130 m).	**Low**. Although there is an occurrence recorded approximately 7 mi north (N) of the Project site and suitable foraging habitat is present in the study area, red fox tend to inhabit remote areas where chance encounters with humans are uncommon. Red fox could occasionally disperse through the study area.

[1] *Status Codes:*
ESA: Endangered Species Act of 1972, as amended
E Federally listed as Endangered
T Federally listed as Threatened
PD Federally proposed for delisting
C Federal candidate species (former Category 1 candidates)
-- No designation.
CESA: California Endangered Species Act
R State listed as Rare
E State listed as Endangered
T State listed as Threatened
-- No designation
CNDDB: California Natural Diversity Database
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, with S1being the most rare and S5 the least rare.

Table IV.D-1.
Special Status Plant and Animal Species Evaluated for Potential to Occur in the Study Area

Animal Species	Status[1]					Habitat	Potential for Occurrence[2]
	FESA	CESA	CNDDB	CDFG	USFS		

California Native Plant Society (CNPS):
1B Plants listed as rare, threatened, or endangered in California and elsewhere
2 Plants rare, threatened, or endangered in California, but more common elsewhere
3 Plants about which more information is needed
-- No designation
Recently, CNPS added a decimal threat rank to the List rank to parallel that used by the CNDDB. This extension replaces the E (Endangerment) value from the R-E-D Code. CNPS ranks therefore read like this: 1B.1, 1B.2, etc. New threat code extensions and their meanings are as follows:

.1 – Seriously endangered in California (over 80% of occurrences threatened / high degree of immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)
CDFG: California Department of Fish and Game
CSC species of special concern
FP fully protected
-- No designation
USFS: USDA Forest Service, Pacific Southwest Region
S Sensitive Species
-- No designation
[2] The potential for occurrence is based on occurrences recorded in the CNDDB, knowledge of species requirements, and September 2006 field reconnaissance.
[3] Within Old Mammoth (434B) U.S. Geological Service (USGS) 7.5-Minute Quadrangle and the eight surrounding USGS quadrangles.
[4] Parmenter, Steve (California Department of Fish and Game). 2006. Phone conversation on December 1, 2006.
[5] Current taxonomy includes the Benton Valley speckled dance (formerly ssp. 4) with the Owens speckled dace.
[6] Federal listing refers to populations in the San Gabriel, San Jacinto & San Bernardino Mountains only.
[7] NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available at http://www.natureserve.org/explorer. (Accessed: December 6, 2006).
[8] State listing includes all subspecies.
[9] Steele, D. T. 1989. An ecological survey of endemic mountain beavers (Aplodontia rufa) in California, 1979-83. California Department of Fish and Game, Wildlife Management Division, Admin. Rep. No. 89-1. 39pp. + appends.
[10] Candidate status refers to the distinct population segment in Washington, Oregon, and California.
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Plants

Based upon a review of the resources and databases available, 35 special-status plants have been documented in the vicinity of the Project site. Of these, 21 species have "no" potential, four have "low" potential, nine have "medium" potential, and one has "high" potential for occurrence in the study area. There are no specials-status plants identified as "present" in the study area. The nine species with "medium" potential for occurrence are discussed in more detail below, including Masonic rock cress (*Arabis cobrensis*), Lemmon's milk-vetch (*Astragalus lemmonii*), scalloped moonwort (*Botrychium crenulatum*), common moonwort (*Botrychium lunaria*), subalpine draba (*Draba praealta*), Blandow's bog-moss (*Helodium blandowii*), Hockett Meadow lupine (*Lupinus lepidus* var. *culbertsonii*), scalloped-leaved lousewort (*Pedicularis crenulata*), and Robbin's pondweed (*Potamogeton robbinsii*). Subalpine fireweed (*Epilobium howellii*) has "high" potential for occurrence in the study area and is also discussed below. The majority of the special-status plant species listed above have the potential for occurrence within the basin sagebrush and wet meadow communities in the study area.

Medium Potential

Masonic Rock Cress

Masonic rock cress is a CNPS List 2.3 species and is designated sensitive by the USFS, Region 5. It is a perennial herb of the mustard family (Brassicaceae) that occurs on sandy soils within Great Basin scrub and pinyon and juniper woodlands in elevations ranging from 4,510 to 10,190 feet (1,375 to 3,105 meters). In California, Masonic rock cress has been found in Mono and Modoc counties. It also occurs within counties in Nevada and Oregon. The blooming season for Masonic rock cress extends from June through July. Although there are no occurrences of Masonic rock cress recorded in the vicinity of the Project site (i.e., within the Old Mammoth (434B) USGS 7.5-Minute Quadrangle or the eight surrounding USGS quadrangles), the basin sagebrush community in the development area provides potential habitat for this species. The basin sagebrush community in the southern portion of the development area was surveyed, but the surveys were not conducted at the appropriate time of year when Masonic rock cress is both evident and identifiable. Additionally, the basin sagebrush community in the northern portion of the development area was not surveyed. For these reasons, Masonic rock cress has a medium potential for occurrence within the development area in the basin sagebrush vegetation community.

Lemmon's Milk-Vetch

Lemmon's milk-vetch is a CNPS List 1B.2 species. It is a perennial herb of the legume family that occurs within Great Basin scrub, meadows and seeps, and lake shore marshes and swamps in elevations ranging from 4,200 to 7,220 ft (1,280 to 2,200 m). In California, Lemmon's milk-vetch has been found in Lassen, Mono, Modoc, Plumas, and Sierra counties. It also occurs within counties in Nevada and Oregon. The blooming season for Lemmon's milk-vetch extends from May through August. Although the site is slightly above the elevation range this species typically occupies, the wet meadow community within the area designated as open space in the study area provides potential habitat for Lemmon's milk-vetch; the basin sagebrush community in the study area lacks suitable microhabitat for Lemmon's milk-

vetch (i.e., mesic soil conditions). Additionally, there are two occurrences of Lemmon's milk-vetch recorded within approximately 12 miles of the Project site. For these reasons, this species has a medium potential for occurrence in the open space area of the study area.

Scalloped Moonwort

Scalloped moonwort is a CNPS List 2.2 species and designated sensitive by the USFS, Region 5. It is a rhizomatous herb of the Adder's-tongue family (Ophioglossaceae) that occurs within bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps, and moist meadows near creeks in elevations ranging from 4,920 to 10,760 feet (1,500 to 3,280 meters). In California, scalloped moonwort has been found in Butte, Colusa, Lake, Los Angeles, Mono, Modoc, Placer, Plumas, San Bernardino, Shasta, Tehama, and Tulare counties. It also occurs within counties in Arizona, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming. The blooming season for scalloped moonwort extends from June through September. Although there are no occurrences of scalloped moonwort recorded in the vicinity of the Project site, the wet meadow community within the area designated as open space in the study area provides potential habitat for this species. The wet meadow community was not surveyed for scalloped moonwort. For this reason, this species has a medium potential for occurrence in the open space area of the study area.

Common Moonwort

Common moonwort is a CNPS List 2.3pecies. It is a rhizomatous herb of the Adder's-tongue family that occurs within meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest in elevations ranging from 7,480 to 11,150 feet (2,280 to 3,400 meters). In California, common moonwort is found in Mono, Modoc, Nevada, Sierra, Tulare, Tuolumne counties. It also occurs within counties in Arizona, Idaho, New Mexico, Nevada, Oregon, Utah, Washington, and other states. The blooming season for common moonwort is August. Although there are no occurrences of this species recorded in the vicinity of the Project site, the wet meadow community within the area designated as open space in the study area provides potential habitat for this species. This vegetation community was not surveyed. For this reason, common moonwort has a medium potential for occurrence in the open space area of the study area.

Subalpine Draba

Subalpine draba is a CNPS List 2.3 species. It is a perennial herb of the mustard family that occurs within mesic meadows and seeps in elevations ranging from 8,200 to 11,200 feet (2,500 to 3,415 meters). In California, subalpine draba is found in Fresno, Inyo, Mono, and Tuolumne counties. It also occurs within counties in Nevada, Oregon, Washington, Wyoming, and other states. The blooming season for subalpine draba extends from July through August. The wet meadow community within the area designated as open space in the study area provides potential habitat for this species. Additionally, there is an occurrence recorded approximately 7 miles southeast of the Project site. For these reasons, subalpine draba has a medium potential for occurrence in the open space area of the study area.

Blandow's Bog-Moss

Blandow's bog-moss is a CNPS List 2.3 species. It is a moss that occurs within meadows and seeps and on damp soils within subalpine coniferous forest in elevations ranging from 6,560 to 8,860 feet (2,000 to 2,700 meters). In California, Blandow's bog-moss is only found in Fresno and Mono counties. However, it also occurs within counties in Nevada, Oregon, Utah, Washington, and other states. The wet meadow community within the area designated as open space in the study area provides potential habitat for this species. Additionally, there is an occurrence of Blandow's bog-moss recorded approximately 14 miles southeast of the Project site. For these reasons, Blandow's bog-moss has a medium potential for occurrence in the open space area of the study area.

Hockett Meadow Lupine

Hockett Meadow lupine is a CNPS List 1B.3 species. It is a perennial herb of the legume family that occurs within meadows and seeps and on mesic rocky soils within upper montane coniferous forest in elevations ranging from 8,000 to 9,840 feet (2,440 to 3,000 meters). Hockett Meadow lupine is only found in Fresno, Mono, and Tulare counties in California. The blooming season for Hockett Meadow lupine extends from July through August. Although there are no occurrences of this species recorded in the vicinity of the Project site and the site is slightly above the elevation range of Hockett Meadow lupine, the wet meadow community within the area designated as open space in the study area provides potential habitat for Hockett Meadow lupine. For this reason, Hockett Meadow lupine has a medium potential for occurrence in the open space area of the study area.

Scalloped-Leaved Lousewort

Scalloped-leaved lousewort is a CNPS List 2.2 species. It is a perennial herb of the figwort family (Scrophulariaceae) that occurs in mesic meadows and seeps in elevations ranging from 6,890 to 7,550 feet (2,100 to 2,300 meters). In California, scalloped-leaved lousewort is only found in Mono County. However, it also occurs within counties in Nevada and Wyoming. The blooming season for scalloped-leaved lousewort extends from June through July. Although there are no occurrences of this species recorded in the vicinity of the Project site and the site is slightly above the elevation range scalloped-leaved louse typically occupies, the wet meadow community within the area designated as open space in the study area provides potential habitat for this species. For this reason, scalloped-leaved louse has a medium potential for occurrence in the open space area of the study area.

Robbin's Pondweed

Robbin's pondweed is a CNPS List 2.3 species. It is a rhizomatous aquatic herb of the pondweed family (Potamogetonaceae) that occurs within deep water, lakes marshes, and swamps in elevations ranging from 5,200 to 10,830 feet (1,585 to 3,300 meters). In California, Robbin's pondweed is found in Alpine, Fresno, Inyo, Lassen, Madera, Mono, Nevada, Sierra, Siskiyou, and Tuolumne counties. It also occurs within counties in Idaho, Oregon, Utah, Washington, and other states. The blooming season for Robbin's

pondweed extends from July through August. The several ponds near Mammoth Creek, as well as the golf course ponds in the study area provide potential habitat for this species. Additionally, there is an occurrence of Robbin's pondweed recorded approximately five miles west of the Project site. Although surveys were conducted at the proper time of the year for Robbin's pondweed, only the ponds in the southern portion of the study area were surveyed (i.e., the golf course ponds). For this reason, Robbin's pondweed has a medium potential for occurrence within the ponds near Mammoth Creek. However, it should be noted that these ponds are within the area designated as open space in the study area.

High Potential

Subalpine Fireweed

Subalpine fireweed is a CNPS List 1B.3 species. It is stoloniferous herb of the evening primrose family (Onagraceae) that occurs within meadows and seeps and mesic subalpine coniferous forest in elevations ranging from 6,560 to 8,860 feet (2,000 to 2,700 meters). Subalpine fireweed is only found in Fresno, Madera, Mono, Nevada, and Sierra counties in California. The blooming season for subalpine fireweed extends from July through August. Although this species is only known from approximately six occurrences, there are two occurrences recorded within five miles of the Project site. There nearest occurrence is approximately one mile west of the site. Additionally, the wet meadow community within the area designated as open space in the study area provides potential habitat for this species. For these reasons, subalpine fireweed has a high potential for occurrence in the open space area of the study area.

Animals

Thirty-three special-status animals have been documented in the vicinity of the Project site. Of these species, 10 have "no" potential, 17 have "low" potential, two have "medium" potential, and four have "high" potential for occurrence in the study area. There are no special-status animals identified as "present" in the study area. Yosemite toad (*Bufo canorus*) and willow flycatcher (*Empidonax traillii*) have "medium" potential for occurrence, and Sierra Nevada mountain beaver (*Aplodontia rufa californica*), western white-tailed jackrabbit (*Lupus townsendii townsendii*), Mount Lyell shrew (*Sorex lyelli*), and American badger have "high" potential for occurrence. These species are discussed in more detail below.

Medium Potential

Yosemite Toad

Yosemite toad is endemic to California and is restricted to the Sierra Nevada from the Blue Lakes region north of Ebbetts Pass (Alpine County) south to five kilometers south of Kaiser Pass in the Evolution Lake/Darwin Canyon area (Fresno County); found at elevations ranging from approximately 6,400 to

11,320 feet (1,950 to 3,450 meters).[12] The USFWS has added the Yosemite toad to its list of candidate species, and it is designated a species of special concern by the CDFG and sensitive species by the USFS, Region 5. The Yosemite toad seems to prefer relatively open montane meadows, although forest cover around meadows is also used. It is found in high montane and subalpine associations in meadows surrounded by forest of lodgepole pine or whitebark pines (*Pinus albicaulis*). This toad is largely diurnal emerging from winter hibernation as soon as snow-melt pools form near their winter refuge sites. Overwintering sites are typically rodent burrows (e.g., Beldings ground squirrels (*Spermophilus beldingi*), yellow-bellied marmots (*Marmota flaviventris*), meadow voles (*Microtus montanus*)). The timing of emergence from wintering sites varies with elevation and season, but known dates of emergence range from early May to mid-June.[13] Males form breeding choruses and breeding occurs soon after emergence, in general May through July, and possibly August. Suitable breeding sites are generally found at the edges of meadows or slow, flowing runoff streams. Short emergent sedges or rushes often dominate such sites. Most females spawn during a 2 to 3 day peak each year. Females are estimated to deposit between 1,000 and 1,500 eggs. Eggs strings are typically wound around short emergents in shallow, still water with a flocculent or silty bottom. Following breeding, adults feed in adjacent habitats until entering hibernation (usually late September or early October) and may be active after dark when the nights are warm during midsummer. Larvae hatch in about 3 to 6 days, and typically metamorphose 40 to 50 days after fertilization. Both sexes grow slowly and males begin breeding at 3 to 5 years of age, whereas females begin breeding at 4 to 6 years of age.

Mammoth Creek and the several ponds near Mammoth Creek, as well as the golf course ponds and associated drainages, provide suitable breeding habitat for the Yosemite toad in the study area. The willow-alder riparian, tule-cattail, wet meadow communities found along the edges of these features, as well as the habitats beyond these communities, provide toads with suitable foraging and refuge sites. Toads have been documented moving 492 to 754 feet (150 to 230 meters) each spring from their hibernation sites to their breeding sites, and radio-tagged toads have moved approximately 2,000 feet (610 meters) in a single night.[14] Although the majority of the recorded occurrences of Yosemite toad in the vicinity of the Project site are at much higher elevations, open waters within the Project vicinity have not been surveyed.[15] The closest recorded occurrence is approximately two miles southwest of the Project site. Because of the presence of suitable habitat in the study and the lack of data supporting presence or

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[12] *Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final Report submitted to the California Department of Fish and Game, Inland Fisheries Division. Contract No. 8023. 255 pp.*

[13] *Jennings, M. R. and M. P. Hayes. 1994. Amphibian and reptile species of special concern in California. Final Report submitted to the California Department of Fish and Game, Inland Fisheries Division. Contract No. 8023. 255 pp.*

[14] *NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available at http://www.natureserve.org/explorer. (Accessed: December 19, 2006)*

[15] *Personal Communication, Curtis Milliron, California Department of Fish and Game. December 18, 2006 – telephone conversation with Aindrea Jensen.*

absence of this species in the Project vicinity, the Yosemite toad has a medium potential for occurrence in the study area.

Willow Flycatcher

The willow flycatcher is a small migratory passerine that historically nested throughout California, preferring riparian deciduous shrubs, particularly willow thickets. Currently, three subspecies of the willow flycatcher (*Empidonax traillii extimus, E. t. brewsteri,* and *E. t. adastus*) breed in California. Each has been listed as endangered by the CDFG and designated as sensitive species by the USFS, Region 5. The USFWS designated the willow flycatcher as a sensitive species in Region 1 (Washington, Oregon, Idaho, California, and Nevada). Furthermore, the southwestern willow flycatcher (*E. t. extimus*) is listed as endangered by the USFWS. The three subspecies occupy distinct breeding ranges and are differentiated primarily by subtle differences in color and morphology. *E. t. adastus* breeds east of the Sierra/Cascade crestline from the Oregon border south to Inyo County. Males generally arrive at breeding areas first, with females typically arriving a week or two later. Nest building usually begins within a week of pair formation. Egg laying begins as early as the second week in June, but more often starts between June 25th and July 5th. Chicks can be present in nests from mid-July through late August. Young typically fledge from nests from late July through late August. Adults depart from breeding territories as early as mid-August, but may stay until mid-September if they fledged young late in the season. Fledglings probably leave the breeding areas a week or two after the adults leave.[16]

The willow-alder riparian vegetation along Mammoth Creek provides potential breeding and nesting habitat for willow flycatcher. Even if this habitat was surveyed at the appropriate time of year, generalized nesting bird surveys would have likely led to inaccurate results. Willow flycatchers are nondescript in appearance, making them difficult to see in dense vegetation and are not vocal at all times of the day or during all parts of the breeding season. There is an occurrence of willow flycatcher recorded approximately 11 miles northwest of the Project site, near June Lake. For these reasons, willow flycatcher has a medium potential for occurrence within the area designed as open space in the study area.

High Potential

Sierra Nevada Mountain Beaver

Mountain beaver is considered the most primitive living rodent. Four of the seven subspecies of mountain beaver are endemic to California (*Aplodontia rufa nigra, A. r. phae, A. r. humboldtiana, and A. r. californica*). Three of the four subspecies, *Aplodontia rufa nigra, A. r. phae, and A. r. californica,* are designated species of special concern by the CDFG. *Aplodontia rufa nigra,* is also listed as endangered by the USFWS. Each of the four subspecies of mountain beaver in California occupies distinct ranges.

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[16] *Sogge, M. R., R. M. Marshall, S. J. Sferra, and T. J. Tibbitts. 1997. A southwester willow flycatcher natural history summary and survey protocol. Colorado Plateau Research Station, Northern Arizona University: Flagstaff, Arizona. National Park Service Technical Report USGS/NAUCPRS/NRTR-97/12.*

A. r. californica, Sierra Nevada mountain beaver, occupies the Mount Shasta southeastward through the Sierra Nevada and west-central Nevada. Specimens of have been collected from elevations ranging from 3,900 feet (1,190 meters) along Dye Creek in Tehama County to over 10,100 feet (3,080 meters) in Lyell Canyon, Yosemite National Park. The Sierra Nevada mountain beaver typically maintains underground tunnel systems through the narrow willow fringes along streams. However, meadow areas adjacent to stream are preferred sites for this subspecies.[17] Extensive underground tunnels are dug by mountain beavers, forming a network of passages. These tunnels are usually only a few inches below the surface and have many openings, which are nearly always obscured. Local topography such as fallen logs, the slope of the bank, rocks, soil factors, and the location of food plants (e.g., mountain alder (*Alnus tenuifolia*), larkspur (*Delphinium* spp.)) determine the direction and extent of the runways and the location of the entrances and exits. The runways are at least 10 centimeters in diameter and usually not well maintained. Enlargements for nests and temporary food storage are connected to runways. Most nests are located at sites with good drainage, often under mounds, logs, uprooted stumps, logging slash, or in dense thickets. The mountain beaver has a low reproductive rate for a rodent species. It is monestrous and usually does not give birth before its second year. After a 28 to 30 day gestation period, a litter of three or four young is produced in March or April.

Suitable habitat for the Sierra Nevada mountain beaver is present within the willow-alder riparian community along Mammoth Creek, as well as the adjacent wet meadow community. Mountain beavers have been trapped along Mammoth Creek and populations are known from the Mammoth Area.[18] For these reasons, mountain beaver has a high potential for occurrence within the area designed as open space in the study area.

Western White-Tailed Jackrabbit

Western white-tailed jackrabbit is an uncommon to rare year-round resident of the crest and upper eastern slope of the Sierra Nevada, primarily from the Oregon border south to Tulare and Inyo counties. This species was formerly widespread throughout this range, but its population is now fragmented, and numbers have declined drastically.[19] The western white-tailed jackrabbit is designated a species of special concern by the CDFG. Its general habitat associations are sagebrush, subalpine conifer, juniper, alpine dwarf-scrub, and perennial grassland. However, western white-tailed jackrabbit will also use low sagebrush, wet meadow, and early successional stages of various coniferous communities. Within these communities this species prefers open areas with scattered shrubs and exposed flat-topped hills with

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[17] *Steele, D. T. 1989. An ecological survey of endemic mountain beavers (Aplodontia rufa) in California, 1979-83. California Department of Fish and Game, Wildlife Management Division, Admin. Rep. No. 89-1. 39pp. + appends.*

[18] *Steele, D. T. 1989. An ecological survey of endemic mountain beavers (Aplodontia rufa) in California, 1979-83. California Department of Fish and Game, Wildlife Management Division, Admin. Rep. No. 89-1. 39pp. + appends.*

[19] *California Department of Fish and Game. California Interagency Wildlife Task Group. 2005. California Wildlife Habitat Relationships version 8.1 personal computer program. Sacramento, California.*

stands of trees, brush, and herbaceous understory. In the summer, western white-tailed jackrabbits migrate to the higher regions and descend to the lower regions in the winter. Winters are typically spent in areas with sagebrush, or in thickets of young trees. Like other hares, white-tailed jackrabbits are nocturnal, feeding mainly from sunset to sunrise. During the day this species usually hides in forms that are shallow holes dug at the base of bushes or beside rocks. The size of the form is about 46 to 61 cm long, 20 to 30 cm wide, and up to 20 cm deep. In winter, they may rest during the day in cavities connected by tunnels dug about 3 ft into the snow. Elaborate and well-traveled trails may be observed that connect forms between often visited feeding sites. The breeding season of white-tailed jackrabbit lasts from February to July, with a peak from March to June. The gestation period is about 30 to 42 days and 1 to 6 young are born in well-concealed depression in the ground or in burrows abandoned by other animals. The newborns invariably sleep during the day and are active at night, usually grooming each other. Young are independent at 3 to 4 weeks of age.

Suitable habitat for the western-white tailed jackrabbit is present within the basin sagebrush, annual grasses and forbs, wet meadow, and perennial grasses and forbs communities in the study area. These communities have the greatest potential to provide habitat for hares during the fall, winter, and spring months. However, given the Project site's elevation, hares could also be present in the summer.[20] There are occurrences of white-tailed jackrabbit recorded in the Project vicinity (one from 1951 at Lake Mary and one from 1955 1.2 miles southeast of Casa Diablo Hot Springs). Additionally, Timothy Taylor, an associate wildlife biologist, with the CDFG, has observed white-tailed jackrabbits more recently in the Sherwin Creek area, south and east of the Project site.[21] Because of the presence of suitable habitat in the study area, the potential for hares to be present year-round, and observations of hares in the Project vicinity, the western white-tailed jackrabbit has a high potential for occurrence in the study area.

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[20] *Personal Communication. Timothy Taylor, California Department of Fish and Game. December 19, 2006 – email to Aindrea Jensen.*

[21] *Personal Communication. Timothy Taylor, California Department of Fish and Game. December 19, 2006 – email to Aindrea Jensen.*

Mount Lyell Shrew

The Mount Lyell shrew is designated a species of special concern by the CDFG. Its known range spans a small area of the east-central Sierra Nevada, including areas in and around Yosemite National Park, in Tuolumne, Mariposa, and Mono counties, at elevations of 6,900 to 10,350 ft (2,100 to 3,155 m). Specimens have been found primarily in wetland communities, near streams, in grassy areas, under willows, and in sagebrush steppe communities. This shrew may occur in similar habitat from Mono County to Modoc County, but the area outside the known range has not been adequately surveyed.[22]

The willow-alder riparian community along Mammoth Creek, as well as the adjacent wet meadow community, provide suitable habitat for the Mount Lyell shrew. Additionally, there are two occurrences recorded within approximately 19 miles of the Project site, one of which the general area of the occurrence encompasses the site. Two female specimens were collected in July 1914 at "Mammoth."[23] The shrew is still presumed present in the general vicinity. For these reasons, Mount Lyell shrew could occur within the area designed as open space in the study area.

American Badger

The American badger is a highly specialized fossorial mustelid that is designated a species of special concern by the CDFG. In California, its range extends practically all over the state except the humid coastal belt, from sea level to alpine meadows, from dry deserts to dense red fir forest. The badger prefers open areas and may also frequent brushlands with little groundcover. Although badger may prefer habitats with more friable soils for digging burrows, which are used for dens, escape, and predation, the hard-baked earth in the middle of an unpaved road is no obstacle. Badgers are mainly active at night, and tend to be inactive during the winter months. When inactive, this species occupies underground burrows that are elliptical shaped and eight or more inches in diameter. Burrows are typically around the dens of ground squirrels (*Spermophilus* sp.) – its chief food – or chipmunks (*Tamias* sp.) and they generally have a single entrance. Badgers use multiple burrows within their home range, and they may not use the same burrow more than once a month. However, in the summer badgers may dig a new burrow each day. Mating occurs in late summer or early autumn and is followed by delayed implantation. Implantation then occurs in February with the young born in March or April. At birth the young are furred but blind. Young may emerge from the den as early as 5 to 6 weeks old; they become independent by August. Typically, badgers have one litter averaging 2 to 3 young.

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[22] *NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Available at http://www.natureserve.org/explorer. (Accessed: December 6, 2006)*

[23] *California Natural Diversity Database. Biogeographic Data Branch, Department of Fish and Game. November 20, 2006.*

Vegetation communities in the study area provide suitable habitat for the badger. Although there are no occurrences recorded in the vicinity of the Project site and no suitable burrows were observed during field surveys, badgers are present in the area.[24] For these reasons, badgers could occur in the study area.

Other Migratory Birds and Raptors

Migratory birds and raptors forage and nest in a wide variety of habitats throughout Mono County. Typically, migratory birds and raptors nest within trees and other vegetation in areas that are removed from human disturbance; however, some species such as great horned owl (*Bubo virginianus*) and red-tailed hawk are known to nest in and adjacent to developed areas where there is nearby undeveloped lands supporting an abundance of prey. The vegetation communities in the study area provide potential foraging and/or nesting habitat for migratory birds and raptors, including northern harrier (*Circus cyaneus*), prairie falcon (*Falco mexicanus*), red-tailed hawk, sharp-shinned hawk (*Accipiter striatus*), and yellow warbler (*Dendroica petechia*). For this reason, other special-status birds could occur in the study area.

Wildlife Movement Corridors

A wildlife corridor is a linear landscape element which serves as a linkage between historically connected habitat/natural areas that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance, and is meant to facilitate wildlife movement between these natural areas. Corridors are critical for the maintenance of ecological processes including allowing for the movement of animals and the continuation of viable populations. There are three types of wildlife movements within corridors. These include dispersal (i.e., one way movement away from a home site), migration (i.e., round trip movements), and home range movements (i.e., movements within an area with a defined probability of occurrence of an animal during a specified time period). For large herbivores and medium to large carnivores, corridors enable individuals to pass directly between two areas in discrete events of brief duration, facilitating juvenile dispersal, seasonal migration, and home range connectivity. Species with limited dispersal ability that take several days to several generations to pass through a corridor including most plants, reptiles, amphibians, insects, small mammals, and birds must be able to live in the corridor for extended periods. Therefore, the corridor must provide most or all of the species' life-history requirements. Corridors can consist of a sequence of stepping stones across the landscape (discontinuous areas of habitat such as isolated wetlands and roadside vegetation), continuous lineal strips of vegetation and habitat (such as riparian strips and ridge lines), or they may be parts of a larger habitat areas selected for its known or likely importance to local wildlife.

The Project site includes a portion of Mammoth Creek and its associated riparian vegetation, which may be considered an important movement corridor for common fish, reptiles and amphibians, mammals, and

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[24] *Personal Communication. Timothy Taylor, California Department of Fish and Game. December 6, 2006 – telephone conversation with Aindrea Jensen (CAJA staff).*

birds. Although fish species diversity in Mammoth Creek is relatively low,[25] it serves as a travel route for individual fish (e.g., brown trout, rainbow trout, brook trout [*Salvelinus fontinalis*], and tui chub [*Gila bicolor*]) as they move within their home ranges in search for food, cover, and other needs. Mammoth Creek and its associated riparian vegetation may also be used by reptiles and amphibians (e.g., western terrestrial garter snake [*Thamnophis elegans*], tiger salamander [*Ambystoma tigrinum*], western toad, Pacific tree frog), mammals (e.g., mule deer, coyote, raccoon [*Procyon lotor*]), and birds (e.g., mountain chickadee [*Poecile gambeli*], gray-crowned Rosy-finch [*Leucosticte tephrocotis*], white-breasted nuthatch [*Sitta carolinensis*]) for home range movements, as well as dispersal routes. Similarly, the vegetation communities in the remainder of the study area, particularly the undeveloped portion south of Old Mammoth Road and east of Fairway Drive, is likely used by individual animals for dispersal and home range movements. However, these communities do not serve as critical linkages connecting patches of "high quality" habitat considered to be essential to the long-term survival of the species. There are deer populations however in the general Project vicinity that comprise the Rocky Mountain mule deer (*Odocoileus hemiomus hemiomus*) from the Round Valley and Casa Diablo herds, both of which are migratory herds that move from winter to summer range on a seasonal basis. The protection and enhancement of key mule deer winter, holding, migratory, and fawning habitat are vital to their long-term survival.

Deer present closest to the Project site are predominantly from the Round Valley herd of mule deer (formerly known as the Sherwin Grade/Buttermilk herd). CDFG's Management Plan for the Round Valley deer herd identifies the herd boundary as extending from northern Inyo County in the southeast to just north of State Route 203 in the northwest.[26] The winter range of the Round Valley herd is located in the lower elevations of the Round Valley, extending north of Pine Creek in Inyo County into southern Mono County about 20 miles southeast of the Project site. Beginning in early April, deer migrate from Round Valley winter range north into the Sherwin holding area, an 11,300-acre area south of U.S. Highway 395 and generally between Tobacco Flats on the east and Mammoth and Sherwin creeks on the west. The migration corridor between the winter range and the holding area follows the toe of the eastern Sierra slope north from Round Valley to just south of the Town.

The Sherwin holding area is an expansion of the migration corridor where deer congregate and forage until mountain passes are free of snow. The holding area is considered a critical component to the Round Valley deer herd life cycle as the area provides an abundance of high quality forage (e.g., bitterbrush) that is generally not available in the herd's winter range. The nutritional benefits of the forage enable the deer to recover from over-winter weight loss, and it provide energy needed by pregnant does for fawning and

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[25] *CH2MHill/Sacramento. November 2000. Draft Environmental Impact Report/Environmental Impact Statement for the Proposed Changes in Mammoth Creek Instream Flow Requirements, Change of Point of Measurement, and Change of Place of Use.*

[26] *Thomas, Ronald. D. 1985. Management Plan for the Sherwin Grade Deer Herd. California Department of Fish and Game. Bishop, California.*

growth.[27] Two areas of concentrated deer use have been identified in the holding area. The area of most use occurs in the lower eastern portion of the holding area, from Mammoth Creek south to the top of Laurel Mountain burn, and from Laurel Creek east to the Cold Springs Campground Area. The other area of concentrated deer use occurs east of the Project's proposed golf course expansion area in the vicinity of the Sherwin Campground and the Mammoth Motocross.[28]

Deer typically delay continuing their westward migration to the summer range and remain on the Sherwin holding area for a period of four to eight weeks; however, some deer are also known to remain and summer in the holding area.[29] Fewer than 100 individuals may remain in the holding area during the summer. These deer have been documented as using fawning sites during this time in the Project vicinity, one of which is located just south of the existing nine-hole golf course and Snowcreek V development.[30] Deer migrating to the summer range on the west slope of the Sierra Nevada exit the holding area along four migration routes (Solitude/Dutch Pass, Mammoth Rock, San Joaquin Ridge, and Hopkins Pass), generally from mid-May through the end of June.[31] This is a rapid movement with deer estimated to travel the routes within one to five hours.[32] In 1994, the highest number of deer used the Solitude/Duck Pass migration route, which is approximately two miles southeast of the Project site. Smaller numbers used the Mammoth Rock migration route, which is just south of the Town's UGB and the Project site, and the San Joaquin Ridge migration route.[33]

The summer range for the Round Valley deer herd encompasses approximately 2,000 square miles on the west slope of the Sierra Nevada to the San Joaquin Ridge.[34] Deer remain on the summer range until the first major snowfall, generally in late October. During the fall migration, deer follow the same migration

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[27] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

[28] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

[29] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

[30] *United States Department of Agriculture, Forest Service. 1990. Final Impact Statement for the Sherwin Ski Area.*

[31] *United States Department of Agriculture, Forest Service. 1990. Final Impact Statement for the Sherwin Ski Area.*

[32] *United States Department of Agriculture, Forest Service. 1990. Final Impact Statement for the Sherwin Ski Area.*

[33] *Town of Mammoth Lakes. 2005. Revised Draft Program Environmental Impact Report for the Town of Mammoth Lakes 2005 General Plan Update. October 2005.*

[34] *Town of Mammoth Lakes. 2005. Revised Draft Program Environmental Impact Report for the Town of Mammoth Lakes 2005 General Plan Update. October 2005.*

routes used in the spring, but deer do not delay migration on the holding area. Instead, deer move rapidly to the Round Valley winter range where snow cover is less and forage is readily available.[35]

Although a population decline from almost 6,000 to less than 1,000 individuals was reported over a six year period in the 1997 *FEIS for the Proposed Snowcreek Golf Course Expansion Project*, the deer population has been fairly stable over the last five to six years.[36] A more recent population estimate for the Round Valley deer herd from January 2006 is 2,952 $\pm$ 939 (95% CI).[37] The previous dramatic population decline was primarily attributed to poor vegetative conditions on the Round Valley winter range caused by successive seasons of drought coupled with past excessive deer use.[38]

Sensitive Natural Communities

Riparian Habitat

As previously discussed in the Regulatory Framework section, riparian habitat is considered a sensitive natural community as it is regulated by CDFG under Section 1600 of the California Fish and Game Code, Lake and Streambed Alteration Program. Approximately 3.6 acres of willow-alder riparian habitat is present along Mammoth Creek in the northern portion of the study area, and in a few small patches around the existing golf course ponds. As discussed above in Vegetation Communities and Wildlife Habitats section, the willow-alder riparian vegetation is not within the development area.

Wet Meadow

Approximately 9.8 acres of wet meadow is present adjacent to the riparian habitat along Mammoth Creek in the northern portion of the study area. This community is within the area designated as open space.

Jurisdictional Resources

As previously discussed in the Regulatory Framework section, the Corps regulates waters of the United States under Section 404 of the CWA, and the SWRCB regulates waters of the State under Section 401 of the CWA and the Porter-Cologne Act through RWQCBs. Such waters include a variety of features including streams, wetlands, and impoundments. Some of these features are exempt from federal jurisdiction if they are found to be unconnected to "navigable waters"; however, such exempt features are

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[35] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

[36] *Personal Communication. Timothy Taylor, California Department of Fish and Game. January 12, 2007 – phone conversation with Aindrea Jensen (CAJA staff).*

[37] *Personal Communication. Timothy Taylor, California Department of Fish and Game. January 12, 2007 – email to Aindrea Jensen (CAJA staff).*

[38] *United States Department of Agriculture, Forest Service. 1990. Final Impact Statement for the Sherwin Ski Area.*

often still regulated as waters of the State which are defined as any surface or groundwater within the boundary of the State.

Wetlands

A jurisdictional delineation of waters of the United States, including wetlands, was conducted on the parcel north of Old Mammoth Road by RCI in 2005. Although this delineation included the Snowcreek VII development area, the majority of the wetlands are located within the Snowcreek VIII study area, consisting of approximately 10 acres (Figure IV.D-1). The wetlands are located within a level, topographically low area north and south of Mammoth Creek and is seasonally inundated and dominated by emergent wetland vegetation such as sedges.[39] The tributaries flowing into Mammoth Creek through the Project site are the primary hydrologic source for these wetlands. These wetlands were verified as jurisdictional by the Corps on February 1, 2006. Potential impacts to these wetlands would be regulated by the Corps under Section 404 of the CWA and by the RWQCB under Section 401 of the CWA. However, these areas are outside of the Project's development area.

A jurisdictional delineation of wetlands and waters of the United States was conducted on the southeastern portion of the Project site south of Old Mammoth Road and east of Fairway Drive by DRSA in 2002. Portions of this area support some hydrophytic plant species such as Baltic rush (OBL), Nebraska sedge (OBL), Rocky Mountain iris (*Iris missouriensis,* OBL), and silver sagebrush (*Artemisia cana*, FACW)[40]; however, these areas did not exhibit wetland hydrology or hydric soil characteristics and, therefore, were determined not to be wetlands potentially jurisdictional by the Corps or RWQCB. No portion of this area was verified as jurisdictional by the Corps.[41]

On the existing golf course west of Fairway Drive, the small areas of tule-cattail vegetation along the edges of, and in drainages connecting, several of the golf course ponds would be considered wetlands; however, the golf course ponds were not verified as jurisdictional by the Corps and, therefore, are not subject to regulation under the CWA.[42] However, due to increased regulation of waters and wetlands considered "isolated" (not connected to jurisdictional or "navigable waters" of the United States) by the State under the Porter-Cologne Act following the *SWANNC v. USACE* Supreme Court decision in 2001, impacts to these tule-cattail wetland areas may be regulated by the RWQCB. However, these areas are outside of the Project's development area.

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[39] *Resource Concepts, Inc. 2005. Hilltop Site – Snowcreek Area 7 Wetland Delineation Report. Prepared for Chadmar Group. August 2005.*

[40] *FACW is an abbreviation for "facultative wetland species"; plant species with this wetland indicator have an estimated 67 to 99 percent probability of occurring in wetlands. OBL is an abbreviation for "obligate wetland species"; these species occur with an estimated 99 percent probability in wetlands (U.S. Fish and Wildlife Service. 1993. National List of Plant Species that Occur in Wetlands, Region 10 – California.)*

[41] *Letter from the U.S. Army Corps of Engineers to Dempsey Construction Corporation dated October 17, 2002.*

[42] *Letter from the U.S. Army Corps of Engineers to Dempsey Construction Corporation dated July 8, 2003.*

Other Waters of the United States and Waters of the State

The 2005 jurisdictional delineation conducted on the parcel north of Old Mammoth Road by RCI determined that waters of the United States were present on the Project site within Mammoth Creek, two tributaries and several open water ponds. The main channel of Mammoth Creek runs along the northern portion of the Project site from west to east, and is approximately 1,400 linear feet; a tributary south of the main channel, which flows from the Snowcreek VII development area into the study area northward into Mammoth Creek, is approximately 1,000 linear feet, and another tributary, which flows into Mammoth Creek from the north, is approximately 75 linear feet within the study area. The parcel north of Old Mammoth Road also contains several open water ponds, one of which is within the channel of a tributary flowing into Mammoth Creek from the north. The large pond in the western portion of the parcel was once a maintained, aesthetic pond but has since been abandoned; given its close proximity to the southern tributary, it is likely influenced by groundwater from the tributary and may possibly be fed by overland flows during large storm events. Two smaller ponds, which were excavated for aesthetic purposes, are located near the existing Snowcreek administrative office buildings just west of Old Mammoth Road; these ponds flow into the adjacent wetland meadow through manmade open channels and eventually north into Mammoth Creek. Potential impacts to Mammoth Creek, its tributaries, and the open water ponds north of Old Mammoth Road would be regulated by the Corps under Section 404 of the CWA, by the RWQCB under Section 401 of the CWA, and under Section 1600 of the California Fish and Game Code for Lake and Streambed Alterations. However, these areas are outside of the Project's development area.

The southeastern portion of the Project site south of Old Mammoth Road and east of Fairway Drive supports many ditches, including the Bodle Ditch, which were once used to irrigate the area; however, in about 1989, the water source through the Bodle Ditch was eliminated, and much of the original surface flow into the area has been re-directed through the existing golf course,[43] therefore, most of these ditches are not considered waters of the United States or the State. Two retention basins that are generally unvegetated occur in the study area; one just east of Fairway Drive and one just south of Old Mammoth Road (refer to Figure IV.D-1). The southernmost basin no longer regularly receives water from the dry ditches traversing the study area and, therefore, is not considered waters of the United States or the State. The other retention basin to the north is used as a holding area for overflow from the golf course ponds to the west, and is connected via a constructed open ditch; during periods of extreme precipitation it overflows eastward over a concrete spillway into a wide, shallow channel-like area. However, this area does not exhibit an ordinary high water mark and, therefore is not considered a jurisdictional water.[44] In addition, the retention basin and the connected golf course ponds and drainages/ditches were not verified as jurisdictional by the Corps because they do not have a normal hydrologic connection to Mammoth

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[43] *D.R. Sanders and Associates, Inc. 2002. Identification/Delineation of Wetlands on a Portion of Snowcreek Resort Property in Mammoth Lakes (Mono County), California. Prepared for Dempsey Construction. June 27, 2002.*

[44] *Letter from the U.S. Army Corps of Engineers to Dempsey Construction Corporation dated July 8, 2003.*

Creek, a jurisdictional water of the United States.[45] However, since the retention basin, golf course ponds, and connecting drainages/ditches support surface water, they may be considered jurisdictional waters of the State and subject to regulation by the RWQCB under the Porter-Cologne Act.[46] These featuresmay also be considered jurisdictional by CDFG and may be regulated under the Section 1600 of the California Fish and Game Code for Lake and Streambed Alterations. The retention basin, golf course pond, and connecting drainage/ditch east of Fairway Drive are the only features located within of the Project's development area.

ENVIRONMENTAL IMPACTS

Thresholds of Significance

In accordance with Appendix G of the *CEQA Guidelines*, the proposed project could have a significant environmental impact on biological resources if it 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;

- 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 California Department of Fish and Game or U.S. Fish and Wildlife Service;

- 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;

- Interfere substantially with the movement of any native resident or migratory fish and wildlife species or with established native resident or migratory wildlife corridors, or impede the use of a native wildlife nursery site;

- Conflict with an local polices 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.

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[45] *Letter from the U.S. Army Corps of Engineers to Dempsey Construction Corporation dated July 8, 2003.*

[46] *Personal Communication. Tobi Tyler, Lahontan Regional Water Quality Control Board. December 6, 2006.*

Project Description

The Project consists of adoption by the Town of the Snowcreek VIII, Snowcreek Master Plan Update – 2007 to update the existing 1981 Snowcreek Master Plan and address proposed build-out of the Snowcreek Master Plan area (Snowcreek VIII/Project area). Snowcreek VIII is intended to fulfill the vision of the previously approved Snowcreek Master Plan and this EIR will update the Town's 1974 and 1981 EIRs for the previous iterations of the Snowcreek Master Plan. In addition to the development previously constructed or approved, the Project has been designed to integrate residential, resort, recreation, retail, and public amenities. For a detailed discussion of the Project description, refer to Section III (Project Description) of this Draft EIR.

Project Impacts and Mitigation

The impacts of the Project on biological resources are grouped below into major categories of impacts. The actual impact and its anticipated location in the study area are described in detail within each major category below.

Impact BIO-1 Special-Status Species

Plants

Thirty-five special-status plants were evaluated for their potential for occurrence in the study area, ten of which were determined to have "medium" or "high" potential for occurrence. Nine of these plant species (Lemmon's milk-vetch, scalloped moonwort, common moonwort, subalpine draba, Blandow's bog-moss, Hockett Meadow lupine, scalloped-leaved lousewort, Robbin's pondweed, and subalpine fireweed) would not be impacted by the Project because surveys conducted at the appropriate time of year did not detect the species (e.g., Robbin's pondweed) and/or communities potentially supporting the species (e.g., wet meadow) are located within the area designated as open space in the northern portion of the Project site that would not be directly disturbed by construction-related activities. Implementation of mitigation measures recommended under "Impact BIO-2: Sensitive Natural Communities" would also ensure that special-status plants species potentially occurring within the open space would not be inadvertently impacted.

The one remaining special-status plant species (Masonic rock cress) could be significantly impacted by the Project. Surveys were not conducted at the appropriate time of year when Masonic rock cress would be both evident and identifiable and, consequently, this species may be present within the basin sagebrush communities in the development area. Project construction would result in the removal of the majority, if not all, of the basin sagebrush present in the development area. This could result in potentially significant impacts to Masonic rock cress, if present. Implementation of **Mitigation Measure BIO-1a** would reduce potential impacts to these species to a ***less-than-significant*** level.

Animals

Of the 33 special-status animal species evaluated for potential occurrence in the study area, six were determined to have "medium" or "high" potential for occurrence. Impacts of the Project on each of these animal species are addressed below.

Amphibians and Reptiles

Yosemite toad could occur in Mammoth Creek and the several ponds near Mammoth Creek, as well as the golf course ponds and associated drainages on the Project site. These features provide suitable breeding habitat for toads, while the adjacent communities provide suitable foraging and refuge habitat. Although these aquatic habitats are not located in the development area, toads could use the adjacent terrestrial habitats and, consequently, could occupy communities within the development area, particularly around the existing golf course ponds. Project construction could result in potentially significant impacts to the Yosemite toad. If present, construction-related activities would result in temporary and permanent habitat loss and could potentially result in direct mortality, injury, or harassment of toads, especially during the time of year when toads are moving to and dispersing from aquatic habitats, and decreased water and habitat quality. Implementation of **Mitigation Measure BIO-1b** would reduce impacts resulting from the Project to Yosemite toad to a ***less-than-significant*** level.

Birds

The willow-alder riparian corridor along Mammoth Creek provides potential breeding and nesting habitat for willow flycatchers. Although this habitat is within the area designated as open space, averaging over approximately 250 ft from the development area, and direct disturbance of Mammoth Creek and its associated riparian corridor would not occur, construction-related activities (e.g, noise and vibrations from construction equipment, increased human activity) could disturb nesting willow flycatchers, if present. The nesting season is a critical period for the maintenance of bird populations and disturbance activities that cause birds to abandon an active nest or direct nest upset are considered a potentially significant impact. Implementation of **Mitigation Measure BIO-1c,** scheduling construction activities outside the 3 to 4 month breeding season (June 1st through September 15th) or, if not feasible, conducting protocol-level surveys, would reduce construction-related impacts to breeding and nesting willow flycatchers to ***less than significant***.

The Mammoth Creek riparian corridor, as well as the other vegetation communities in the study area, also supports potential breeding and nesting habitat for other migratory birds (e.g., yellow warbler) and raptors (e.g., red-tailed hawk, sharp-shinned hawk). Construction activities, such as vegetation clearing and grubbing and grading, could have significant impacts on breeding birds by destroying nests and nesting habitat and/or causing nest abandonment. Implementation of **Mitigation Measure BIO-1d** would reduce potentially significant impacts to other breeding and nesting migratory birds and raptors to a ***less-than-significant*** level.

Following construction, breeding and nesting migratory birds, including the willow flycatcher, and raptors could be directly and/or indirectly impacted by increased human-related disturbances indirectly caused by the Project. Construction and operation of the Project would likely result in increased incidental contact and intrusion impacts. Also, species adapted to more disturbed environments and tolerant of human activities would increase in abundance and possibly cause declines of the more sensitive species by competing for the same resources and/or preying upon young. Implementation of **Mitigation Measure BIO-1e**, which includes good wildlife management practices, would reduce potentially significant post construction impacts to a ***less-than-significant*** level.

Conversion of previously undeveloped lands on the Project site would result in the loss of potential foraging habitat for a number of special-status bird species, such as northern harrier, prairie falcon, and sharp-shinned hawk. Project construction would convert a total of approximately 155 acres of basin sagebrush, annual grasses and forbs, and perennial grasses and forbs habitat. Though this loss would contribute to the local reduction of available foraging areas, potentially affecting individual birds using the site, the loss of foraging habitat onsite would not substantially reduce the number or restrict the range of special-status bird species in the Project vicinity. The basin sagebrush, annual grasses and forbs, and perennial grasses and forbs communities are widespread throughout the region and the proximity of the Project site to development areas and the level of human-related disturbances (e.g., recreational activities, traffic) associated with these areas likely limits the use of these habitats. The loss of foraging habitat would be considered ***less than significant***.

Mammals

Sierra Nevada Mountain Beaver and Mount Lyell Shrew

The Sierra Nevada mountain beaver and Mount Lyell shrew could occur within the willow-alder riparian corridor along Mammoth Creek and the adjacent wet meadow. These species would not be directly impacted by the Project because communities potentially supporting the mountain beaver and shrew are within the area designated as open space that would not be directly disturbed by construction-related activities. Additionally, implementation of mitigation measures recommended under "Impact BIO-2: Sensitive Natural Communities" would ensure that these special-status animal species would not be inadvertently impacted, if present. Good wildlife management practices such as those outlined in Mitigation Measure BIO-1e would also reduce post-construction impacts to the Sierra Nevada Mountain Beaver and Mount Lyell shrew to ***less than significant***.

Western White-Tailed Jackrabbit

Suitable habitat for western white-tailed jackrabbit is present within the basin sagebrush, annual grasses and forbs, wet meadow and perennial grasses and forbs communities in the study area. The noise and vibrations from construction equipment associated with Project construction and other construction-related activities (e.g., increased human activities, foot and vehicle traffic) would likely create disturbance that should be sufficient to cause juvenile and adult hares occurring within the development area to move

away from the construction area. However, disturbances, such as vegetation clearing and grubbing and grading, during the breeding season (February through July) could result in directly destroying the nest, killing or injuring young, and/or exposing the nest to predators. In California hares may only breed once per year,[47] and consequently the loss of young could have a population base impact. This would be considered a significant impact. Implementation of **Mitigation Measure BIO-1f,** pre-construction surveys, would reduce impacts to white-tailed jackrabbits to a ***less-than-significant*** level.

The loss of habitat for the western white-tailed jackrabbit resulting from development of the Project would be considered a ***less-than-significant*** impact. Though the conversion of the basin sagebrush, annual grasses and forbs, and perennial grasses and forbs communities could affect individual hares, it would not substantially reduce the number or restrict the range of hares present in the Project vicinity. These communities are widespread throughout the region. The wet meadow community is within the area designated as open space and would not be directly impacted by construction activities.

American Badger

Vegetation communities east of the existing golf course and north of Old Mammoth Road provide potential habitat for the American badger. Badgers occupy underground burrows during periods of inactivity, which may be for a few hours to days. Also, burrows are used during the breeding season. If present in the development area, construction activities could result in direct loss of active burrows and/or individuals. This would be a potentially significant impact. Implementation of **Mitigation Measure BIO-1g,** pre-construction surveys, would reduce the potential loss of active badger burrows and/or individual badgers to ***less than significant***.

Similar to the western white-tailed jackrabbit, the loss of habitat for American badger resulting from Project development would be considered ***less than significant***. The conversion of the suitable habitat for the badger would likely affect individual badgers, if present, but it would not substantially reduce the number or restrict its range present in the Project vicinity.

Mitigation Measure BIO-1a

To determine presence or absence of Masonic rock cress in the development area, a qualified biologist shall conduct focused surveys according to CDFG guidelines[48,49] for this species prior to the onset of construction activities. The surveys shall be conducted at the proper time of year when this plant is both evident and identifiable. A qualified biologist is an individual who possesses the following qualifications:

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[47] *California Department of Fish and Game. California Interagency Wildlife Task Group. 2005. California habitat Relationships version 8.1 personal computer program. Sacramento, California.*

[48] *California Department of Fish and Game. 1983. Guidelines for conducting and reporting botanical inventories for federally listed, proposed and candidate plants. Unpublished information sheet, revised 2000.*

[49] *California Department of Fish and Game. 2000. Guidelines for assessing effects of proposed developments on rare and endangered plants and plant communities. Unpublished information sheet.*

1) experience conducting floristic field surveys; 2) knowledge of plant taxonomy and plant community ecology; 3) familiarity with the plants of the area, including rare, threatened, and endangered species; 4) familiarity with the appropriate state and federal statutes related to plants and plant collecting; and 5) experience with analyzing impacts of development on native plant species communities.

If Masonic rock cress is not found in the development area, no further mitigation would be required. However, if this plant species is located, the survey will determine the number of individuals present and the limits of the area occupied by the population, and one of the following additional mitigation measures shall be implemented:

(a) avoidance and permanent protection of the onsite population;

(b) permanent preservation of an existing, offsite population of the species in the region at a 2:1 acreage ratio; or

(c) transplant the individuals to permanently preserved habitat on- or off-site at a 1:1 acreage ratio. If transplanted offsite, the location should preferably be adjacent to the site or in close proximity.

Each additional mitigation option above (a – c) shall include the preparation of a Preservation Plan (under a or b) or a Mitigation Plan (under c) by a qualified biologist to be submitted to and approved by the Town. The Preservation or Mitigation Plan shall include the location and extent of the preserved or transplanted individuals and measures to ensure protection of the population during and following Project implementation (in perpetuity), including a mechanism to ensure permanent preservation of the population from development such as a conservation easement. The Plan shall also include methods to transplant the individuals (if applicable), measures to maintain the population (i.e., weed control), and methods to monitor the population for a minimum of five years following preservation or transplantation, including performance criteria and contingency measures in case of failure to meet the established performance criteria.

Mitigation Measure BIO-1b

To avoid substantial adverse affects to Yosemite toad, a qualified biologist shall conduct surveys following standard visual encounter techniques supplemented with dipnetting surveys to confirm presence or absence of toads in the study area. At minimum, the biologist shall be familiar with the distinguishing physical characteristics of all life stages of the Yosemite toad and other amphibians found in the Sierra Nevada region of California. The biologist shall also hold all necessary federal, state, and local agency permits for surveying and handling this species. Because the actual timing of visual encounter and dipnetting surveys for Yosemite toad may vary depending primarily on the watershed characteristics, regional snow pact, timing and rate of spring runoff, day length, average ambient air and water temperatures, and local and seasonal weather conditions, the biologist shall visit nearby accessible occurrences of Yosemite toad (reference sites) to identify the breeding period in the vicinity of the Project site. The biologist shall then conduct at least one to two visual encounter surveys from May through July at the appropriate time of day to determine presence or absence of toads onsite. If during the initial

breeding survey, no individual Yosemite toads or egg masses are encountered, subsequent surveys shall be conducted two to four weeks later. Approximately four to eight weeks after completing the breeding survey(s), dipnetting surveys for tadpoles shall be conducted (usually July through August).

If no individual toads (e.g., adults or tadpoles) or egg masses are encountered, no further mitigation would be required. However, if Yosemite toad is encountered the following measures shall be implemented:

- A qualified biologist shall develop and implement, in coordination with the USFWS, CDFG, and USFS, an exclusion and relocation program for Yosemite toads within the development area. The design and type of exclusion fencing, as well as the method and location of relocation shall be approved by the resource agencies prior to implementation.

- Pre-construction surveys of aquatic habitats and adjacent terrestrial habitat shall be conducted in all work area by qualified biologist within two weeks of initiating work. Any observed toads shall be relocated according to procedures outlined in the exclusion and relocation program developed and implemented above. Active work areas shall be re-surveyed regularly between May and September.

- During construction activities, all trash that may attract predators will be properly contained, removed from the work area, and disposed of regularly. Following Project construction, all trash and construction debris shall be removed from work areas.

- Any fueling and maintenance of vehicles and other equipment and staging areas shall be at least 65 ft (20 m) from any willow-alder riparian community or waterbody.

- Appropriate sediment and erosion control best management practices (BMPs) shall be implemented to protect the water quality of the Mammoth Creek and the several ponds near Mammoth Creek, as well as the golf course ponds and associated drainages. BMPs to be implemented shall be described in the Project site's stormwater pollution prevention plan (SWPPP) and shall be installed according to the manufacture's specifications.

- Areas temporarily disturbed by construction activities shall be recontoured and revegetated. An appropriate assemblage of vegetation that is suitable for the area shall be used during restoration efforts.

Mitigation Measure BIO-1c

To avoid substantial adverse affects to nesting willow flycatchers, construction activities, including vegetation clearing and grubbing and grading, on the portion of the development area north of Old Mammoth Road shall be conducted outside of the nesting season (June 1st through September 15th). If

this is not feasible, then a qualified biologist holding all necessary federal, state, and agency permits shall conduct protocol-level surveys for willow flycatchers following methods outlined in *A Willow Flycatcher Survey Protocol for California*[50] to confirm presence or absence in the study area. A qualified biologist is an individual who has sufficient knowledge, training, and experience with bird identification and surveys to distinguish the willow flycatcher from other non-*Empidonax* species, and recognize the willow flycatcher's primary song. Also, it is strongly recommended that the biologist has attended a willow flycatcher survey training workshop. The protocol is based on the use of repeated tape-playback surveys during pre-determined periods of the breeding season: Survey Period 1: June 1st through June 14th; Survey Period 2; June 15th through June 25th; and Survey Period 3: June 26th through July 15th. It requires a minimum of two surveys on the site, one during Survey Period 2 and one during either Survey Period 1, or Survey Period 3 to document presence or absence of willow flycatchers during the survey year. In addition, successive surveys must be at least five days apart; surveys done fewer than 5 days apart are not considered to be in separate survey periods.

If no willow flycatchers are detected in the study area, no further mitigation would be required. However, if willow flycatcher is detected, the CDFG shall be contacted for a final discussion on the possibility of doing construction-related activities during the breeding season. Also, in coordination with the CDFG, a long-term (i.e., greater than five year) monitoring program shall be developed and implemented in order to protect the existing population and provide baseline data to make well-informed, adaptable management plans, if needed in the future. Regardless of whether or not flycatchers are detected, the willow flycatcher survey forms (Form 1; Willow Flycatcher Field Survey Form, Form 2; Willow Flycatcher Survey Summary-Site Description, and Form 3: Willow Flycatcher Survey Summary-Results Summary) shall be submitted to the CDFG by October 1st of each year.

Mitigation Measure BIO-1d

To avoid substantial adverse affects to other nesting migratory birds and raptors, one of the following measures shall be implemented:

- Conduct vegetation removal and other ground disturbance activities associated with Project construction during the non-breeding season (September 16th through March 14th); OR

- Conduct pre-construction surveys for nesting birds if construction activities are to take place during the nesting season (March 15th through September 15th). Pre-construction surveys shall be conducted by a qualified biologist once per week for eight consecutive weeks at the appropriate time of day during the breeding season and shall end no more than three days prior to the onset of construction activities to confirm presence or absence of active nests in the Project vicinity (at least 300 feet around the development area). If active nests are encountered, species-specific measures shall be prepared by a qualified biologist, in coordination with the CDFG and other

[50] *Bombay, H. L., T. M. Ritter, and B. E. Valentine. 2006. A willow flycatcher survey protocol for California. June 6, 2000.*

appropriate agencies, and implemented to prevent direct loss or abandonment of the active nest. At a minimum, construction activities in the vicinity of nest shall be deferred until the young have fledged and an exclusion buffer zone shall be established. A minimum exclusion buffer of 25 feet is typically recommended by CDFG for songbird nests, and 200 to 500 feet for raptor nests, depending on the species and location. The perimeter of the nest-setback zone shall be fenced or adequately demarcated with staked flagging at 20-foot intervals, and construction personnel restricted from the area. A survey report by the qualified biologist verifying that the young have fledged shall be submitted to the Town for review and concurrence prior to initiation of construction activities within the nest-set-back zone. The survey report shall also be submitted to the CDFG for review.

Mitigation Measure BIO-1e

The following good wildlife management practices shall be implemented to reduce impacts to nesting migratory birds and raptors, as well as other wildlife species, following Project development.

- Domestic pets belonging to residents or visitors shall be prohibited from entering the adjacent undeveloped lands or open space areas. Signage shall be posted and maintained along the boundaries of the development area indicating such prohibitions and educating the community about domestic pets as a conservation threat to birds and other wildlife.

- Signage shall be installed along the existing nature trails on the Project parcel north of Old Mammoth Road educating the community about the breeding season being a vital period in birds' and other animals' lives and disturbances during this time may result in nest or young abandonment.

- Educational brochures shall be distributed to residents and visitors discussing the importance of not supplementing the diet of avian nest predators such as jays (*Cyanocitta* sp.), magpie (*Pica* sp.), ravens (*Corvus corax*), and brown-headed cowbird (*Molothrus ater*) by feeding them during the breeding season. Also, educational brochures shall instruct residents and visitors not to feed wildlife or allow wildlife access to trash. This could lead to increased natural mammalian predators such as raccoon, fox (*Vulpes* sp.), and opossum (*Didelphis virginiana*). These predators tend to benefit disproportionately from human habitation, and as their populations expand they are negatively affecting the health of bird and other animal populations.

- Night lighting associated with the Project shall be designed to provide illumination of target areas with minimal offsite visibility to avoid potentially illuminating wildlife use areas located within and adjacent to the development area.

Mitigation Measure BIO-1f

To avoid substantial adverse affects to western white-tailed jackrabbit, one of the following measures shall be implemented:

- Conduct vegetation removal and other ground disturbance activities associated with Project construction during the non-breeding season (August 1st through January 31st); OR

- Conduct pre-construction surveys for western white-tailed jackrabbit if construction activities are to take place during the breeding season (February 1st through July 31st). Pre-construction surveys shall be conducted by a biologist familiar with this hares' habitat and sign (e.g., tracks, pellets) once per week for five consecutive weeks and shall end no more than three days prior to the onset of construction activities to confirm presence or absence of hares within the Project's development area. If hares or evidence of hare is encountered, the qualified biologist, in coordination with the CDFG, shall develop and implement site-specific measures (e.g., exclusion buffer zone, nesting monitoring) to avoid loss of nests or young. A survey report by the qualified biologist verifying the presence or absence of western white-tailed jackrabbit and describing measures developed and implemented to avoid hares, if determined present, shall be submitted to the Town for review and concurrence prior to initiation of construction activities.

Mitigation Measure BIO-1g

To avoid substantial adverse effects to badgers, a qualified wildlife biologist shall conduct an initial survey for active burrows at least 30 days prior to initiation of construction activities to confirm presence or absence of badger in the project vicinity (at least 150 feet around the development footprint). If no individual badgers or evidence of badger is found, no further mitigation would be required at this time. However, if badger is detected, site-specific measures (e.g., exclusion buffer zone, nesting monitoring) shall be prepared by a qualified biologist, in coordination with the CDFG and other agencies as appropriate, and implemented to prevent direct loss of active burrows and/or individuals. Regardless of whether badger is detected during the initial survey, a subsequent survey for badger in the Project vicinity shall be conducted no more than 3 days prior to the initiation of construction activities to confirm no new burrows have established in the intervening period. A survey report by the qualified biologist verifying that there are no active burrows present in the development footprint shall be submitted to the Town for review and concurrence prior to initiation of construction activities. The survey report shall also be submitted to the CDFG for review.

Impact BIO-2 Sensitive Natural Communities

Riparian habitat is present in the study area along Mammoth Creek; however, the Project would not result in direct impacts (e.g., removal or damage) of this vegetation community, and would instead preserve this community, as well as the adjacent wet meadow, as open space. Similarly, the small areas of riparian habitat around the existing golf course ponds would not be directly impacted by Project construction.

Although no direct removal or damage would occur in these areas from the Project, indirect impacts could occur from adjacent development such as inadvertent damage from equipment or vehicle staging, or erosion. Implementation of **Mitigation Measure BIO-2a** would reduce this potential impact to ***less than significant***.

Development of the Project could also affect the riparian and wet meadow communities, as well as the other natural communities, present in the vicinity by indirectly introducing non-native plant species into these areas. Seeds and plant parts of non-native species could get onto the Project site by various means (e.g, construction equipment and materials [e.g., straw wattles], clothing material and vehicles of workers, landscaping plants). Once onsite non-natives could spread throughout the disturbed areas and, eventually, into the undisturbed natural areas. Establishment of invasive, non-native plants can upset the ecological balance of plants, animals, soils, and water achieved over many years as native plants are displaced, animal populations that rely on the plants for food and shelter decline, runoff patterns are altered and increase soil erosion, and water levels are reduced or depleted. The effects of this impact would be minimized by implementation of **Mitigation Measure BIO-2b**.

Potential jurisdictional waters and wetlands are present in the study area, which are considered sensitive; however, these features are addressed under "Impact Bio-3: Jurisdictional Resources" below.

While the other vegetation communities present in the study area are not considered sensitive, they contain some trees that meet the minimum size (six inches in diameter) to require approval from the Town prior to removal; impacts to these trees are addressed under "Impact Bio-5: Conformance with Town Policies and Ordinances" below.

Mitigation Measure BIO-2a

To avoid potential inadvertent impacts to preserved sensitive habitats (riparian habitat, wet meadow, or other jurisdictional features) adjacent to the development area, the following measures shall be implemented prior to and during construction activities:

- Prior to construction activities, the boundaries of sensitive habitats that will not be impacted shall be plotted on all construction plans and maps, including a minimum buffer of 10 feet or more as determined by a qualified biologist.

- Silt fencing and construction fencing (or flagging to make the silt fencing more visible) shall be installed around the sensitive habitat and buffer, and the final location of the installed fencing shall be approved by a qualified biologist prior to initiation of construction activities.

- Encroachment into the sensitive habitat and buffer shall be prohibited by construction personnel, and storage of materials or equipment shall be prohibited in this area.

- Prior to the onset of construction activities, construction personnel shall be briefed on the location of sensitive habitat and other resources that shall be persevered and the importance of avoidance.

- The silt fence shall be monitored regularly during construction activities to ensure that the fencing remains intact and functional, and that no encroachment has occurred into the sensitive habitat or boundary; any repairs to the fence or encroachment correction shall be conducted immediately. A memo summarizing monitoring dates, observations, and repairs/corrections shall be prepared following each construction season and submitted to the Town.

- Appropriate sediment and erosion control best management practices (BMPs) shall be implemented to protect water quality of Mammoth Creek and its adjacent wet meadow community during and following project construction. The BMPs to be implemented shall be described in the site's stormwater pollution prevention plan (SWPPP) and shall be installed according to the manufacturer's specifications.

- All fueling and maintenance of vehicles and other equipment and staging areas shall be at least 50 ft (15 m) from sensitive habitats.

Mitigation Measure BIO-2b

To minimize establishment of invasive, non-native plant species on the site, the following measures shall be implemented.

- A construction schedule shall be developed to closely coordinate activities such as clearing, grading, and reseeding, to ensure areas are not prematurely stripped of native vegetation and revegetation activities be conducted as soon as possible following development.

- Vegetation disturbances shall be limited to those areas identified on construction plans and maps as slated for development or construction staging.

- Native and compatible non-native plant species, especially drought resistant species, shall be used for revegetation. Refer to the list of *Plants that Thrive in Eastern Sierra Gardens'* prepared by Mono County.

- Landscaping will not use invasive non-native plants that threaten wildlands according to the California Invasive Plant Inventory made available by the California Invasive Plant Council (Cal-IPC).

- Erosion and sediment control materials shall be certified as weed-free.

Impact BIO-3 Jurisdictional Resources

Jurisdictional waters of the United States, including wetlands, and waters of the State, are present in Mammoth Creek, its tributaries, several open water ponds and in the adjacent wet meadow community in the study area north of Old Mammoth Road. Although no direct impacts would occur in these areas from the Project, as the area north of the development area would be preserved as open space, indirect impacts

could occur from adjacent construction activities such as inadvertent damage from equipment or vehicle staging, or erosion. Implementation of Mitigation Measure BIO-2a above would reduce this potential impact to a ***less-than-significant*** level.

The existing golf course ponds west of Fairway Drive and the drainages and ditches that connect them are not considered federally jurisdictional features; however, these areas may be considered waters of the State subject to regulation by the RWQCB, and may be considered lakes or streambeds subject to regulation by CDFG. However, similar to the other waters in the study area north of Old Mammoth Road, these features are not located within the Project's development area, and implementation of Mitigation Measure BIO-2a would reduce any potential indirect impacts resulting from construction activities to ***less than significant***.

The existing golf course pond, the northernmost retention basin, and the drainage/ditch connecting these features located south Old Mammoth Road and east of Fairway Drive are also potentially subject to regulation by the RWQCB and CDFG (but are not considered to be federally jurisdictional). The Project would result in reducing the stormwater retention of the existing golf course pond (i.e., lowering the spillway at the eastern end of the pond) and replacing the detention basin and drainage/ditch with a series of unlined stormwater control basins and a vegetative swale (refer to Appendix G, Draft EIR Technical Appendices, Hydrology Data). Impacts to these features would be reduced to ***less than significant*** with implementation of Mitigation Measure BIO-3.

Mitigation Measure BIO-3

Prior to the onset of construction activities, including concrete and riprap removal associated with the reduction of the stormwater retention in the existing golf course pond, and vegetation clearing and grubbing and grading associated with the creation of the stormwater control basins and vegetative swale, a Waste Discharge Requirement (WDR) permit application shall be submitted to RWQCB and a Lake or Streambed Alteration Notification shall be submitted to CDFG for impacts to the existing golf course pond, the northernmost retention basin, and the drainage/ditch connecting these features. Mitigation measures associated with permits may include impact minimization measures such as implementation of best management practices (i.e., erosion and sediment control measures) and seasonal work restrictions, and possibly habitat compensation measures such as the restoration plantings in the vicinity. Impacts to potentially jurisdictional features shall not occur until the permits are received from the appropriate regulatory agencies, or correspondence is received from the agencies indicating that a permit is not required.

Impact BIO-4 Wildlife Movement, Migration Corridors, and Native Wildlife Nurseries

The reach of Mammoth Creek in the study area is considered an important movement corridor for resident fish, reptiles and amphibians, mammals, and birds. It serves as a travel route for individuals as they move within their home ranges. Because Mammoth Creek and its associated riparian vegetation and adjacent

wet meadow community would remain as open space, the Project would not result in impacts to movement corridors associated with Mammoth Creek.

Similar to the Mammoth Creek corridor, the remainder of the study area, particularly the undeveloped portion south of Old Mammoth Road and east of Fairway Drive, is likely used by resident wildlife species for dispersal and home range movements. However, the study area does not constitute a critical connection between larger areas of suitable habitat considered to be essential to the long-term survival of the species, particularly considering the extent of developed areas to the immediate west and north. Therefore, the Project would not result in significant impacts to wildlife movement for most resident and native wildlife species.

No major migratory routes for the Round Valley mule deer herd or other important migratory animals in the region occur within the study area.[51,52] However, as indicated in the *Snow Creek Land Exchange Environmental Assessment*,[53] approximately 46 acres of the Sherwin holding area within the former federal parcel, which comprises the southern and eastern portions of the study area, south of Old Mammoth Road and east of Fairway Drive, would be lost as a result of the proposed golf course expansion. Furthermore, an additional approximately 49 acres of potential foraging and resting habitat south of Old Mammoth Road and east of Fairway Drive that may be used by deer in the adjacent holding area would be lost by Project construction. Individual deer in the adjacent holding area likely use this area given the close proximity, the continuity of basin sagebrush habitat between the study area and the holding area to the south and east, and the composition of the basin sagebrush habitat in the study area, which supports bitterbrush, a key forage species for deer in the holding area.[54] Twenty-one percent of deer observations (37 of 175 observations) made during weekly deer count surveys were reported within the proposed golf course expansion area in the 1997 *FEIS for the Proposed Snowcreek Golf Course Expansion Project*.[55] Although the loss of the holding area and the additional foraging and resting habitat represents a loss of less than one percent of the habitat within the 11,300 acre holding area, this could be potentially significant. The holding area is an expansion of the migration corridor and is a crucial stop-over area where deer can enhance their nutritional status before completing their migration to summer ranges. Additionally, one of the two noted areas of concentrated deer use on the holding area occurs just east of the Project site, in the vicinity of the Sherwin Campground and Mammoth Motocross.[56] Given the

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[51] *Draft Program EIR Town of Mammoth Lakes 2005 General Plan Update, Environscientists, Inc., Mammoth Lakes, CA, February 2005*

[52] *Taylor, T. 1993. Snowcreek Ski Area Deer Migration Study. Prepared for Dempsey Construction Company.*

[53] *Inyo National Forest. 2003. Snowcreek Land Exchange Environmental Assessment. United States Department of Agriculture, Forest Service, Pacific Southwest Region.*

[54] *Personal Communication. Tim Taylor, California Department of Fish and Game. December 7, 2006 – phone conversation with Shannon Lucas (CAJA staff).*

[55] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

[56] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

proximity of the area of concentrated use and the Mammoth Rock migration route to the site, the loss of this habitat could further constrict the already narrow corridor.[57] The loss of the holding area and additional foraging and resting habitat could be reduced to a ***less-than-significant*** level by implementation of **Mitigation Measure BIO-4a**.

Construction-related activities (e.g., noise and vibration from construction equipment, increase human activity) could result in disturbance of individual mule deer currently using the holding area and the study area for foraging and resting, as well as individuals exiting the holding area along the Mammoth Rock migration route, located south of the Project site. Disturbed holdover and resident deer would likely disperse away from construction activities into adjacent undisturbed natural areas or abandon using the holding area. Deer relocating to adjacent habitats could subsequently create overcrowding and increased competition among individuals, and eventually, result in over-utilization of these areas. Individuals abandoning the holding area may leave before they are nutritionally fit, making them vulnerable during the migration to the summer range; this is particularly true for pregnant does. Construction-related disturbances could also cause deer to change their migration corridor route or move further south into higher elevations where snow conditions may interfere with successful migration to the summer range. Although these impacts would be temporary, as they would only occur during the construction period, implementation of **Mitigation Measure BIO-4b**, prohibiting major construction activities (e.g., vegetation clearing and grubbing and grading) until deer have completed spring and fall migration (generally from April 15 through June 1 and from October 1 through November 15),[58] would reduce construction-related disturbance impacts to ***less than significant***.

Following construction, deer using the holding area and the Mammoth Rock Migration route could be directly and/or indirectly impacted by the operation of the residential, resort, recreational, retail, and public amenities components of the Project. The Project would likely result in increased human incidental contact and intrusion impacts. Such disturbances can cause increased stress or deer to flee, significantly increasing energy expenditures of deer. Also, deer could be indirectly impacted by, but not limited to, noise levels, traffic volumes, outside lighting, and domestic animals. Depending on the scope and intensity of such indirect affects, deer may continue to use the holding area and migration route, select alternate undisturbed areas, or abandoned the nearby holding area and migration route. The Project has been designed such that the residential and resort components would be clustered toward the northern portion of the Project site and the golf course would create a buffer around these components. Although this design could reduce post-construction impacts to deer using the nearby holding area and migration route, impacts can extend well beyond the actual area developed. Implementation of **Mitigation Measure BIO-4c** would further reduce potential impacts to deer to a ***less-than-significant*** level. Mitigation Measure BIO-4c includes additional good wildlife management practices to those outlined in

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[57] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

[58] *Personal Communication. Timothy Taylor, California Department of Fish and Game. December 7, 2006 – phone conversation with Shannon Lucas (CAJA staff).*

Mitigation Measure BIO-1e above. Measures are consistent with goals and policies in the Town's adopted 1987 General Plan (e.g., 1987 General Plan – Wildlife Resources Goal 2 and Policy 4).

The golf course vegetation and associated habitats could attract deer, leading to the request for depredation permits and/or construction of deer-proof fencing. Such request would be considered potentially significant impacts because they would result in direct take of deer and interfere with movement patterns, respectively. Additionally, the golf course would increase deer exposure to herbicides and insecticides applied to associated landscaping; however, there is little chance of any direct mortality or indirect effect from exposure to pesticides.[59] Implementation of good wildlife management practices outlined in **Mitigation Measure BIO-4c** would reduce these additional impacts to deer to ***less than significant***.

As discussed in more detail in the Wildlife Movement Corridors section, a small number of deer from the Round Valley herd may remain in the Mammoth area during the summer, and have been documented as using a fawning site southwest of the Project site.[60] However, this fawning site is located at least one-half mile from the Project site. Given the distance between the Project site and fawning site, construction and operation of the Project is not likely to substantially affect use of this native wildlife nursery site, resulting in ***less-than-significant*** impacts.

Mitigation Measure BIO-4a

To offset the loss of holding area deer habitat, the applicant shall purchase or contribute funds to purchase a conservation easement on property(ies) that contain important lands in the winter range, migration corridor, and/or holding area of the Round Valley mule deer herd or any other migratory mule deer herd within the Mammoth Lakes vicinity as determined by the CDFG. The amount of acreage to be purchased or made part of a conservation easement ("replacement land") to offset the loss of mule deer habitat by this project shall be determined by the CDFG, and based upon the recommendation of a qualified biologist. The location and quantity of replacement land shall be based upon the acreage of deer habitat affected by the development and the comparative benefits or value to the mule deer herd of the habitat being removed by this project to the area being acquired or protected. Consequently, the CDFG shall not be required to utilize a simple removal to replacement ratio, but shall be permitted to consider other factors such as the quality and quantity of plant foraging material in the removal area and the replacement area and whether the replacement area land serves to protect important lands in the winter range, migration corridor and/or the holding area for the herd. In lieu of providing for replacement land, the CDFG may approve other means recommended by a qualified biologist by which the applicant shall protect or enhance habitat for the Round Valley mule deer herd or any other migrating mule deer herd

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[59] *U.S. Department of Agriculture, Forest Service. 1997. Final Environmental Impact Statement for the Proposed Snowcreek Golf Course Expansion Project. June 1997.*

[60] *United States Department of Agriculture, Forest Service. 1990. Final Environmental Impact Statement for the Sherwin Ski Area.*

within the Mammoth Lakes vicinity, such as erecting fencing along U.S. Highway 395 to protect the deer herd from vehicular traffic, providing monetary contributions toward the construction of a deer undercrossing along U.S. Highway 395, or other means to enhance the herd's habitat, or protect the herd, that is roughly proportional to the impact on the deer herd of the loss of deer herd habitat caused by the project (the "in lieu protection program").

The proposed land protection agreement or in lieu protection program shall be prepared by the applicant in close consultation with the Town, CDFG and directly affected parties (i.e., the seller(s) of the conservation easement or the recipients of the monetary contributions under the in lieu program). Prior to the onset of construction activities associated with the development of the new golf course, located on those portions of the site that have historically been deer habitat (refer to areas labeled "I" on Figure III-4), the Town shall receive a signed copy of the land protection agreement, executed by all directly affected parties as defined above, or obtain written confirmation from CDFG of CDFG's approval of the in lieu protection program proposed by the applicant. Construction activities include vegetation clearing and grubbing and grading. In all events, implementation of the approved land protection agreement or in lieu protection program shall be commenced to the CDFG's satisfaction, prior to any grading of the approximately 46 acres of impacted deer habitat. Implementation shall be completed in stages, to the satisfaction of the CDFG, so as to ensure that the mitigation occurs within a sufficiently short period of time after the impact has occurred, in order to minimize any possibility of an unmitigated impact. The Town will reserve the option to delay the onset of construction activities in the event it determines that implementation of the proposed land protection agreement or in lieu protection program has been unduly delayed or obstructed by the applicant.

Mitigation Measure BIO-4b

Major construction activities (e.g., vegetation clearing and grubbing, and grading) within the development area south of Old Mammoth Road shall not occur when significant numbers of migrating deer are present in the Project vicinity (generally during the period from April 15 through June 1 and from October 1 through November 15) to avoid potential adverse impacts to the Round Valley mule deer herd using the Sherwin holding area and Mammoth Rock migration route during the spring and fall migration periods. Because the actual dates of construction will be based on deer arrival at and departure from the Project vicinity, which will depend on weather and snow conditions, a monitoring program shall be developed and implemented, in coordination with CDFG and other appropriate agencies, to determine the presence of deer in the area. All major construction activities shall be conducted during the interim periods between spring and fall migration periods only.

Mitigation Measure BIO-4c

In addition to the good wildlife management practices outlined in Mitigation Measure BIO-1e, the following habitat management practices shall be implemented:

- No fences or other potential impediments to deer and other wildlife movement shall be installed along the outer edges of the Project site, particularly along the southern and eastern Project boundaries for deer.

- No depredation permits for controlling deer shall be requested. The applicant recognizes that the development of lands within deer habitat contains associated risks of damage, which is acceptable.

- Require management practices of landscapes treated with pesticides that minimize low-level exposures and sub-lethal effects to wildlife. Herbicides, pesticides, and fungicide application records and other landscape and turfgrass management records shall be made available to the Town or CDFG at any time upon request.

Impact BIO-5 Conformance with Town Policies and Ordinances

A total of 106 trees have been identified within the development area that meet the minimum size (six inches in diameter) to require approval from the Town prior to removal (Town of Mammoth Lakes Municipal Code, Chapter 17.16.050).[61] Of these trees, 22 are native, naturally occurring trees, such as Jeffrey pine, lodgepole pine. The remaining 84 trees are non-native trees, such as blue spruce (*Picea pungens*), and the majority of these have been planted for landscaping purposes. Although not documented in the Town's Municipal Code (Chapter 17.16.050), it is the Town's intent not to protect all live trees but, native trees over six inches in diameter.[62] The applicant plans to retain all the native trees within the development area, as well as, to the extent feasible, all the non-native trees subject to a review of the trees' health and status by a certified arborist.[63] Because all the native trees over six inches are intended to be retained and any proposed for removal following the arborist's review would be subject to approval from the Town prior to their removal, the Project would have ***no impact*** on trees regulated by the Town.

As discussed above in Impact BIO-2 Sensitive Natural Communities, indirect, unanticipated impacts to waters and wet meadow habitat could occur during construction activities within the development area in the adjacent basin sagebrush habitat north of Old Mammoth Road, such as inadvertent damage from equipment or vehicle staging, or erosion. Such impacts would conflict with goals and policies in the Town's adopted 1987 General Plan, specifically Natural Vegetative Resources Policy 3 and Habitat. However, implementation of Mitigation Measure BIO-2b, requiring fencing, monitoring, and other best management practices, would reduce these impacts to ***less than significant***.

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[61] *Denise Duffy & Associates, Inc. (DD&A). 2007. Letter to Bill Taylor, Town of Mammoth Lakes. July 17, 2007.*

[62] *Personal Communication. Bill Taylor, Town of Mammoth Lakes. July 10, 2007 – phone conference with CAJA and the applicant's team.*

[63] *Denise Duffy & Associates, Inc. (DD&A). 2007. Letter to Bill Taylor, Town of Mammoth Lakes. July 17, 2007.*

The Project could also result in increased wildlife and human interactions, particularly along the southern and eastern Project boundaries where deer and other wildlife may reside. Incidental human contact and intrusion impacts would conflict with the goals and policies in the Town's adopted 1987 General Plan, specifically Wildlife Resources Policy 3. However, implementation of Mitigation Measure Bio-1e and Mitigation Measure Bio-4c, which includes good wildlife habitat management practices such as lighting and fencing restrictions, and domestic pet control, would reduce these impacts to a ***less-than-significant*** level.

Impact BIO-6 Conformance with Adopted Habitat Conservation Plans, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

No Habitat Conservation Plans, Natural Community Conservation Plans or other local or regional plans have been adopted within the Town's UGB which encompasses the Project site,[64] therefore, no impacts are anticipated and no mitigation would be considered necessary.

CUMULATIVE IMPACTS

Impact BIO-7

This section addresses cumulative biological resource impacts associated with the Project. These are impacts to biological resources which result from combined, incremental impacts of the Project when added to other closely related past, present and foreseeable future projects. Cumulative impacts can result from individually minor, but collectively significant impacts taking place over a period of time. The following cumulative impact analysis is based on a review of related projects in the vicinity of the Project site (refer to Table II-1) and aerial photographs.

Special-Status Species

With respect to special-status species impacts identified under the Project described above, some of the related projects may also have the potential to impact special-status plants and animals. These projects could result in direct take of species, construction and post construction disturbances, and/or habitat conversion. However, with the measures prescribed to mitigation such impacts under the proposed Project, and given the small size of the related projects and/or the location in existing developed areas, these impacts are not anticipated to be cumulatively considerable when evaluated with other related projects in the vicinity.

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[64] *Draft Program EIR Town of Mammoth Lakes 2005 General Plan Update, Environscientists, Inc., Mammoth Lakes, CA, February 2005*

Sensitive Natural Communities

The Project has been designed to avoid direct impacts (e.g., placement of fill material, vegetation removal) to natural communities and habitats that are subject to the regulatory and resource agencies' jurisdiction. For the purposes of this discussion, this includes waters of the United States, including wetlands, waters of the State, and riparian and wet meadow communities. Additionally, measures prescribed to mitigate indirect affects, such as inadvertent damage by construction equipment or staging, and construction runoff, would reduce potential adverse indirect impacts to less than significant. Because of the Project's design and prescribed mitigation measures, the potential addition of related projects impacts to the Project's sensitive natural communities' impacts are not anticipated to be cumulatively considerable.

Migratory Deer

As discussed in the Project Impacts and Mitigation Measures section of this Draft EIR, the Project would result in the loss of about 46 acres of the Sherwin holding area and an additional loss of about 49 acres of potential foraging and resting habitat for the Round Valley mule deer herd. Because the holding area plays such an integral role in affecting productivity of the deer herd, removal of this habitat from the proposed project is considered potentially significant. Human-related disturbances associated with the construction and operation of the Project could result in significant impacts to deer using the holding area and the Mammoth Rock migration route. When these impacts to migratory deer from the proposed Project's are considered collectively with related projects in the vicinity, these impacts may be cumulatively considerable, as they may result in an overall disturbance to mule deer migration along the Mammoth Rock corridor. Given the small size of the related projects (especially relative to the proposed Project) and/or the location of most of the related projects in existing developed areas, this impact to deer migration holding area is not considered cumulatively significant.

When the Project's impact to deer migration holding area is compared to the existing environmental setting, including past projects, this impact may be considered cumulatively considerable. This herd has already exhibited population decline, possibly due to residential development within the winter range and migration corridors.[65] The Round Valley herd once utilized the entire Mammoth Lakes basin for its holding area and migration corridor,[66] but it has since been pushed further east and south due to development within the Town of Mammoth Lakes over the past century. This may be responsible for the current shape of the western end of the holding area and the Mammoth Rock migration route, which are shaped such that they are located just outside of the developed portions of the Town. However, the implementation of Project mitigation measures, including the proposed land protection agreement or in

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[65] *Snowcreek Golf Course Expansion Project FEIS Appeal Response letter from USFS to Sierra Club Toiyabe Chapter, dated September 26, 1997. Appeal No. 97-05-00-0056-A215, File Code 1570-1/2430-2.*

[66] *Personal Communication. Timothy Taylor, California Department of Fish and Game. December 7, 2006 – telephone conversation with Shannon Lucas.*

lieu protection program, restrictions on the construction season, and implementation of good wildlife management practices, the impacts to migratory deer holding area from the Project and past projects is not expected to be cumulatively considerable.

As the number of residents in the Town increases, vehicular mortality to deer may increase. However, the 2005 General Plan Update Draft EIR noted that this impact is not anticipated to significantly affect the herd's population.

Inyo National Forest – Recreational Impacts to Biological Resources

Based on a review of the related projects in the vicinity of the Project site (Table II-1) and aerial photographs, few of these projects are likely to have significant impacts to biological resources due to their small size and/or location in existing developed areas. With respect to the biological impacts identified under the Project described above, some of the related projects in the area may also have the potential to impact special-status plant and animal species, wildlife movement corridors, and sensitive natural communities, including protected trees. However, with the measures proposed to mitigate impacts under the proposed Project, and given the small size of the related projects as compared to the proposed Project, these impacts are not anticipated to be cumulatively considerable or significantly adverse when evaluated with other related projects in the vicinity.

The cumulative impacts discussion under Population & Housing (Section IV.K), notes that the Project when considered with other related residential projects in the area, would result in an estimated permanent population increase of approximately 11,460 persons. The anticipated population increase may have significant impacts upon special-status species within the adjacent Inyo National Forest, and it is anticipated that the 2007 General Plan, adopted August 15, 2007, includes policies requiring the Town to work closely with agencies, including the Inyo National Forest, to ensure that the regional natural ecosystem is maintained.

The Inyo National Forest is one of the 10 most visited units in the USFS system, and visitation to the Inyo National Forest and adjacent areas has been growing consistently over the past several years and is expected to grow at similar levels over the next 20 years.[67] The cumulative population growth from the Project and related residential projects of nearly 11,460 persons, and their potential impact to natural resources in the Inyo National Forest, are relatively insignificant compared to the impacts from the approximately 130,000 to 150,000 summer visitors and 1.3 million winter visitors to the Town.[68] However, while only 8.3 percent of the Forest's visitors are regional residents (from the 93546 and 93514 zip codes), regional residents account for nearly 25 percent of visitor frequency (regional residents had a

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[67] *Federal Highway Administration and Federal Transit Administration. Field Report – Inyo and Humboldt-Toiyabe National Forests Eastern Sierra Expanded Transit System.*

[68] *Federal Highway Administration and Federal Transit Administration. Field Report – Inyo and Humboldt-Toiyabe National Forests Eastern Sierra Expanded Transit System.*

visitor frequency of 124 as compared to 380 for other visitors).[69] The primary activities of forest users are viewing natural features, relaxing, hiking, walking, downhill skiing/snowboarding, cross-country skiing, camping, and fishing.[70] Although many of these activities have generally low impacts on natural resources, particularly when conducted in accordance with existing USFS management controls (such as well-planned and maintained trails, camping area restrictions, limited wilderness area permits, and ski area capacity limits[71]), a cumulative increase in these activities from additional frequent resident visitors may have an adverse impact on sensitive resources from excessive use, possibly resulting in erosion, habitat degradation, and wildlife habituation and disturbance.

Increased visitor use and the associated management of natural resources within the Inyo National Forest are being addressed by the U.S. Forest Service through planning efforts including the *USFS Trail and Commercial Pack Stock Management in the Ansel Adams and John Muir Wildernesses FEIS* and the *Inyo National Forest Winter Needs Assessment* conducted in collaboration with the Town in 2003 and 2004. In addition, the Inyo National Forest will need to update its Forest Land and Resource Management Plan, as it is nearly 20 years old and out-of-date,[72] in accordance with the *Sierra Nevada Forest Plan Amendment (SNFPA)*. The SNFPA gives management direction to all forests to address problems of (1) old forest ecosystems and associated species, (2) aquatic, riparian, and meadow ecosystems, (3) fire and fuels, (4) noxious weeds, and (5) lower westside hardwood forests.[73] The SNFPA requires an assessment of existing environmental conditions and identification of management options at various geographic, jurisdictional, and temporal scales, and the implementation of adaptive management procedures to adjust the management direction for future events, changing knowledge, or dynamic social views.[74]

Impacts to natural resources within the Inyo National Forest from recreational use are expected to increase due to the Town's cumulative population increase from the Project and other regional residential projects, and these impacts may be considered cumulatively considerable or significantly adverse; however, identification and quantification of such impacts would be speculative under the current analysis. Potential impacts to sensitive natural resources within the Inyo National Forest should be evaluated as part of the Forest's Land and Resource Management Plan Update, which will identify and assess existing conditions with respect to recreational areas in accordance with the SNFPA. The SNFPA identifies bird watching, hiking/backpacking, downhill skiing and primitive camping as some of the fastest growing outdoor recreational activities in the U.S., and projects an over 100 percent increase in downhill skiing and an over 250 percent increase in snowmobiling for the Pacific coast region through

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[69] *Inyo National Forest. 2003. National Visitor Use Monitoring Results, Inyo National Forest. USDA Forest Service, Region 5. August 2003.*

[70] *Federal Highway Administration and Federal Transit Administration. Field Report – Inyo and Humboldt-Toiyabe National Forests Eastern Sierra Expanded Transit System.*

[71] *Personal Communication, CAJA staff: Mike Schlafmann, U.S. Forest Service. July 5, 2006.*

[72] *Personal Communication, CAJA staff: Mike Schlafmann, U.S. Forest Service. July 5, 2006.*

[73] *U.S. Forest Service. 2001. Sierra Nevada Forest Plan Amendment, Final EIS. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. January 2001.*

[74] *Ibid.*

2050.[75] Therefore, it is reasonable to assume that much of the recreational Forest uses from the cumulative population growth in the area will revolve around these increasingly popular outdoor activities.

Compliance with the Town's 2007 General Plan, requiring the Town to work closely with agencies, including the Inyo National Forest, to ensure that the regional natural ecosystem is maintained, will not result in cumulatively considerable impacts to sensitive natural resources in the Inyo National Forest from increased population and recreation.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Biological resource impacts would be ***less than significant*** after implementation of the mitigation measures.

[75] *U.S. Forest Service. 2001. Sierra Nevada Forest Plan Amendment, Final EIS. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. January 2001.*