BIOLOGICAL RESOURCES ASSESSMENT

TRAILS SYSTEM MASTER PLAN
AND
PARKS AND RECREATION MASTER PLAN

TOWN OF MAMMOTH LAKES, CALIFORNIA

PCR

JUNE 2011

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TOWN OF MAMMOTH LAKES, CALIFORNIA

Prepared For:

Town of Mammoth Lakes
P.O. Box 1609
Mammoth Lakes, California 93546
Contact: Ellen Clark, Senior Planner

Prepared By:

PCR Services Corporation
One Venture, Suite 150
Irvine, California 92618
Contact: Steve Nelson, Director of Biological Services

JUNE 2011

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BIOLOGICAL RESOURCES ASSESSMENT

1. INTRODUCTION

1.1 Background

The Project assessed in this report has two primary components: adoption and implementation of the Town of Mammoth Lakes Trails System Master Plan (TSMP), and adoption and implementation of the Town's Parks and Recreation Master Plan (PRMP).

A primary goal of the TSMP is to create an integrated year-round trail network, within the Town's Municipal Boundary that provides a transition between the Town's urbanized area, the Mammoth Mountain Ski Area (MMSA), and National Forest lands within and beyond the Municipal Boundary managed by the United States Forest Service (USFS). The TSMP includes proposals for trails, paved Multi-Use Paths (MUPs), and Recreational Nodes, as well as goals, objectives, guidelines and various other recommendations that direct implementation and management of the plan. A subcomponent of the TSMP is the "Sherwin Area Recreation Plan," (SHARP) which includes more detailed concepts for the Sherwin Area, in the southern part of the Town's municipal area. Among the individual projects presented within the TSMP and the SHARP, the Town has also identified a number of "Priority Projects" that are well defined and intended for near-term implementation. The Priority Projects identified within the SHARP reflect more in-depth analysis and study completed by the SHARP Trails Technical Committee (SHARP TTC), to develop refined proposals from those described in the November 2009 SHARP document.

Adoption and implementation of the PRMP would replace the 1990 Parks and Recreation Element and update the Parks, Open Space and Recreation of the Town's 2007 General Plan. The PRMP is intended to provide a vision for future parks and recreational facilities to serve the year-round recreational needs of the Town through the year 2025. The PRMP includes revised levels of service standards for parks and recreation facilities. In addition, the PRMP identifies opportunity sites within the Town that could provide for expanded and/or new recreational facilities. The opportunity sites would be subject to further study and coordination with public and private participants, which may modify the potential locations of future parks and recreation facilities identified in the PRMP, and the specific facilities that would be developed at those locations. The PRMP is a long range planning document and the specifics of parks and recreation facilities and improvements to be implemented over time will be established in the context of evolving needs and conditions in the Town throughout the life of the PRMP.

For purposes of this assessment, the TSMP, SHARP, Priority Projects, and PRMP are collectively referred to as the "Project," and are the focus of the impact analysis. With the exception of the TSMP's "Priority Projects", the recommendations and projects included in TSMP and SHARP are conceptual in nature and are therefore evaluated at a program-level. It is recognized with a programmatic study, that subsequent projects carried out under the long-term master plans may warrant site specific biological assessments and surveys once plans have been detailed and evaluated on a project-by-project basis.

1.2 Project Area Location

The Project Area is located on the U.S. Geological Survey ("USGS") *Mammoth Mountain, California* and *Whitmore Hot Springs* 7.5-minute series topographic quadrangle maps. **Figure 1**, *Regional Map*, shows the regional context of the Project. **Figure 2**, *Vicinity* Map, shows the Project vicinity and the locations of specific Project elements.

2. PROJECT DESCRIPTION

2.1 Trails System Master Plan

The proposed TSMP includes various recommendations intended to enhance the in-town network of multi-use paths, trails and bikeways and improved access to trails and backcountry experiences beyond the Town's UGB.

2.1.1 Paved Multi-Use Path Recommendations

The TSMP includes recommendations that would enhance the in-town environment for recreational and transportation purposes on paved multi-use paths during all seasons. A key recommendation is to complete the Main Path Loop by suggesting gap closure projects along the Main Path that would close all existing gaps. In addition to completing the Main Path Loop the TSMP recommends numerous in-Town and outside the UGB MUPs that would reduce the distance of trips while improving mobility and providing enjoyment for non-motorized users. The TSMP also considers issues of winter maintenance of MUPs, including possible future grooming (for cross-country ski use), or snow clearing to enable use by pedestrians and bikes. **Table** 1, *TSMP Multi-Use Paths Projects*, identifies the MUPs proposed by the TSMP, which are also identified on **Figure 3,** *Existing and Future Trail System – Summer,* **Figure 4,** *Lakes Basin: Existing and Future Trail System – Summer,* **Figure 5**, *Existing and Future Trail System – Winter,* and **Figure 6**, *Lakes Basin: Existing and Future Trail System – Winter.*

2.1.2 Crossing Improvement Recommendations

The TSMP includes recommendations for crossings intended to ensure the safety of MUP users and enhance access to the trail system as a whole. The recommendations focus on the design of crossings along existing and future MUPs and providing crossing improvements that would enhance access to the trail system from residential areas and activity centers. Because the crossing improvements are located within developed areas and/or are within paved roads and streets and, therefore, are not expected to result in impacts to biological resources, crossing improvements are not discussed further in this assessment.

2.1.3 On-Street Bikeways Recommendations

The TSMP identifies a number of bike lane projects on arterial, collector and local streets to be included as part of the trail system network. Because the on-street bikeways are located within paved roads and streets and, therefore, are not expected to result in impacts to biological resources, on-street bikeways are not discussed further in this assessment.

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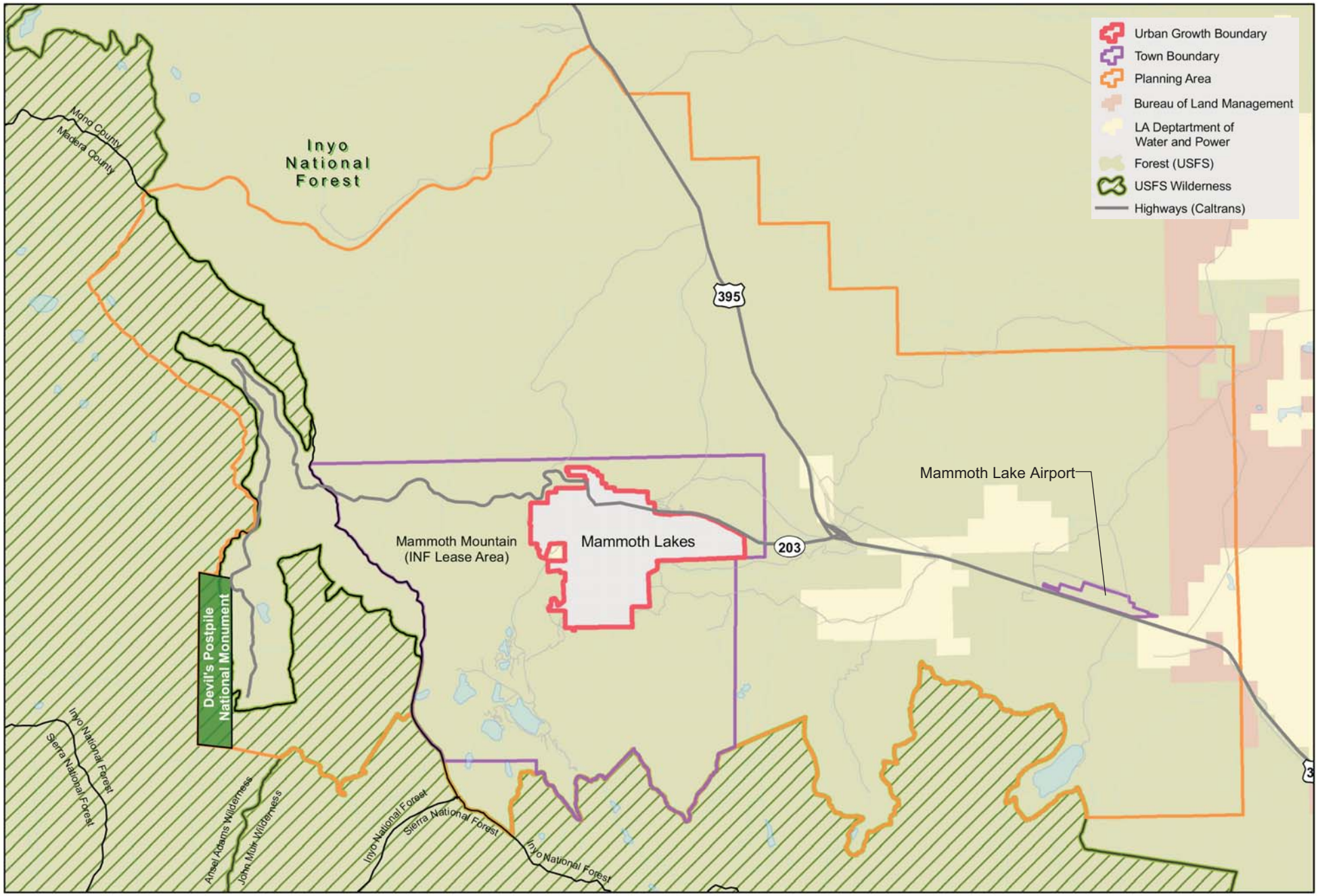
Regional Map

Trail System Master Plan Project

Source: ESRI Street Map, 2009; PCR Services Corporation, 2011.

FIGURE

1



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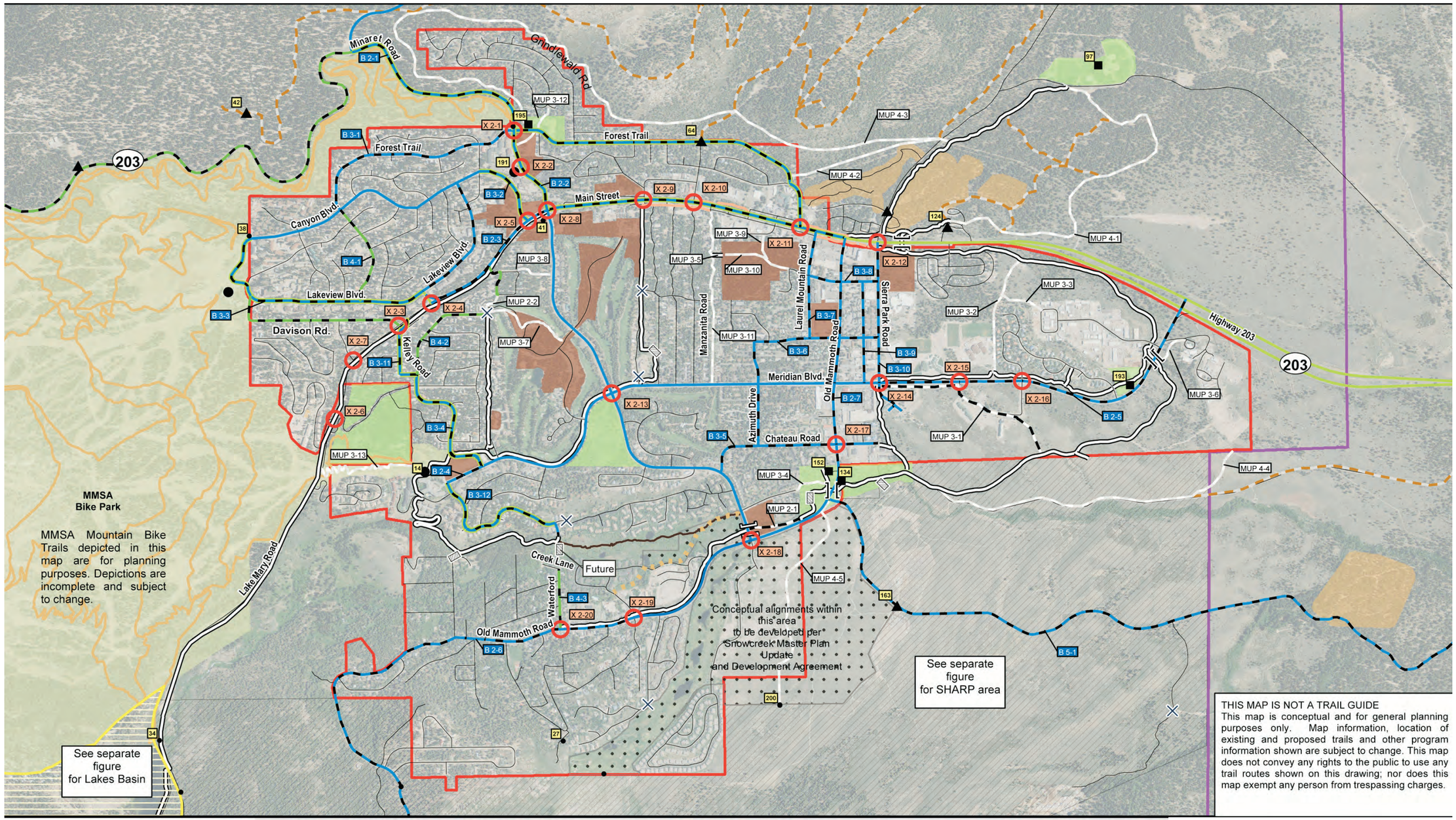
Vicinity Map

Trails System Master Plan Project

Source: Trail System Master Plan, February 2009.

FIGURE

2



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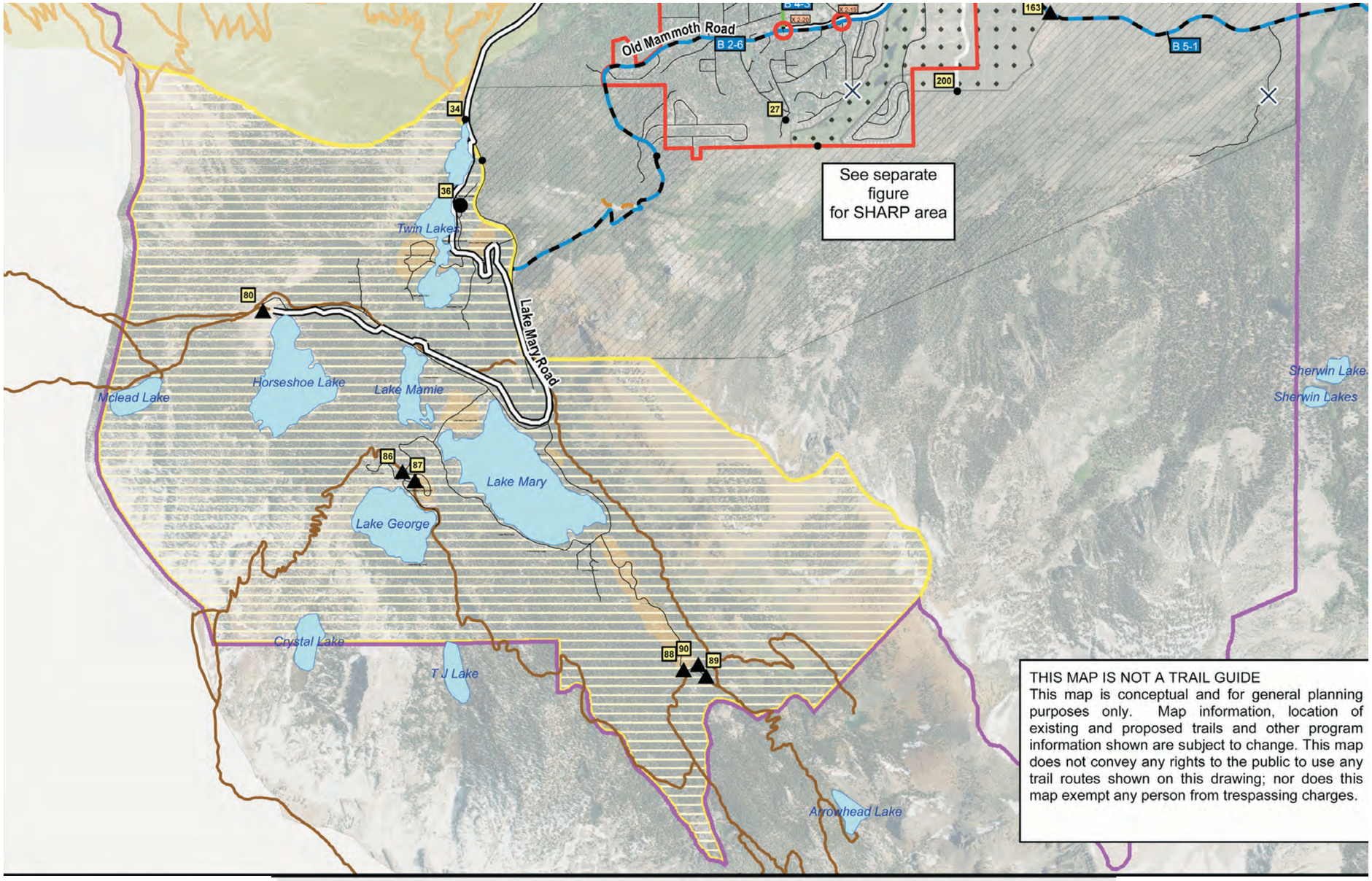
Existing and Future Trail System - Summer

Trails System Master Plan Project

Source: Town of Mammoth Lakes, 2010.

FIGURE 3



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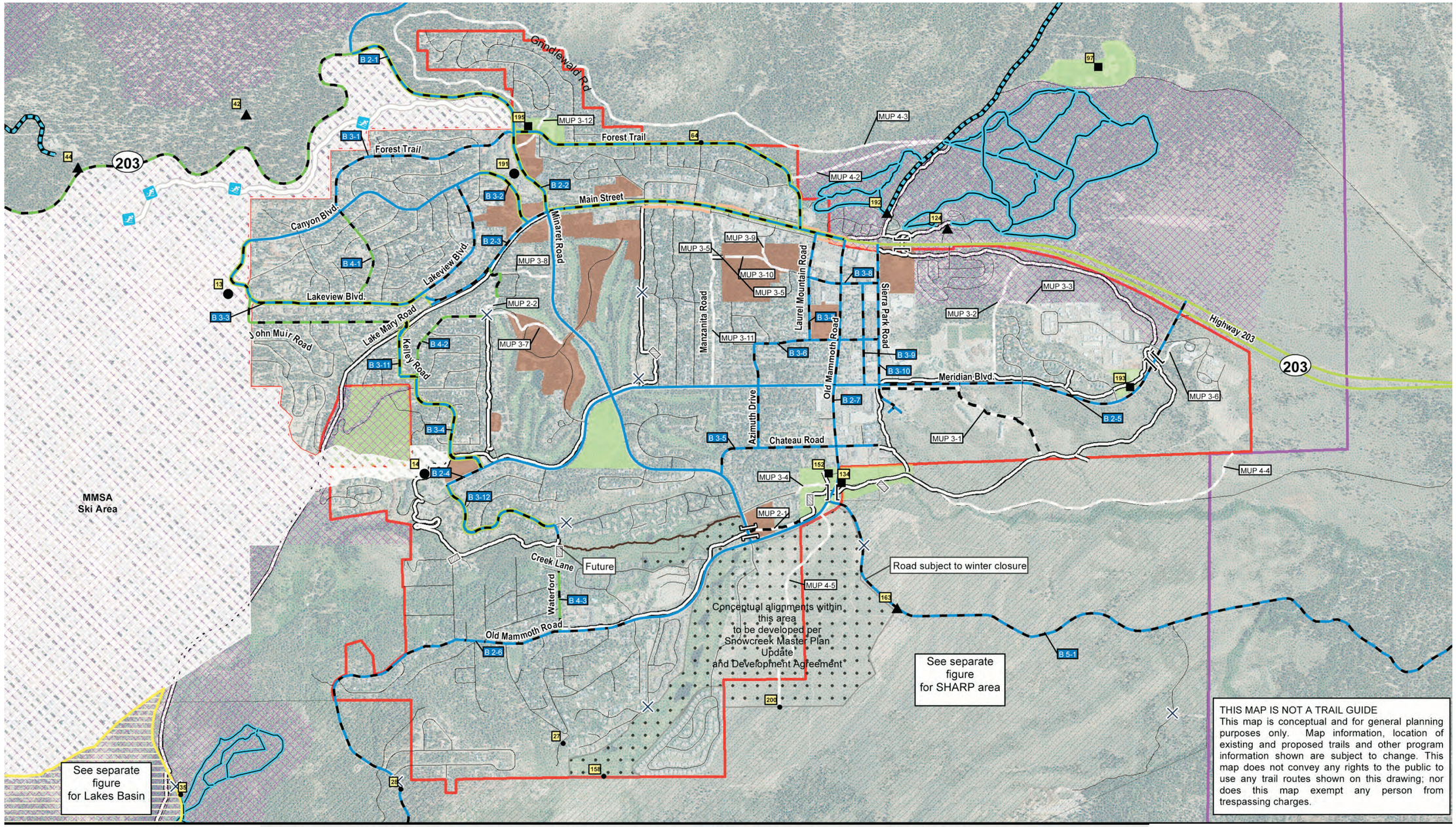
Lakes Basin: Existing and Future Trails System - Summer

Trails System Master Plan Project

Source: Town of Mammoth Lakes, 2010.

FIGURE 4



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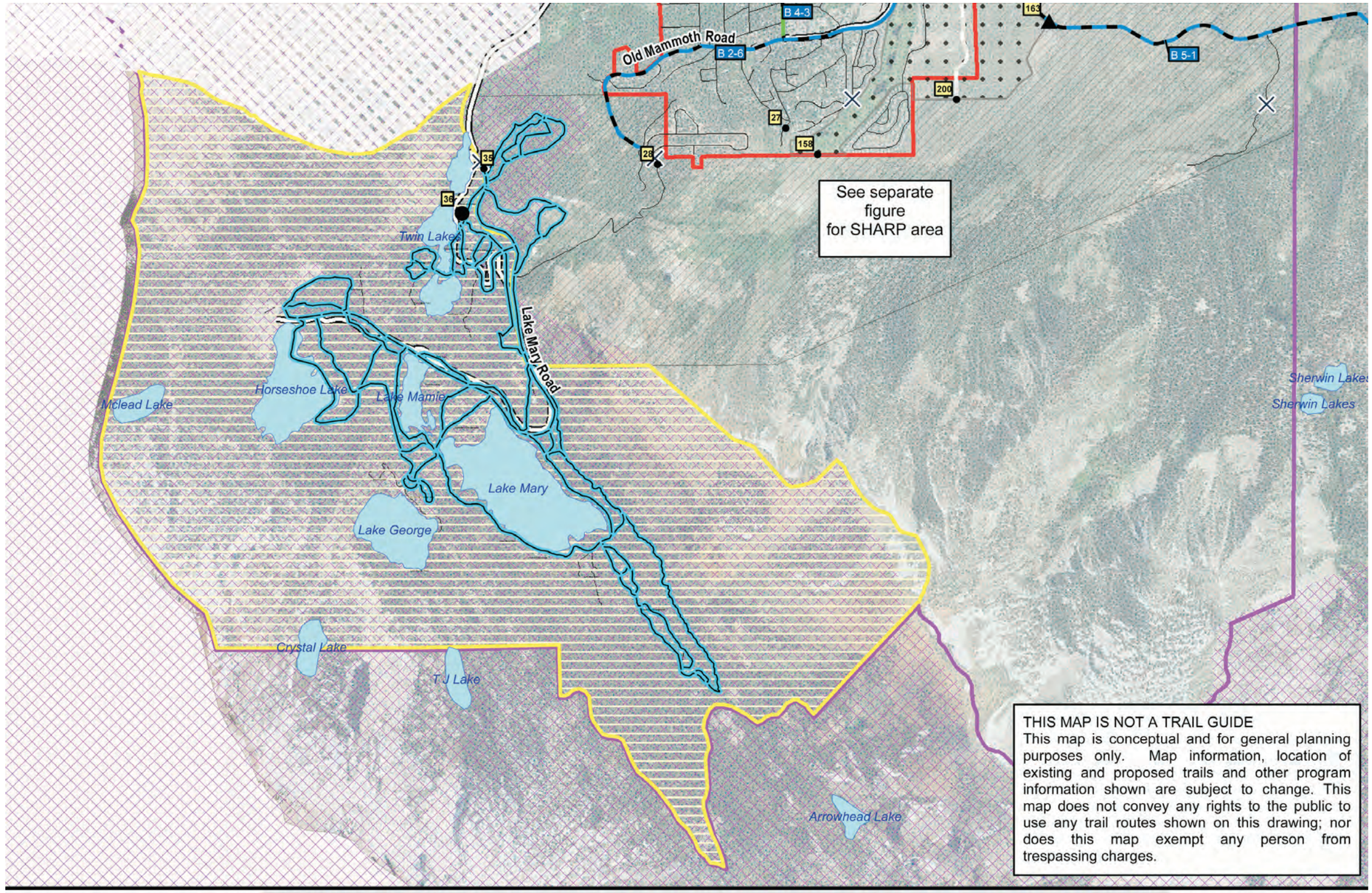
Existing and Future Trail System - Winter

Trails System Master Plan Project

Source: Town of Mammoth Lakes, 2010.

FIGURE 5



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Lakes Basin: Existing and Future Trails System - Winter

Trails System Master Plan Project

Source: Town of Mammoth Lakes, 2010.

FIGURE 6

Table 1

TSMP Multi-Use Path Projects

Project No.[a]	Name	From	To	Length
MUP 2-1	Main Path (4a) – Town Loop	Mammoth Creek Park	Minaret Road	921 LF[b]
MUP 2-2	Lodestar Connector	Majestic Pines Drive	Hidden Valley Road	441 LF
MUP 3-1	College Connector	Sierra Park Road	Main Path	3,769 LF
MUP 3-2	Elementary School Connector	Meridian Boulevard	Main Path	426 LF
MUP 3-3	Industrial Park Connector	Elementary School Connector	Commerce Circle	2,275 LF
MUP 3-4	Mammoth Creek Park Connector	Meadow Lane	Main Path	602 LF
MUP 3-5	Manzanita Connector	Manzanita Road	Hidden Creek Development	480 LF
MUP 3-6	MCWD Access	Main Path	MCWD Facility	677 LF
MUP 3-7	Lodestar to Bear Lake Connector	Lodestar Connector	West Bear Lake Drive	1,601 LF
MUP 3-8	Hidden Valley to Minaret Connector	Hidden Valley Road	Minaret Road	589 LF
MUP 3-9	Center Street to Hidden Creek Connector	Center Street	Hidden Creek Connector	430 LF
MUP 3-10	Manzanita to Tavern Connector	Manzanita	Tavern Road	1,140 LF
MUP 3-11	Manzanita Path	Main Street	Meridian Boulevard	3,044 LF
MUP 3-12	North Village to St. Anton Connector	East of Minaret	St. Anton Circle	872 LF
MUP3-13	Eagle Path	Eagle Lodge	Lake Mary Road	2,845 LF
MUP 4-1	Shady Rest Park path Extension	N. Terminus of Shady Rest Path	Main Path at Hwy 203/Meridian Blvd.	6,769 LF
MUP 4-2	Forest Trail to Shady Rest Connector	Forest Trail	Shady Rest Park Path	2,792 LF
MUP 4-3	Knolls Path (south route)	Community Center park	Shady Rest Path at Sawmill Cutoff Road	14,098 LF
MUP 4-4	Mammoth Creek Path	Main Path	MCWD Facility	5,596 LF
MUP 4-5	Sherwin/Snowcreek Connector	Old Mammoth Road	Snowcreek VIII Access/Egress Point	3,964 LF
			Total Length	**53,331 LF (10.1 miles)**

[a] *Project Nos. correspond to numbers on Figure 3 and/or Figure4.*
[b] *LF = Linear Feet*

Source: Draft Town of Mammoth Lakes Trails System Master Plan, Table 8-3, February 2009; and Town of Mammoth Lakes, September 2010.

2.1.4 Soft-Surface Trails

Most opportunities for soft-surface trail development within the Municipal Boundary are on National forest lands outside the UGB. The only existing (summer) soft-surface trail that falls completely within UGB is the walking trail through Snowcreek Meadow. The trail extends from Waterford Avenue near Majestic Pines and follows Mammoth Creek on the North side to Minaret Road. The trail is on private property and is currently

maintained by the Snowcreek Meadow Committee. The Town currently has an easement in the area and could potentially construct a low-impact wooden boardwalk and take over responsibility for maintaining a trail segment within the easement.

Most facilities currently used for winter recreation activities such as snowmobiling and backcountry skiing are located outside the UGB. Groomed, non-motorized trails are concentrated in the Lakes Basin and Shady Rest areas. Tamarack Resort in the Lakes Basin has the most extensive network of groomed cross-country trails near Town and charges a fee for use. Lake Mary Road is groomed and provides public access to the Lakes Basin without a fee. The Shady Rest area is open to the public and consists of motorized and non-motorized trails. The Shady Rest Area provides a snowmobile staging area and trailhead. Sawmill Cutoff Road in the Shady rest Area is groomed and designated for motorized and non-motorized use and provides access to an extensive network of over-snow vehicle (OSV) trails. Groomed cross-country ski trails exist to the east and west of Sawmill Cutoff Road in the Shady Rest Area primarily using the blue diamond system.

2.1.5 Recreational Node Recommendations

The TSMP recommends improvements and projects that are specific to individual recreation nodes. Improvements at specific recreation nodes include amenities such as signage, parking, and restroom facilities. In addition, the TSMP recommends that bus/trolley stops be provided, where feasible, at or near all active summer and winter recreation nodes in order to improve mobility, alleviate congestion, and reduce demand for parking. **Table 2**, *Recommended Amenities at Summer Recreation Nodes*, identifies the summer recreation node projects and proposed amenities at each node location. **Table 3**, *Recommended Amenities at Winter Recreation Nodes*, identifies the winter recreation node projects and proposed amenities at each node location. The locations of the recreation nodes are also identified on **Figures 3 to 6**.

2.1.6 Soft-Surface Trails Recommendations

The TSMP incorporates a Soft Surface Trails Concept (SSTC). The SSTC presents a series of conceptual alignments for trails outside of the UGB. Some of these alignments have been carried forward from the 1991 Trails Plan, and some are newly proposed. The SSTC also looks at various options for a winter trails and staging system in the Shady Rest campground area, and at potential guidelines for soft surface trail design and construction. It is anticipated that more detailed collaborative planning and analysis, similar to the SHARP process, would be completed for various planning areas within the SSTC Project Area, including Shady Rest, Mammoth Knolls, and the Lakes Basin, to develop refined trails and facilities concepts. The conceptual trail alignments presented in the SSTC are presented in Figures 3 through 6.

2.2 Sherwin Area Recreation Plan

The SHARP recommends winter and summer projects regarding trails, public access, and recreation facilities for implementation in the Sherwin area. The SHARP identifies 31 summer and 19 winter projects. All of the trails identified within SHARP are located on National forest lands; some or all of the existing and proposed trails and facilities may remain or become official USFS system trails, others may be constructed, operated and maintained by the Town under Special Use Permit from Inyo National Forest, or under collaborative programs developed between the two agencies. All trails and facilities proposed in this plan are subject to review under the National Environmental Policy Act and would require approval by the US Forest Service to move forward. At this time, only a select number of the proposals have been accepted by the US Forest Service for further environmental review and consideration. Additional proposals included in the SHARP

Table 2

Recommended Amenities at Summer Recreation Nodes

GIC[a]	Name/Description	Season	Node Type	Amenities[b]							
				Lodging	Restaurant	Parkingc	Restroom	Lift	Bus	Trail Access	Signage
46	Main Lodge (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	F
191	North Village (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	F
36	Tamarack Lodge (MMSA)	Year-Round	Portal	X	X	X	X		X	X	F
195	Community Center	Year-Round	Park			X	X		F	F	F
134	Mammoth Creek Park, East	Year-Round	Park			X,F	X		X	X	F
152	Mammoth Creek Park, West	Year-Round	Park			X	X		X	X	F
97	Shady Rest Park	Year Round	Park			X	X		F	X	F
193	Trails End Park	Year-Round	Park			X	X		F	X	F
88-90	Coldwater Campground	Summer	Trailhead			X	X		F	X	F
42	Earthquake Fault	Year-Round	Trailhead			X	X		F	X	F
80	Horseshoe Lake	Summer	Trailhead			X	X		X	X	F
86-87	Lake George	Summer	Trailhead			X	X		F	X	F
163	Sherwin Creek Road, USFS gravel borrow pit	Year-Round	Trailhead			F	F		F	X	F
64	Sierra Blvd at Forest Trail	Year-Round	Trailhead			F	F		F	X	F
67	Highway 203 Motorized Access	Year-Round	Trailhead			F	F				
124	Welcome Center	Year-Round	Trailhead			X	X		F	X	F
38	MMSA at Austria Hof parking lot	Summer	Access/Egress							X	F
14	Eagle Lodge – temp (MMSA)	Year-Round	Access/Egress	X	F	X	F	F	X	X	F
41	Lake Mary Bike Path NE Terminus	Summer	Access/Egress				F		F	F	F
27	Tamarack Street	Year-Round	Access/Egress							X	F
34	Twin Lakes Parking	Summer	Access/Egress			X			F	X	F
21	Uptown/Downtown	Summer	Access/Egress						X	X	F
200[d]	Snowcreek 8 Access/Egress Point	Year Round	Access/Egress							F	F

[a] Project Nos. correspond to numbers on Figures 3 to Figure 6.

[b] "X" indicates an existing amenity. "F" indicates future (recommended) amenity.

[c] Future parking spaces are Recreation Node Nos. 64 134, and 163 are anticipated to include up to approximately 15 new parking spaces.

[d] To be developed per Snowcreek Master Plan Update and Development Agreement.

Source: *Draft Town of Mammoth Lakes Trails System Master Plan, Table 4-2, February 2009; and Town of Mammoth Lakes, September 2010.*

document may or may not be considered by the US Forest Service as future projects. All summer and winter projects currently included in the SHARP are shown in **Figure 7**, *SHARP Area Priority Projects.*

Table 3

Recommended Amenities at Winter Recreation Nodes

GIC[a]	Name/Description	Season	Node Type	Amenities[b]							
				Lodging	Restaurant	Parkingc	Restroom	Lift	Bus	Trail Access	Signage
13	Canyon Lodge (MMSA)	Winter	Portal	X	X	X	X	X	X	X	F
14	Eagle Lodge – temp (MMSA)	Year-Round	Access/Egress	X	F	X	F	F	X	X	F
46	Main Lodge (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	F
36	Tamarack Lodge (MMSA)	Year-Round	Portal	X	X	X	X		X	X	F
191	North Village (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	F
195	Community Center	Year-Round	Park			X	X		F	F	F
134	Mammoth Creek Park, East	Year-Round	Park			X,F	X		X	X	F
152	Mammoth Creek Park, West	Year-Round	Park			X	X		X	X	F
97	Shady Rest Park	Year Round	Park			X	X		F	X	F
193	Trails End Park	Year-Round	Park			X	X		F	X	F
42	Earthquake Fault	Year-Round	Trailhead			X	X		F	X	F
44	Power Plant	Winter	Trailhead			F	F		F	F	F
192	Shady Rest Sawmill Cutoff Road	Winter	Trailhead			X	F		F	X	F
163	Sherwin Creek Road, USFS gravel borrow pit	Year-Round	Trailhead			F	F		F	X	F
124	Welcome Center	Year-Round	Trailhead			X	X		F	X	F
35	Lake Mary Winter Terminus	Winter	Access/Egress			X			F	X	F
158	Path along Snowcreek V Fenceline	Winter	Access/Egress							F	F
28	Mill City	Winter	Access/Egress			X			F	X	F
64	Sierra Blvd at Forest Trail	Year-Round	Trailhead			F	F		F	X	F
67	Highway 203 Motorized Access	Year-Round	Trailhead			F	F				
27	Tamarack Street	Year-Round	Access/Egress							X	F
52	Sledz	Winter	GIC Point			X	X	X	X		
200[d]	Snowcreek 8 Access/Egress Point	Year Round	Access/Egress							F	F

[a] Project Nos. correspond to numbers on Figures 3 to Figure 6.

[b] "X" indicates an existing amenity. "F" indicates future (recommended) amenity.

[c] Future parking spaces at Recreation Node Nos. 44, 64, 134 and 163 are anticipated to include up to approximately 15 new parking spaces.

[d] To be developed per Snowcreek Master Plan Update and Development Agreement.

Source: *Draft Town of Mammoth Lakes Trails System Master Plan, Table 4-3, February 2009; and Town of Mammoth Lakes, September 2010.*

2.3 Priority Projects

As described above, most of the projects included in the TSMP and SHARP are conceptual; however, some projects are more fully developed and have a high priority for implementation in the short-term (i.e., next 1-5 years). These projects are considered "Priority Projects" by the Town.

The Priority Projects are summarized below. The Priority Projects included within the TSMP are illustrated on Figure 3, *Existing and Future Trail System - Summer* (Project Nos.1 and 2, below). **Figure 7,** *SHARP Area Priority Projects*, illustrates the locations of the Priority Projects in the SHARP area (Project Nos. 3-9, below).

(1) MUP 2-1 - Main Path (4a) – Town Loop. This DTSMP MUP would fill in a gap on the Main Path along Old Mammoth Road between Mammoth Creek Park and Minaret Road (921 linear feet).

(2) MUP 3-1 - College Connector. This DTSMP MUP, partially located along Meridian Boulevard and College Parkway, would connect Sierra Park Road to the Main Path (3,769 linear feet).

(3) SHARP No. 1 (Summer and Winter Use) – Major Multi-Use Staging Area at the Borrow Pit. This would be the primary staging area for the Sherwin area and therefore the most developed. Facilities would include parking, bathrooms, an education/interpretive area, and signage. Additionally, the USFS Maintenance Level on Sherwin Creek Road would need to be changed to allow off-highway vehicles (OHVs) to travel eastbound along the entire length of Sherwin Creek Road to Highway 395 (across both USFS and Department of Water and Power [DWP] land) to access appropriate OHV routes. This staging area would be open year-round to all users and would be served by public transit.

(4) SHARP No. 5B (Summer Use) – Mammoth City Trail. This Priority Project consists of two parallel soft-surface non-motorized connections—one on the north side of Old Mammoth Road, one on the south side—from the Old Mammoth Road safe crossing to Lake Mary Road.

(5) SHARP No. 6 (Summer Use) – Hayden Cabin Path. This Priority Project entails a hard-surface or paved non-motorized connector from the borrow pit staging area to the Town Loop at Hayden Cabin Museum within Mammoth Creek Park East at the bridge. SHARP No. 7 (Summer)

(6) SHARP No. 7 (Summer Use) - Meadow Trail; Meadow Path; and Sherwin Meadow Path. This Priority Project includes non-motorized "backbone" trail connections from the borrow pit staging area to the Tamarack Street trailhead. SHARP No. 12b (Summer)

(7) SHARP No. 12b (Summer Use) - Panorama Connection, Tunnel Trail. This Priority Project includes a soft-surface non-motorized trail connecting the Lake Mary Road staging area to the Panorama Vista Trail, Panorama Dome Trail, and the Lake Mary Road Bike Path.

(8) SHARP No. 13 (Summer) – Sherwin Gateway Trail; Rock Express Trail. As a Priority Project, this element involves a soft-surface non-motorized connector from the borrow pit staging area to Mammoth Rock Trail.

(9) SHARP No. 15 (Summer) - This is a Priority Project that proposes an Old Mammoth Road soft-surface non-motorized safe crossing. The Priority Project would include a soft-surface non-motorized safe crossing of Old Mammoth Road. A trail would be built roughly from the western entrance of Mammoth Rock Trail and stay on the uphill (south) side of Old Mammoth Road, utilizing a portion of the existing use trail/mine road, then turn parallel to the road and continue to the uppermost hairpin turn of Old Mammoth Road.

2.4 Parks and Recreation Master Plan

The Draft PRMP was published in April 2008. The purpose of the PRMP is to outline a vision of parks and recreation facilities to serve the year-round recreational needs of the Town. The PRMP updates and may replace the Parks and Recreation Element of the Town's General Plan (1990).

This biological resource study assesses nine locations under the PRMP. The PRMP specifically identifies six public parks, a recreation/community/education center, and two town-owned open space areas as potential locations for future parks and recreation improvements. In addition, Town staff identified two privately owned locations that may be future locations for parks and recreation facilities. The locations of these are shown in **Figure 8**, *Potential Opportunities for Facilities Locations* , and are briefly described below:

(1) Community Center Park. This park is 5.18 acres. It includes a community center, playground, six tennis courts, picnic tables, and restrooms. The park is located at 930 Forest Trail and is surrounded by residential development. Potential opportunities considered under the PRMP include adding a walking trail, 6 picnic tables, a picnic shelter, a passive lawn area, a park bench, and two additional tennis courts.

(2) Shady Rest Park. This park is 12.52 acres. It includes a playground, three ball fields, two soccer fields, two volleyball courts, a basketball court, a skate park, picnic shelter and tables, barbeque, snack bar, and restrooms. The park is located outside of the Town's Urban Growth Boundary ("UGB"), on Sawmill Cutoff Road and is surrounded by forest. Potential opportunities considered under the PRMP include adding two soccer fields, eight picnic tables, two picnic shelters, and one sand volleyball court.

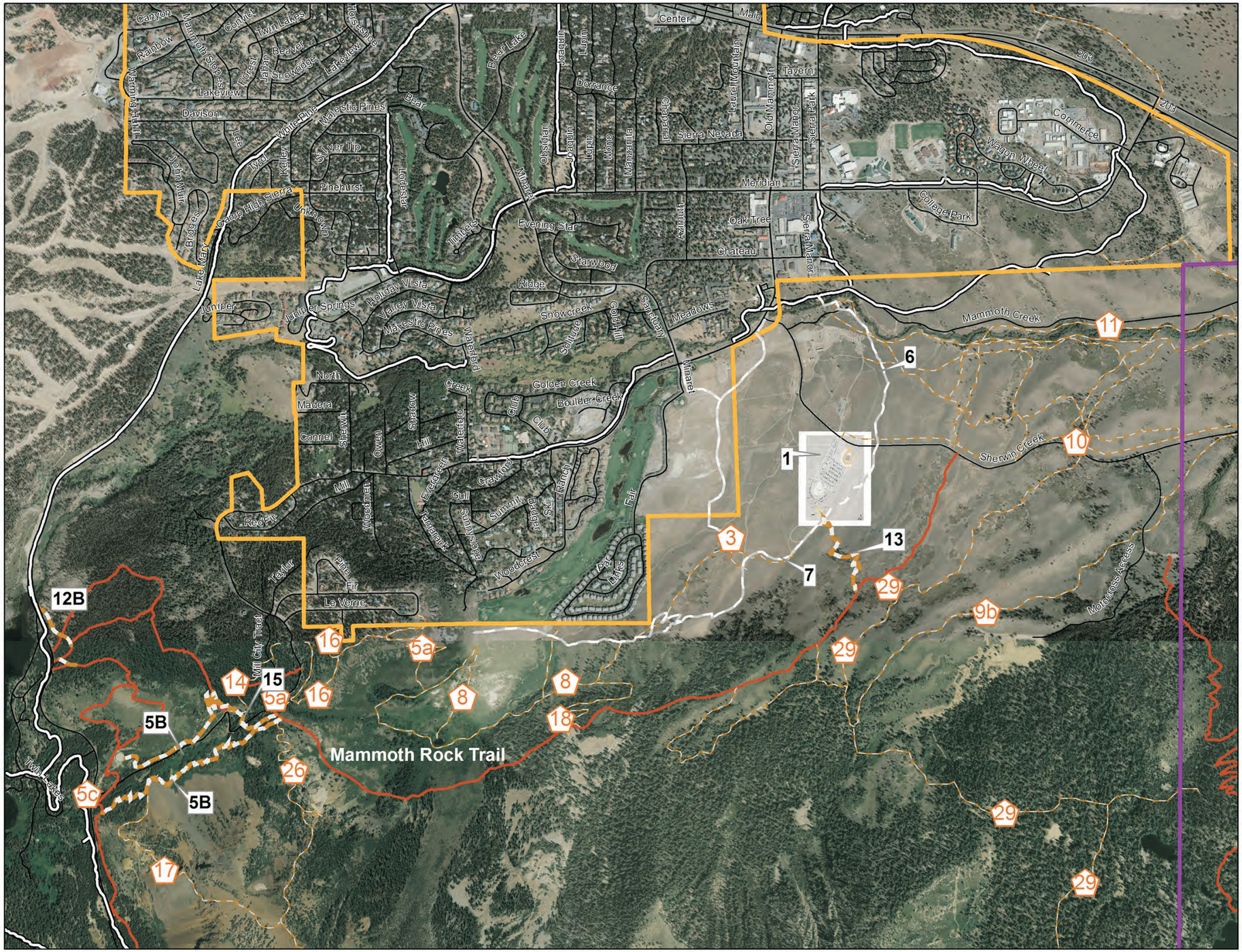
(3) Mammoth Creek Park- West. This park is 11.44 acres; 4.97 acres are Town-owned, the other 6.47 are under a USFS Special Use Permit. This park includes two playgrounds, picnic tables, a Multi-Use Path ("MUP"), and restrooms. The park is located on the west side of Old Mammoth Road, immediately north of Mammoth Creek. It is surrounded by a mixture of residential, commercial, park, and open-space land. Potential opportunities considered under the PRMP include adding three park benches, an event venue, six picnic tables, a picnic shelter, and four tennis courts.

(4) Mammoth Creek Park- East. This park is 9.01 acres and is used under a USFS Special Use Permit. This park includes the Mammoth Museum, which is housed in the historic Hayden Cabin, picnic tables, MUP, and restrooms. The park is located on the east side of Old Mammoth Road, straddling Mammoth Creek. It is surrounded by a mixture of open-space, equestrian, commercial, park, and industrial land. Potential opportunities considered under the PRMP include adding a soccer field, two baseball fields, a dog park, an event venue, six picnic tables, and a picnic shelter.

(5) Whitmore Park & Whitmore Pool. This park is 32.64 acres in total with 23.75 acres in sports fields and an 8.88 acre swimming pool facility. It includes three ball fields, two swimming pools, picnic area and tables, changing room/showers, and restrooms. The park is located outside of the Town's boundary, on Benton Crossing Road and is surrounded by open-space. Potential opportunities considered under the PRMP include adding a running track with a soccer and football field, and trails.

Legend

- Trail Alignments (SHARP TTC)
- Multi-Path Alignments (SHARPTTC & SnowcreekMP)
- SHARP Proposed Trails
- INF Trails
- Existing Paved Multi-Use Path
- Roads
- TOML Urban Growth Boundary
- TOML Municipal Boundary
- 12B SHARP TTC Project
- 2 SHARP Proposals



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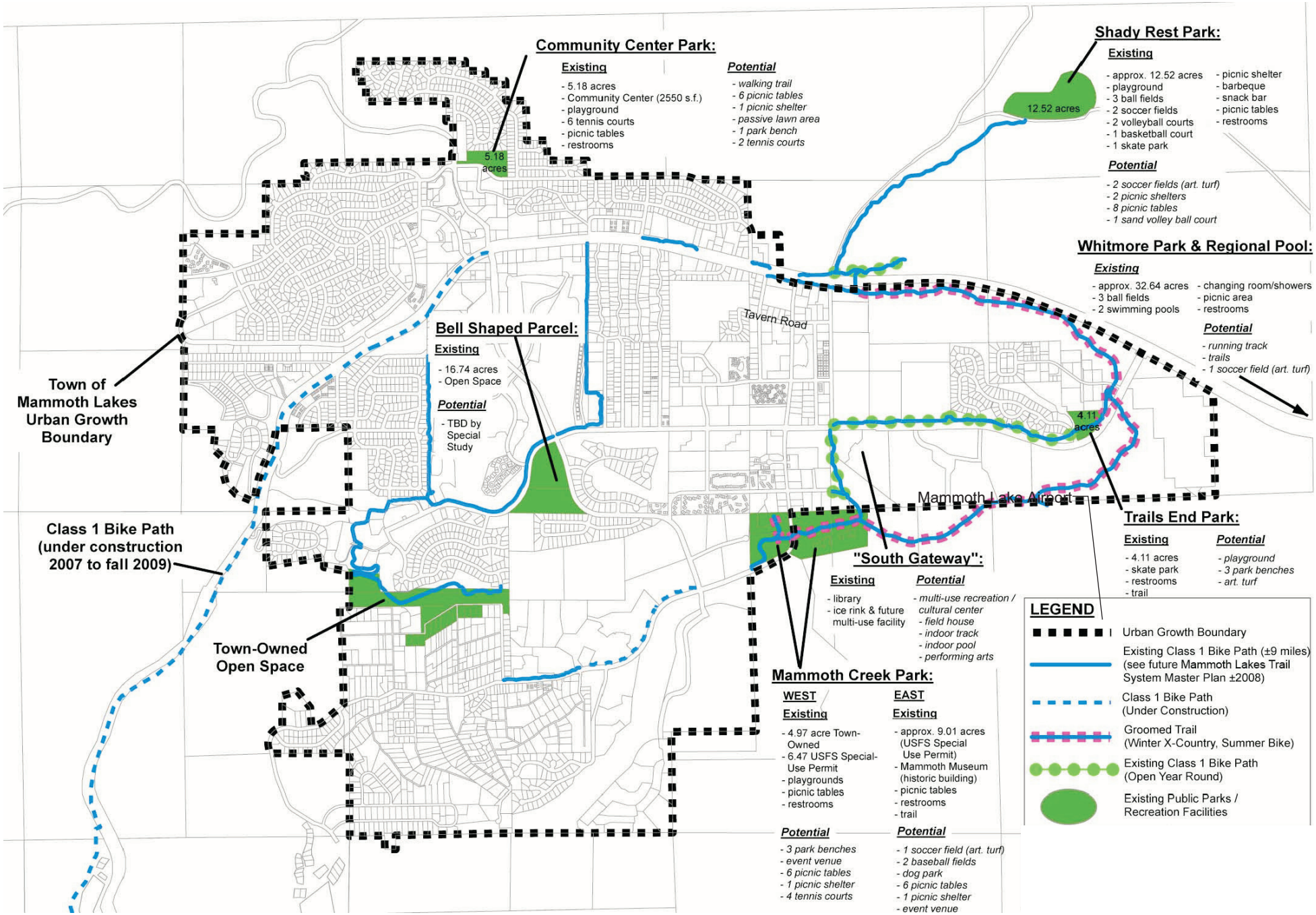
SHARP Area Priority Projects

Trails System Master Plan Project

Source: SHARP Trails Technical Committee, 2010.

FIGURE **7**



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Potential Opportunities for Facility Locations

Parks and Recreation Master Plan Project

Source: Draft Parks and Recreation Master Plan, April 4, 2008

FIGURE 8

(6) Trails End Park. This park is 4.11 acres. It includes a skate park, MUP, and restrooms. The park is located on the north side of Meridian Road and is surrounded by open-space, residential, and industrial development. Potential opportunities considered under the PRMP include adding a playground, three park benches, and artificial turf.

(7) South Gateway Area. This area currently includes the Mono County Office of Education, Sierra High School, a public library and an ice rink area leased to the Town. The South Gateway area is located on the south side of Meridian Road, west of Sierra Park Road. It is surrounded by open-space, commercial, and educational development land-uses. Potential opportunities considered under the PRMP include adding a multi-use and recreational facility/cultural center, field house, indoor track, indoor pool, and performing arts.

(8) Town-Owned Open Space: Bell Shaped Parcel. This area is 16.74 acres. It consists of an open meadow with Pines and other trees scattered throughout. The parcel is located south of the intersection of Minaret Road and Meridian Boulevard and north of Panorama Drive. No specific plans were noted for this parcel in the PRMP.

(9) Town-Owned Open Space: Mammoth Creek. This area is 27.5 acres. It consists of open space straddling Mammoth Creek east of Valentine Reserve and west of Waterford Avenue. A Multi-use path (MUP) path is located north of Mammoth Creek. The Town proposes to build pedestrian bridges to span Mammoth Creek at Sherwin Street and connecting Waterford Avenue to North Waterford Avenue.

3. METHODS OF STUDY

3.1 Approach

This assessment of biological resources is based on USFS information compiled through field reconnaissance conducted by PCR Services Corporation (PCR) and LSA Associates (LSA) biologists, and the review of applicable reference materials. In addition, USFS biologists provided PCR with the results of sensitive plant surveys they conducted in the areas of various trail segments.

3.2 Literature Review

The study began with a literature review that was conducted to determine special interest plant and animal species known to occur in the proposed project vicinity. Database records for *Mammoth Lakes, Whitmore Hot Springs, Convict Lake* and *Bloody Mountain, California* USGS 7.5-minute quadrangles were reviewed on March 24, 2011 using the California Department of Fish and Game ("CDFG") Natural Diversity Data Base application *Rarefind* and the California Native Plant Society ("CNPS") *Electronic Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2010). Federal register listings, protocols, and species data published by the United States Fish and Wildlife Service ("USFWS") and CDFG were reviewed in conjunction with anticipated federally and state listed species potentially occurring within the vicinity. USFS information pertaining to sensitive species provided by the USFS was also reviewed. In addition, several regional flora and fauna field guides were utilized to assist in the identification of species and suitable habitats (e.g., Weden 2005 and Laws 2007). In addition, previous documentation relevant to the project area was reviewed, including:

- General Biological Resources Report, Draft Parks and Recreation Master Plan and Draft Trail System Master Plan, Town of Mammoth Lakes (Draft). Prepared by LSA Associates, Inc., dated October 2009.
- Town of Mammoth Lakes General Plan Final Program Environmental Impact Report (May 2007)
- Town Parcel 33-101-26 Existing Topography Map. Prepared by Triad/Holmes Associates for the Town-Owned Open Space Bell-Shaped Parcel (September 2000)
- Hidden Creek Crossing Project Site Draft Biological Technical Report. Prepared by BonTerra Consulting (October 2007)
- Hidden Creek Crossing Project Site Delineation of State and Federal Jurisdictional Waters. Prepared by RBF Consulting (October 2007)
- Biological Assessment Report: Sierra Star Development. Prepared by WRA Environmental Consultants (August 2006)
- Snowcreek VIII, Snowcreek Master Plan Update Draft Environmental Impact Report. Prepared by Christopher A. Joseph and Associated (August 2007)
- Biological Report for The Sherwin Project Site, Mammoth Lakes, California. Prepared by Resource Concepts, Inc., dated August 12, 2008.
- Inventory of Jurisdictional Waters of the United States for the Sherwin Project Site, Mammoth Lakes, California. Prepared by Resource Concepts, Inc., dated August 12, 2008.
- Final Environmental Assessment for Lake Mary Road Bicycle Paths and Off-Street Bicycle Paths, dated March 26, 2001; co-lead agencies: Town of Mammoth Lakes and USDA Forest Service, Inyo National Forest.
- A Flora of Valentine Eastern Sierra Reserve, Part I, Valentine Camp, prepared by Ann M. Howald, dated 2000.
- Botanical Survey for the Proposed Lake Mary Road Bike Trail. Prepared by Jim Paulus, Ph.D., dated October 25, 2000 (Revised January 8, 2001).
- Botanical Evaluation for Sensitive Plants Mammoth Sherwin Meadows Trails. Prepared by Inyo National Forest. Dated September 20, 2010.
- Noxious Weed Risk Assessment, Mammoth Sherwin Meadows Trails. Prepared by Inyo National Forest, dated August 12, 2010.

3.3 Field Investigations

Field surveys began on July 3rd, 5th and 6th, 2009, by LSA Biologists Wendy Walters and Sarah Barrera who focused on the PRMP and TSMP. Notes were taken on general site conditions, vegetation, potential jurisdictional areas of the ACOE and CDFG, and suitability of habitat for various special interest elements. A field reconnaissance of the Sherwin area was conducted by PCR Biologist Steve Nelson on August 31 and September 1, 2010. The primary focus of PCR's field work was to characterize the vegetation and habitats in the area of the SHARP projects. Here again, notes were taken on general site conditions, vegetation, areas of potential jurisdiction, and sensitive species habitat evaluations.

3.3.1 Plant Community Mapping

Vegetation community classifications used in this report follow a basic classification system that is appropriate for the scale of the proposed Project. In addition, a generalized vegetation map was prepared using data obtained from the California Department of Forestry and Fire Protection.

3.3.2 General Plant Inventory

All plant species observed during surveys by LSA and PCR were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). Common plant names, when not available from Hickman, were taken from Munz (1974) and McAuley (1996). Because common names vary significantly between references, scientific names are included upon initial mention of each species; common names consistent throughout the report are employed thereafter. All plant species observed are included in the **Appendix A**, *Floral and Faunal Compendium*, attached.

3.3.3 Sensitive Plant Surveys

Sensitive plants include those listed by the USFWS, CDFG, and CNPS (particularly Lists 1A, 1B, and 2). No focused sensitive plant surveys were conducted by either LSA or PCR. However, certain segments of the trail system were surveyed by USFS Botanists Kristen Dutcher, Paul Satterthwaite, and Sue Weis. The results of their findings are incorporated herein where appropriate, particularly with regard to the priority projects.

3.3.4 General Wildlife Inventory

All wildlife species observed within the Project Area, as well as diagnostic sign (call, tracks, nests, scat, remains, or other sign), were recorded in field notes by both LSA and PCR. Binoculars and regional field guides were utilized for the identification of wildlife, as necessary. Wildlife taxonomy follows Stebbins (2003) for amphibians and reptiles, the American Ornithologists' Union (1998) for birds, and Jameson and Peeters (1988) for mammals. Scientific names are used during the first mention of a species; common names only are used in the remainder of the text. A list of all wildlife species detected is included in **Appendix A**, *Floral and Faunal Compendium*, attached.

3.3.5 Sensitive Wildlife Species

No focused surveys for sensitive wildlife species were conducted by either LSA or PCR. Rather, a habitat evaluation of habitat conditions and their suitability to support listed and/or species of concern to federal and State wildlife agencies were performed. This evaluation included an assessment of habitat characteristics and how they fit with the habitat requirements of sensitive species that include the Project Area within their range.

3.3.6 Jurisdictional Waters

A delineation of the potential jurisdictional waters and wetlands was not conducted at the time of LSA's 2009 site visit or PCR's field reconnaissance in 2010. However, areas within each site which may potentially fall under the jurisdiction of ACOE under Section 404 of the CWA or CDFG under Sections 1600 et seq. of the California Fish and Game Code were identified. General site characteristics were noted including presence of any hydrological conditions (including any drainage patterns, surface inundation, or saturated soils) or

vegetation potentially indicative of the presence of water for an extended period of time within a site. Soil samples were not collected and wetland data forms were not prepared.

It should be noted, the findings and conclusions presented in this report regarding the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinions of LSA and/or PCR. These findings and conclusions are to be considered preliminary until verified by the ACOE and CDFG.

3.3.7 Regional Connectivity/Wildlife Movement Corridor Assessment

The analysis of wildlife movement in preparation of this document is based on USFS information compiled from the literature. Within the past 30 years there have been a number of studies regarding the regional movements of deer herds, and the Town has delineated a deer migration route in its General Plan. As for other species, analysis of aerial photographs and topographic maps was used to determine likely wildlife movement patterns. Relative to corridor issues, the focus of this assessment is to determine if the introduction of trails within the Project Area will have significant impacts on the regional wildlife movement.

4. ENVIRONMENTAL SETTING

4.1 Regulatory Framework

As part of the proposed Project's review and approval there are a number of performance criteria and standard conditions that must be met. These include compliance with all of the terms, provisions, and requirements of applicable laws that relate to Federal, State, and local regulating agencies for impacts to biological resources. The following provides an overview of the applicable regulations with regard to the biological resources that may be present within the Project Area.

4.1.1 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) and Fish and Game Code Section 3503 protect native bird species from destruction or harm. This protection extends to individuals as well as any part, nest, or eggs of any bird listed as migratory.

In practice, Federal permits potentially impacting migratory birds typically have conditions that require pre-disturbance surveys for nesting birds, and, in the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc), and is based on the professional judgment of a monitoring biologist.

4.1.2 State of California Fish and Game Code, Section 1602

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake to notify the California Department of Fish and Game (CDFG) of the proposed project. In the course of this notification process, the CDFG will review the proposed project as it affects streambed habitats

within the project area. The CDFG may then place conditions on the Section 1602 clearance to avoid, minimize, and mitigate any potentially significant adverse impacts within CDFG jurisdictional limits.

4.1.3 Federal Clean Water Act, Section 404

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged material, placement of fill material, or excavation within "waters of the U.S." and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The permit review process entails an assessment of potentially adverse impacts to Army Corps of Engineers (ACOE) jurisdictional "waters of the U.S." and wetlands. In response to the permit application, the ACOE will also require conditions amounting to mitigation measures. Where a federally-listed species may be affected, they will also require an Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife (USFWS). Through this process, potentially significant adverse impacts within the federal jurisdictional limits could be mitigated to a level that is less than significant.

Over the years, the ACOE has modified its regulations, typically due to evolving policy or judicial decisions, through the issuance of Regulatory Guidance Letters, memorandum, or more expansive instruction guidebooks. These guidance documents help to update and define how jurisdiction is claimed, and how these "waters of the U.S" will be regulated. The most recent significant modification occurred on June 5, 2007, subsequently updated in December 2008 when the ACOE and the U.S. Environmental Protection Agency (EPA) issued a series of guidance documents outlining the requirements and procedures, effective immediately, to establish jurisdiction under Section 404 of the CWA and the Section 10 of the Rivers and Harbors Act 1899 (ACOE and EPA 2006). These documents are intended to be used for all jurisdictional delineations and provide specific guidance for the jurisdictional determination of potentially jurisdictional features affected by the United States Supreme Court rulings in *Rapanos v. the United States* and *Carabell v. the United States* 547U.S. 715 (2006) (jointly referred to as "*Rapanos*").

The *Rapanos* case outlines the conditions and criteria used by the ACOE to assess and claim jurisdiction over non-navigable, ephemeral tributaries. Under a plurality ruling, the Court noted that certain "not relatively permanent" (i.e. ephemeral), non-navigable tributaries must have a "significant nexus" to downstream traditional navigable waters to be jurisdictional. An ephemeral tributary has a significant nexus to downstream navigable "waters" when it has "more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a Traditional Navigable Water (TNW)." A significant nexus is established through the consideration of a variety of hydrologic, geologic and ecological factors specific to the particular drainage feature in question.

4.1.4 Federal Clean Water Act, Section 401

The mission of the California Regional Water Quality Control Board (RWQCB) is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the State's waters, recognizing local differences in climate, topography, geology, and hydrology. Section 401 of the CWA requires that:

> Any applicant for a Federal permit for activities that involve a discharge to waters of the State shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.

Therefore, before the ACOE will issue a Clean Water Act Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan that addresses the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of State discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under Porter-Cologne than under the Federal CWA.

4.1.5 California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive plant species in California. CNPS has compiled an inventory comprised of the USFS information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered plant species of California (CNPS 2001). The inventory is commonly used by State and federal resource agencies in their review and evaluation of CEQA documentation. CNPS has developed five categories of rarity:

List 1A Presumed extinct in California

List 1B Rare or Endangered in California and elsewhere

List 2 Rare or Endangered in California, more common elsewhere

List 3 Plants about which we need more USFS information before rarity can be determined– Review list

List 4 Plants of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat– Watch list

In addition, the CNPS recently updated their Lists with Threat Codes. There are three new Threat Code extensions that follow the List number as a decimal:

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

4.1.6 California's Endangered Species Act (CESA)

CESA defines an "endangered" species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The state defines a "threatened" species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter.

For purposes of this assessment, the following acronyms are used for State status species:

SE	State listed as Endangered
ST	State listed as Threatened
SR	State Rare
SCE	State Candidate for Endangered
SCT	State Candidate for Threatened
SCD	State Candidate for Delisting
SFP	State Fully Protected
SSC	California Species of Special Concern

4.1.7 Federal Protection and Classifications

The Federal Endangered Species Act of 1973 (FESA) defines an "endangered" species as "any species which is in danger of extinction throughout all or a significant portion of its range". A "threatened" species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range". Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA as to: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the USFWS, through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take". These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action which could affect a federally-listed plant or animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

Within the last ten years the USFWS instituted changes in the listing status of candidate species abandoning the C1/C2 model. Former C1 candidate species are now considered federal candidate species (FC). Some of the USFWS field offices (e.g., Sacramento) maintain lists of federal Species of Concern (FSC). Federal Species of Concern is not a term that is defined in the federal Endangered Species Act. Rather, it is an informal term that is used to characterize species whose population are or appear to be in decline and warrant conservation. These species receive no legal protection and the use of the term FSC does not mean that they

will eventually be proposed for listing.[1] Therefore, this term is not used in this assessment. For purposes of this assessment, the following acronyms are used for federal status species:

FE	Federally listed as Endangered
FT	Federally listed as Threatened
FPE	Federally proposed for listing as Endangered
FPT	Federally proposed for listing as Threatened
FPD	Federally proposed for delisting
FC	Federal candidate species (former Category 1 candidates)

4.1.8 USDA Forest Service Sensitive Species

The National Forest Management Act (NFMA) of 1976 and its implementing regulations require the Forest Service to ensure a diversity of animal and plant communities and maintain viable populations of existing native species as part of their multiple use mandate. The USFS sensitive species program is a proactive approach to conserving species to ensure the continued existence of viable, well-distributed populations, and to maintain biodiversity of National Forest Service lands (USFS 2004). In addition, the Secretary of Agriculture's policy on fish and wildlife (Department Regulation 9500-4) directs the USFS to avoid actions "which may cause a species to become threatened or endangered."

The USFS defines sensitive species as those animal and plant species identified by a regional forester for which population viability is a concern. This may be a result of significant current or predicted downward trends in habitat that would reduce a species' existing distribution or significant current or predicted downward trends in density or population numbers (CNDDB 2009e).

The USFS, USFS maintains a list of sensitive wildlife and plant species. This list consists of rare plants and animals which are given special management consideration to ensure their continued viability on the national forests (Murphy, pers. comm. 2009; USFS 2006).

4.1.9 Inyo National Forest Land and Resource Management Plan (LRMP)

The USFS LRMP establishes the management, direction, and long-range goals for the Inyo National Forest (USFS 1988). Management goals for the USFS include (but are not limited to) the following:

- Protect and improve riparian area-dependent resources while allowing for management of other compatible uses.
- Protect or improve the habitats of threatened or endangered species in cooperation with state and other federal agencies.
- Protect sensitive plants to ensure they will not become threatened or endangered.

[1] *Sacramento Fish &Wildlife website: http://sacramento.fws.gov/es/spp_concern.htm*

- Manage wildlife habitat to provide species diversity, ensure that viable populations of existing native wildlife is maintained, and that the habitats of management emphasis species are maintained or improved.

Forest-wide Standards and Guidelines provide specific guidelines for the management of each resource to ensure its enhancement and protection. These include (but are not limited to) the following:

4.1.9.1 Riparian Areas

- Protect streams, streambanks, lakes, wetlands, and shorelines, and the plants and wildlife dependant on these areas.
- Prevent adverse riparian area changes in water temperature, sedimentation, chemistry, and water flow.
- Rehabilitate and/or fence riparian areas that consistently show resource damage.
- Allow new developments and surface disturbance in riparian areas only after on-site evaluations have determined that resources are not adversely affected, or mitigation of any adverse impacts is identified and incorporated into the project design.

4.1.9.2 Sensitive Plants

- Allow no new disturbance of identified sensitive plant habitat without direction from Interim Management Guidelines, Species Management Guides, or an environmental analysis.
- Complete inventories of project areas and areas of disturbance if there is potential habitat or known population locations identified.

4.1.9.3 Wildlife – Threatened, Endangered, and Sensitive Wildlife Species

- Cooperate with the USFWS and the CDFG in the management of threatened and endangered species.
- Submit proposals for actions that might affect the continued existence of a threatened or endangered species to the USFWS for formal consultation.

4.1.9.4 Wildlife – Management Indicator Species

Management Indicator Species ("MIS") are wildlife species identified in the USFS MIS Amendment Record of Decision ("ROD") signed December 14, 2007. The list of MIS was developed under the 1982 National Forest System LRMP Rule and amended by the 2007 SNF MIS Amendment ROD. Forest Service resource managers are directed to analyze the effects of Proposed Project Alternatives on the habitat of each MIS affected by such projects and monitor populations and/or habitat trends of each MIS.

The following habitat or ecosystem components and corresponding USFS's MIS are included under the 2007 USFS MIS Amendment ROD.

- Riverine and lacustrine: aquatic macroinvertebrates
- Shrubland (west-slope chaparral types): fox sparrow (*Passerella iliaca*)
- Sagebrush: greater sage-grouse (*Centrocercus urophasianus*)

- Oak-associated hardwood and hardwood/conifer: mule deer (*Odocoileus hemionus*)
- Riparian: yellow warbler (*Dendroica petechia*)
- Wet meadow: Pacific tree frog (*Pseudacris regilla*)
- Early and mid seral coniferous forest: mountain quail (*Oreortyx pictus*)
- Late seral open canopy coniferous forest: sooty (blue) grouse (*Dendragapus obscurus*)
- Late seral closed canopy coniferous forest: California spotted owl (*Strix occidentalis occidentalis*), American marten (*Martes americana*), and northern flying squirrel (*Glaucomys sabrinus*)
- Snags in green forest: hairy woodpecker (*Picoides villosus*)
- Snags in burned forest: black-backed woodpecker (*Picoides arcticus*)

4.1.10 The Town of Mammoth Lakes Ordinance

The Town has adopted several ordinances that protect biological resources. Municipal Code Chapter 8.12, *Refuse Disposal*, would be applied to work within the Project Area. This code section establishes regulations for the proper refuse disposal to eliminate the availability of refuse for wildlife and Section 17.20.040(H), *Vegetation*, 17.16.050 B and 17.24.050 require the preservation of existing trees and vegetation within commercial, residential and industrial zones to the maximum extent possible. The Town may apply similar standards to other zones, including Public-Quasi Public, Resort and Open Space zones.

4.1.11 The Town of Mammoth Lakes General Plan (2007)

The Town of Mammoth Lakes General Plan Resource Management and Conservation Element establishes and emphasizes its goal to promote sound stewardship of natural resources including wildlife, habitat, fisheries, water, and vegetation resources of significant biological, ecological, aesthetic, and recreational value. The habitat, wildlife and vegetation conservation policies incorporated in the General Plan to support this goal are outlined below.

- R.1.A Policy: Be stewards of important wildlife and biological habitats within the Town's municipal boundary.
- R.1.B Policy: Development shall be stewards of Special Status plant and animal species and natural communities and habitats.
- R.1.C Policy: Prior to Development, projects shall identify and mitigate potential impacts to site-specific sensitive habitats, including special status plant, animal species and mature trees.
- R.1.D Policy: Be stewards of primary wildlife habitats through public and/or private management programs. For example, construction of active and passive recreation and development areas away from the habitat.
- R.1.E Policy: Support fishery management activities.
- R.1.F Policy: Support education, interpretive programs and facilities offered by the Department of Fish and Game, Mono County Fisheries Commission, and other appropriate entities.
- R.1.J Policy: Live safely with Wildlife within our community.

4.1.12 The Mono County General Plan

Whitmore Park is a Town-operated facility, but lies within unincorporated Mono County. One of the goals of the Mono County General Plan is to "maintain an abundance and variety of vegetation, aquatic and wildlife types in Mono County for recreational use, natural diversity, scenic value, and economic benefits" (Mono County 1993). This goal is accomplished through a number of policies including the following:

- Future development shall mitigate impacts to biological resources to a level of less than significant or avoid potential significant impacts.
- Threatened and endangered plants and wildlife and their habitats shall be protected and restored.
- Native plants, sensitive plants, and plants "of exceptional scientific, ecological, or scenic value" shall be protected and restored.
- Construction activities shall be prohibited in sensitive habitats prior to environmental review.
- Soil conservation practices shall be utilized during construction.
- The acquisition of valuable wildlife habitat by land conservation organizations or federal or State land management agencies shall be encouraged.
- OHV use shall be restricted in valuable habitats.
- Water quality for fishery habitat shall be maintained by enforcing the policies of the Conservation/Open Space Element of the Mono County General Plan
- Efforts shall be made to regulate in-stream flows and lake levels for the purposes of maintaining fisheries and other riparian-dependent biological resources.
- Efforts shall be made to manage fisheries "in accordance with their biological capabilities."
- Non-consumptive use of existing fisheries shall be promoted.
- Efforts to support the reintroduction of trout in appropriate locations shall be made.
- CDFG fish stocking efforts shall be supplemented with a "county-supported stocking program."

4.1.13 Upper Owens River Watershed Management Plan

In March, 2007, through funding provided by a grant from the State Water Resources Control Board, Mono County and The Mono County Collaborative Planning Team completed the Upper Owens River Watershed Management Plan. Goals of the Upper Owens River Watershed Management Plan include maintaining and improving the aquatic habitat of Hot Creek and Mammoth Creek, maintaining existing wetlands, and maintaining and improving riparian habitat. Potential actions to facilitate these goals include the following:

- Guide development away from wetland margins and do not develop wetland areas
- Explore opportunities for land trades with areas of lesser quality habitat
- Suggest conservation easements on wetland parcels
- Remove and improve roads in riparian areas,
- Remove nonessential stream crossings, and remove development from riparian zones
- Restore degraded riparian areas

4.1.14 Special Interest Species

The CDFG, U.S. Fish and Wildlife Service (USFWS), local agencies, and special interest groups, such as the California Native Plant Society (CNPS) publish watch lists of declining species. Species on these lists are a part of the special interest species assessment. Special interest species, species of concern, and candidates for state and/or federal listing are also included in the special interest species discussion.

Inclusion of species described in this analysis is based on the following:

- Direct observation of the species or its sign in the Project Area or immediate vicinity during surveys conducted for this study or reported in previous biological studies;
- Sighting by other qualified observers;
- Record reported by the California Natural Diversity Data Base (CNDDB) published by the CDFG;
- Presence or location of specific species lists provided by private groups (e.g., CNPS); or
- Site lies within known distribution of a given species and contains appropriate habitat.

4.1.15 Protected Bird Species

Most bird species are protected under the federal Migratory Bird Treaty Act (MBTA), as mentioned above, a and under Sections 3503, 3503.5, and 3800 of the California Fish and Game Code. It is unlawful to take, possess, or needlessly destroy any bird of prey or the nests or eggs of any kind of bird species except as otherwise provided in the CDFG Codes and regulations. Disturbance of any active bird nest during the breeding season is prohibited. Disturbances at the active nesting territories should be avoided during the nesting season; typically, April 1 through August 31 in the Mammoth Lakes area.

4.2 Vegetation and Wildlife

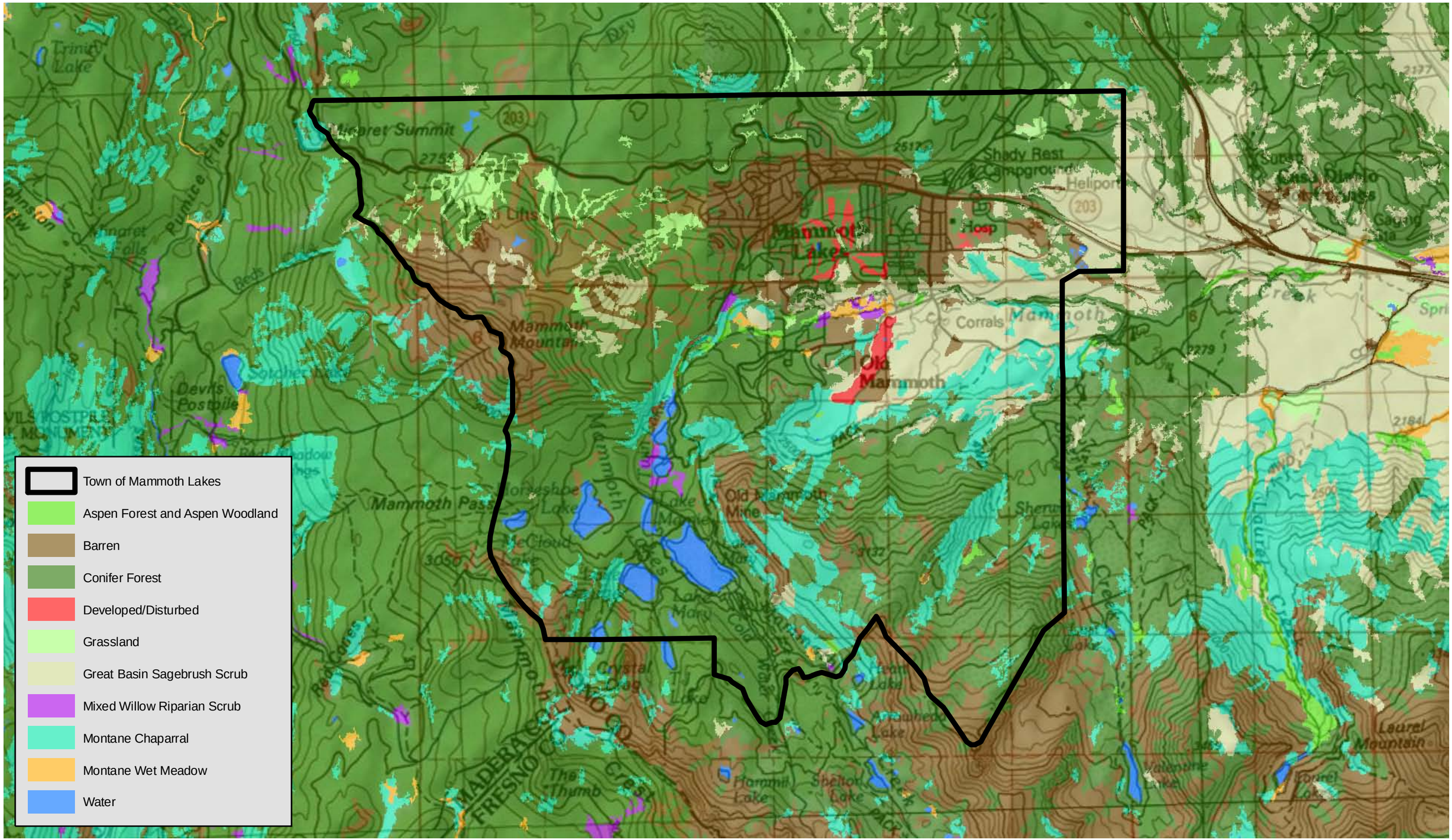
The following provides a discussion of the existing vegetation and wildlife resources found in the Project Area. **Figure 9**, *Vegetation Map*, illustrates the general distribution of vegetation types throughout the Project area.

4.2.1 Vegetation Communities

Vegetation within the Project Area consists of individual or mixed plant communities. The reader should note that due to the scale of the Project the following descriptions summarize the basic characteristics and constituent species of plant communities as stand-alone elements. In cases where two or three of these communities are mixed, the vegetation shares characteristics and constituent species from each of the component parts. A summary of each major vegetation community, including descriptions of their characteristic distribution within the Project area, is provided below.

4.2.1.1 Aspen Forest and Aspen Woodland.

Aspen forest consists of dense groves of quaking aspen (*Populus tremuloides*) as the sole or dominant tree in the tree canopy. Trees grow to 20 meters in height. The understory in this community typically is sparse, but includes a variety of small shrubs and herbaceous perennials. Scrubby quaking aspen thickets may occur at the edges in areas of relatively dry soil or at high altitudes. Additional species observed in this community



PCR

Vegetation Map

Trails System Master Plan Project

Source: CalVeg, 2011; USGS Topographic Series; PCR Services Corporation, 2011.

FIGURE
9

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include mountain snowberry (*Symphoricarpus rotundifolius*), interior rose (*Rosa woodsii* var. *ultramontana*), mountain alder (*Alnus incana*), ranger's buttons (*Sphenosciadium capitellatum*), common yarrow (*Achillea millefolium*), wax currant (*Ribes cereum*), Sierra onion (*Allium campanulatum*), meadow goldenrod (*Solidago canadensis* ssp. *elongata*), and narrow-leaved willow (*Salix exigua*).

Aspen woodland consists of quaking aspen as the sole or dominant tree in the tree canopy. In contrast to aspen forests, trees in aspen woodland tend to be less than 35 meters in height with an intermittent or open canopy. This plant community characteristically occurs at elevations between 1500 meters and 3000 meters in depressions and swales, on slopes, at meadow margins, along stream corridors, and on colluvial toe slopes where soils are typically deep, well developed, and seasonally or permanently saturated. Consequently, stands of aspen forest and aspen woodlands are found scattered throughout the Project area. Additional species observed included willow (*Salix* spp.), lodgepole pine (*Pinus contorta* ssp. *murrayana*), white fir, mountain alder, common yarrow, ranger's buttons, mountain snowberry, stickey cinquefoil (*Potentilla glandulosa*), mountain meadow rue (*Thalictrum fendleri*), and scarlet gilia (*Ipomopsis aggregata*).

For the purpose of this assessment, the terms "forest" and "woodland" are used to describe quaking aspen dominated vegetation types as a whole.

4.2.1.2 Great Basin Sagebrush Scrub.

Great Basin sagebrush scrub consists of mostly soft-woody shrubs usually with bare ground underneath and between shrubs. This plant community typically grows at elevations between 300 meters and 3000 meters on plains, alluvial fans, pediments, lower slopes, and valley bottoms, and along seasonal and perennial stream channels, and dry washes. It is most abundant on the broad valley floor in the Snowcreek and Sherwin Creek area; however, it can be found throughout most lower elevation areas within the Project area. Great Basin sagebrush (*Artemisia tridentata*) is the dominant species of this plant community, and growth occurs mostly in late spring and early summer. This plant community is dormant during the winter and occurs on a wide variety of soils and terrain, from rocky, well-drained slopes to fine-textured, valley soils with a high water table. Characteristic species include Great Basin sagebrush, four-wing saltbush (*Atriplex canescens*), rubber rabbitbrush (*Chrysothamnus nauseosus*), Idahoe fescue (*Festuca idahoensis*), antelope bitterbrush (*Purshia tridentata*), and elymus (*Elymus cinereus*).

4.2.1.4 Conifer Forest.

Conifer forest consists of an open to dense forest of coniferous evergreens up to 75 meters in height. Within the basic conifer forest classification there are various alliances that are dominated by individual species, and the forest type. In mixed conifer forest dominant species within the Project Area include lodgepole pine, white fir, western white pine (*Pinus monticola*), and Jeffrey pine. Lodgepole pine and Jeffrey pine are most commonly the dominants or co-dominants; however, there is considerable mixing of all of the above mentioned species of pines. The understory typically consists of scattered broadleaved mesophytic shrubs and small trees. Species characteristic of this community may also include currant (*Ribes* spp.), manzanita (*Arctostaphylos* sp.), chinquapin (*Chrysolepis sempervirens*) and California lilac (*Ceanothus* spp.). Conifer forest within the Project area occur on a wide variety of slopes and aspects, on ridges and terraces, as well as in depressions. These forests are common throughout the Town environs and on the upper slopes within the Sherwin area.

Coniferest forest predominate much of the landscape within the Project area. Jeffrey pine forest is characterized as a tall, open forest dominated by Jeffrey pine (*Pinus jefferyi*) with sparse understories of either montane chaparral or Great Basin sagebrush scrub. This community occurs on dry, cold sites, especially on well-drained slopes, ridges, or cold air accumulation basins up to approximately 2900 meters. Characteristic species include Jeffrey pine (dominant), Great Basin sagebrush, antelope bitterbrush, huckleberry oak (*Quercus vaccinifolia*), and snowberry. Lodgepole pine forest is characterized by dense forest of slender trees up to 40 meters tall dominated by lodgepole pine. More open stands also occur within drier sites where trees reach 20 meters tall. Dense stands of lodgepole pines typically have a sparse understory with small shrubs and perennial herbs occurring within the forest openings. Lodgepole pine forest typically occurs at elevations between 1500 meters and 3400 meters with cool, dry summers and long winters with abundant snowfall. This community tolerates a variety of soil conditions and moisture levels; however, it most commonly occurs on rocky, well-drained soils. Characteristic species include lodgepole pine (dominant), quaking aspen, cinquefoil (*Potentilla* sp.), heather (*Phyllodoce* spp.), and wintergreen (*Pyrola* spp.)

4.2.1.5 Mixed Willow Riparian Scrub

Mixed willow riparian scrub consists of a relatively open to dense shrubby streamside thicket consisting of a mixture of willow species as the dominant species in the shrub canopy. Species observed in this community on-site included arctic willow (*Salix arctica*), narrow-leaved willow (*Salix exigua*), Lemmon's willow (*Salix lemmonii*), shining willow (*Salix lucida* ssp. *lasiandra*), yellow willow (*Salix lutea*), and tea-leaved willow (*Salix planifolia*), corn lily (*Veratrum californicum*), fireweed (*Epilobium angustifolium*), spike mallow (*Sidalcea oregano* ssp. *spicata*), western blue flag (*Iris missouriensis*), common monkeyflower (*Mimulus guttatus*), mountain snowberry, meadow goldenrod (*Solidago canadensis* ssp. *elongata*), common yarrow, and horse-mint (*Agastache urticifolia*). This plant community occurs throughout the eastern Sierra Nevada up to elevations of approximately 3800 meters. It requires seasonally or perennially saturated soils and, consequently, is found along many of the larger and tributary drainages in the Project area, as well as at the margins of wet meadows.

4.2.1.6 Montane Wet Meadow

Montane meadow vegetation is characterized by a dense growth of sedges and other perennials herbs. Typically, it occurs between 1200 meters and 2600 meters. The main growth period for this plant community is from late spring through summer with a dormancy period in the winter. This community occurs on fine-textured, somewhat permanently moist or wet soils. Montane meadows are often a successional stage in the filling of lakebeds with soil and often are characterized by young trees encroaching from the margins. Within the Project area, it may be found in many areas where springs and seeps occur, at lake margins, but is concentrated in the broad valley bottom adjacent to Snowcreek.

Plant species observed within this community in the project area included epilobium (*Epilobium ciliatum*), smoothstem willow-herb (*Epilobium glaberrimum*), fireweed, corn lily, wandering daisy (*Erigeron peregrinus* var. *hirsultus*), sedge, Kelly's tiger lily (*Lilium kelleyanum*), leopard lily (*Lilium pardalinum*), yampah (*Perideridia parishii* ssp. *latifolia*), arrow-leaf butterweed (*Senecio triangularis*), meadow goldenrod, western blue flag, Sierra rein orchid (*Platanthera leucostachys*), monkshood (*Aconitum columbianum*), swamp onion (*Allium validum*), meadow paintbrush (*Castilleja miniata* ssp. *miniata*), Brewer's mitrewort (*Mitella breweri*), cow parsnip (*Heracleum lanatum*), stickey cinquefoil, mountain meadow rue, rush, horsetail (*Equisetum* sp.) common monkeyflower, slender cinquefoil (*Potentilla gracilis*), common yarrow, elephant's head (*Pedicularis*

groenlandica), spike mallow, dented silk-moss (*Plagiothecium denticulatum*), common green bryum moss (*Bryum pseudotriquetrum*), ribbed bog moss (*Aulacomnium palustre*), and water speedwell (*Veronica anagallis-aquatica*).

4.2.1.7 Montane Chaparral

Montane chaparral is associated with mountainous terrain from mid to high elevations at 900 to over 3,000 meters. It occurs throughout the mountain ranges in southern California and in the Sierra Nevada and Cascade mountain ranges in central and northern California. Montane chaparral can be found on shallow to deep soils, on all exposures, and from gentle to relatively steep slopes. It may dominate on more xeric sites, but occurs locally throughout the coniferous zone. The growth form of montane chaparral plant species can vary from tree-like to prostrate. When mature, it generally becomes extremely dense. The composition of montane chaparral varies markedly throughout California, depending on elevation, geography, soil type, and slope aspect. In the Mammoth Lakes region dominant species include manzanita (*Arctostaphylos nevadensis* and *A. patula*), lilac (*Ceanothus cordulatus*, *C. interrimus*, and *C. velutinus*), and cherry (*Prunus emarginata*). Montane chaparral may be found throughout the Project area, but is most abundant on the lower and upper mountain slopes in the Sherwin area where it forms a mosaic with conifer forest.

4.2.1.8 Developed and Disturbed

Developed and disturbed habitats are found throughout the Town and along roads. While native trees, shrubs and groundcovers may occur, the predominant cover is hardscape surfaces, bare ground, non-native plants, and ornamental plantings.

4.2.2 Wildlife

The plant communities discussed above provide wildlife habitat. Following are discussions of wildlife populations within the Project Area, segregated by taxonomic group. Representative examples of each taxonomic group either observed or expected within the Project Area are provided. Wildlife species actually observed, as well as those expected to be present, are indicated in **Appendix A**, *Plant and Wildlife Species Compendium*. Special status wildlife species are discussed below under Section 4.2.5.1.

4.2.2.1 Invertebrates

Focused surveys for common invertebrate species were not conducted; however, the Project Area would be expected to support populations of a diverse assortment of invertebrates due to the number of diverse plant communities on-site.

4.2.2.2 Fish

Focused surveys for fish species were not conducted by PCR, but have been conducted for areas within the Project Area since 1992 excluding 1998 (Beak Consultants Inc. 1992, 1993, 1994; Sierra Nevada Aquatic Research Laboratory 1995, 1997; KDH 1998, 2001, 2002, 2003, 2004 2006; Horseshoe Canyon Biological Consultants 1999; Thomas R. Payne & Associates 2006, 2007, 2009). The following species have been detected within the Project Area during these surveys: brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), and brook trout (*Salvelinus fontinalis*).

4.2.2.3 Amphibians

Terrestrial amphibian species may or may not require standing water for reproduction. Terrestrial species avoid desiccation by burrowing underground; within crevices in trees, rocks, and logs; and under stones and surface litter during the day and dry seasons. Due to their secretive nature, terrestrial amphibians are rarely observed, but may be quite abundant if conditions are favorable. Aquatic amphibians are dependent on standing or flowing water for reproduction. Such habitats include fresh water marshes and open water (reservoirs, permanent and temporary pools and ponds, and perennial streams). Many aquatic amphibians will utilize vernal pools as breeding sites. These pools are temporary in duration and form following winter and spring rains.

Mammoth Creek, portions of the Bodle Ditch, and most of the lakes found in the Mammoth Lakes area contain water perennially. The Yosemite toad was observed in a meadow west of Lake Mary during focused surveys conducted by David Martin of Canorus Ltd. in 2009 (Martin 2009). The project area has the potential to support a few amphibian species including Sierran treefrog (*Pseudarcis sierra*) and western toad (*Bufo boreas*). Of note, the Sierran treefrog is a USFS Management Indicator Species (MIS) associated with wet meadow and freshwater emergent wetland habitats for the Sierra Nevada Forests (USDA Forest Service 2008a). However, during Martin's 2009 surveys throughout the Mammoth Lakes Basin, this species was found or detected only around Lake Mary and Twin Lakes. None were found or detected along Mammoth Creek or in Mammoth Meadows (e-mail communication from D. Martin to L. Robb of PCR, January 25, 2010). Martin also noted that the staff at the Valentine Reserve have seen "one or two in some 20 years". Therefore, significant populations of the Sierran treefrog are not expected within the Project Area.

4.2.2.4 Reptiles

Reptiles, as a group, occupy a much broader spectrum of habitats than amphibians. Reptilian diversity and abundance typically varies with habitat type and character. Some species prefer only one or two natural communities; however, most will forage in a variety of communities. A number of reptile species prefer open habitats that allow free movement and high visibility. Most species occurring in open habitats rely on the presence of small mammal burrows for cover and escape from predators and extreme weather.

One reptile species, mountain garter snake (*Thamnophis elegans*) was observed within the Project Area. Several species have the potential to occur on-site. These include rubber boa (*Charina bottae*), Sierra alligator lizard (*Elgaria coerulea*), Sierra fence lizard (*Sceloperus occidentalis*), and sagebrush lizard (*Sceloperus graciosus*).

4.2.2.5 Birds

The riparian and forest habitats within the Project Area provide foraging and cover habitat for year-round and seasonal residents. Bird species detected during the site visit included turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), hairy woodpecker (*Picoides villosus*), olive-sided flycatcher (*Contopus cooperi*), western wood-pewee (*Contopus sordidulus*), cliff swallow (*Petrochelidon pyrrhonota*), violet-green swallow (*Tachycineta thalassina*), black-billed magpie (*Pica hudsonia*), American robin (*Turdus migratorius*), black-headed grosbeak (*Pheucticus melanocephalus*), western tanager (*Piranga ludoviciana*), dark-eyed junco (*Junco hyemalis*), fox sparrow (*Passerella iliaca*), green-tailed towhee (*Pipilo chlorurus*), red-winged blackbird (*Agelaius phoeniceus*), brown-headed cowbird (*Molothrus ater*), common grackle (*Quiscalus quiscula*), pine siskin (*Carduelis pinus*), Stellar's jay (*Cyanocitta*

stelleri), Brewer's blackbird (*Euphagus cyanocephalus*), Clark's nutcracker (*Nucifraga columbiana*), mountain chickadee (*Poecila gambeli*), and American crow (*Corvus brachyrhynchos*).

Several additional species have the potential to occur in the Project Area. These include (but are not limited to) American kestrel (*Falco sparverius*), mountain quail (*Oreortyx pictus*), great horned owl (*Bubo virginianus*), belted kingfisher (*Ceryle alcyon*), brown creeper (*Certhia americana*), mountain bluebird (*Sialia currucoides*), orange-crowned warbler (*Vermivora celata*), yellow-rumped warbler (*Dendrioca coronate*), yellow warbler (*Dendroica petechia*), and Wilson's warbler (*Wilsonia pusilla*). As noted previously, yellow warbler may occur on-site. This is a MIS associated with montane riparian and valley foothill riparian habitats for the Sierra Nevada Forests (USDA Forest Service 2008a).

4.2.2.6 Mammals

Most mammals are either nocturnal, reclusive, or both, and are more often detected by their sign, denning sites, etc., or through live-trapping (rodents). Mammals observed within the project area by sight, scat, tracks, or other means, include the mule deer (*Odocoileus hemionus*), snowshoe hare (*Lepus americanus*), Botta's pocket gopher (*Thomomys bottae*), western gray squirrel (*Scirius griseus*), California ground squirrel (*Spermophilus beecheyi*), golden-mantled ground squirrel (*Spermophilus beecheyi*), chipmunk (*Tamias* sp.), and black bear (*Ursus americanus*).

Several additional species have the potential to occur in the Project Area. These include (but are not limited to) broad-footed mole (*Scapanus latimanus*), big brown bat (*Eptesicus fuscus*), northern flying squirrel (*Glaucomys sabrinus*), lodgepole chipmunk (*Tamias speciosus*), deer mouse (*Peromyscus maniculatus*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), long-tailed weasel (*Mustela frenata*), American marten (*Martes americana*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), and raccoon (*Procyon lotor*). As noted previously, mule deer was detected within the Project Area and American marten may be present as well. Mule deer is a MIS associated with montane hardwood and montane hardwood-conifer habitats for the Sierra Nevada Forests, and American marten is a MIS associated with ponderosa pine, Sierran mixed conifer, white fir, and red fir habitats (USDA Forest Service 2008a).

4.2.3 Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because such conditions preclude the USFS infusion of new individuals and genetic USFS information into isolated populations (MacArthur and Wilson 1967, Soule 1987, Harris and Gallagher 1989, Bennett 1990).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds, on a "local" level to many square mile home ranges of large mammals moving at a "regional" level.

Local scale wildlife movement likely occurs within the Project Area as well as its surrounding vicinity. The Project Area contains habitat that supports a variety of common species of invertebrates, amphibians, reptiles, birds, and mammals. The home range and average dispersal distance of many of these species may be entirely contained within the Project Area and immediate vicinity. Numerous populations of insects, amphibians, reptiles, small mammals, and a few bird species may find all of their resource requirements within the project area and its immediate vicinity. Riparian areas and other natural landscape features located in and around the project area can serve as natural guides for wildlife along travel routes (Hilty, et al. 2006). Local movement by small and medium-sized mammals such as California ground squirrel, Botta's pocket gopher, deer mouse, long-tailed weasel, American marten, and gray fox may occur within the project area. Occasionally, individuals expanding their home range or dispersing from their natal range will attempt to disperse from the project area.

It is also possible for migratory individuals to utilize the Project Area for cover and water resources. The Round Valley and Casa Diablo Mule Deer Herds are known to use areas in the vicinity of the Project Area for portions of their migrations from winter ranges in the lowlands to summer ranges within the higher elevations of the Sierra Nevada (see **Figure 10**, *Deer Migration Routes*). Predators, such as the mountain lion have also been known to make migrations that directly correlate temporally and spatially with those of mule deer in the region (Pierce, et al. 1999).

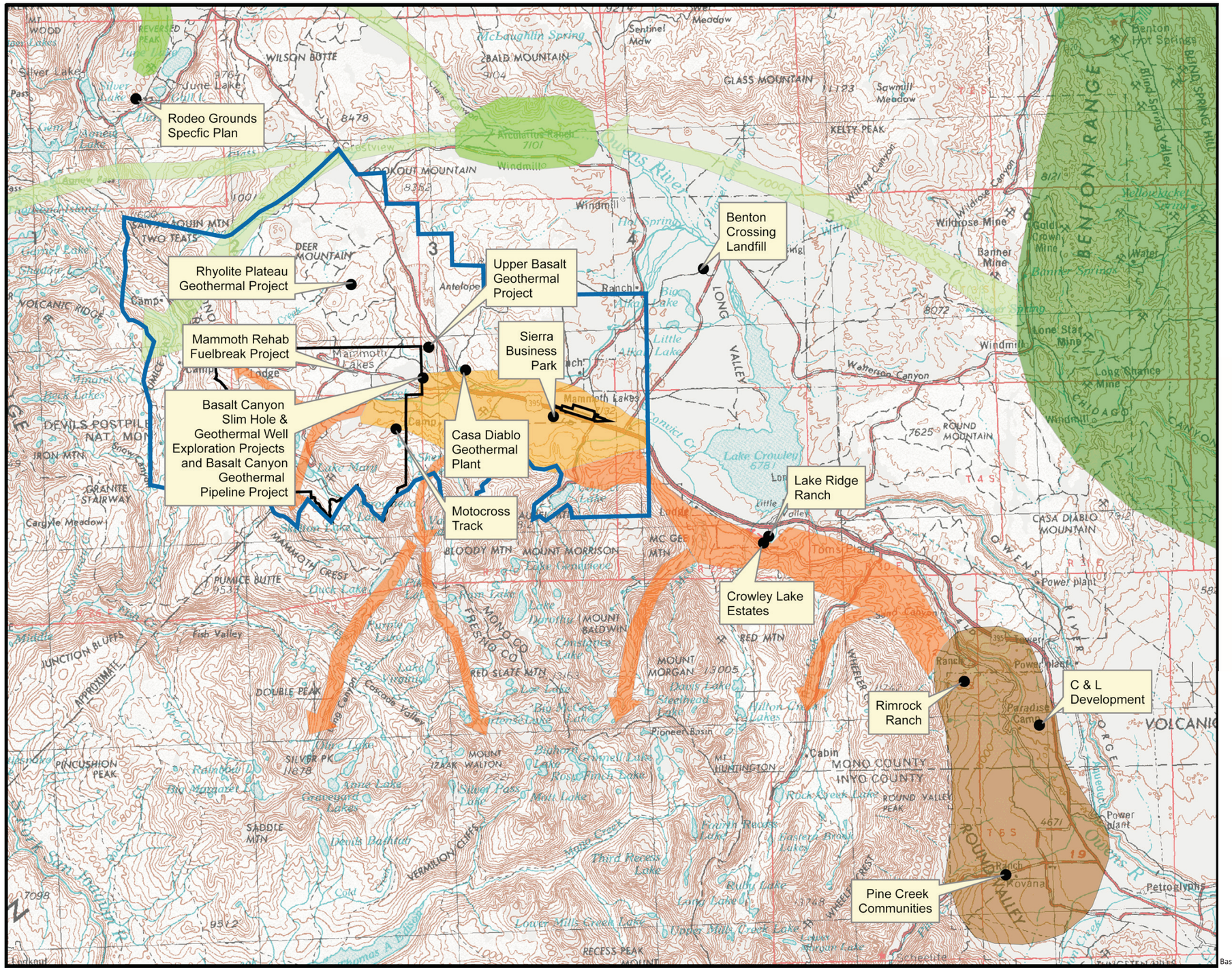
4.2.3.1 Mule deer

Although not considered a sensitive wildlife species, mule deer are considered an important harvest species by the CDFG. The Town of Mammoth Lakes is located within the Eastern Sierra Nevada Deer Assessment Unit. Deer populations within the Town of Mammoth Lakes consist of Rocky Mountain mule deer from the Round Valley and Casa Diablo herds. Some deer from both herds use the Doe Ridge area throughout the summer. These herds are migratory. Deer herd management plans were prepared by the CDFG in the mid 1980's for both herds. Management objectives include enhancing important winter, holding, migratory, and fawning habitats. Migratory movements occur over a six to ten week period. Deer begin their spring migration in April or May after occupying holding areas to feed and regain strength lost over the winter.

When the snow recedes and forage is available at their higher elevation summer ranges (usually mid-June), they migrate to these areas.

The Round Valley herd range encompasses approximately 2,000 square miles and includes the west slope of the Sierra Nevada to the San Joaquin Ridge. The Mammoth Pass herd segment of the Round Valley herd uses a route that heads westerly below Mammoth Rock, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River Drainage (PCR 2005). The Project Area is located within the Mammoth Lakes Basin.

The Casa Diablo herd's winter range includes the lower elevations near Benton, California to the north end of Owen's Valley. Some deer from this herd migrate across Doe Ridge towards their summer range on the higher elevations of the eastern Sierra Nevada (between June Lake and Lee Vining). The Mammoth Lakes Basin, which is located south-southeast of the project area, is utilized as a migratory corridor and holding area by the Round Valley Herd. The Casa Diablo Herd utilizes an area approximately 8 to 9 miles to the northwest of the Project Area and 6 to 7 miles north of the town of Mammoth Lakes (Jones and Stokes 1999).



Base Map 1x2 degree sheet

PCR

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0 2 Miles

Deer Mitigation Route

Trails System Master Plan Project

Source: Bailey, 1989.

FIGURE **10**

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Approximately 75 percent of the Round Valley Herd leaves their wintering grounds in the Round Valley, which is located approximately 20 miles southeast of the Project Area, to migrate in a northerly direction along the toe of the Eastern Sierra to the Mammoth Lakes Basin (Taylor 1996). The herd utilizes the Mammoth Lakes Basin as a holding area for approximately eight weeks while they forage and wait for winter snows to recede from the mountain passes. Following the snowmelt, some deer leave the approximately 11,300-acre holding area to traverse over the Mammoth Crest via McGee, Hopkins, Solitude, Mammoth, and San Joaquin passes to their preferred summering grounds in the Sierra Nevada between the Sierra Nevada's western slope and the San Joaquin Ridge (Town of Mammoth Lakes 2005). Those deer that do not continue their migration beyond the Mammoth Lakes Basin remain there until the herd makes its way back to the Round Valley in the fall months (Town of Mammoth Lakes 2005).

The Town of Mammoth Lakes 2007 General Plan Update identifies three distinct migration corridors for the Round Valley Herd, which occur within the vicinity of the Project Area (see **Figure 10**, *Deer Migration Routes*):

1. The Solitude Pass/Duck Lake herd segment leaves the holding area and migrates to summer ranges through the Solitude Pass located in the Sherwin Range, and Duck Pass located approximately three (3) miles south of the holding area.

2. The Mammoth Pass herd segment of the Round Valley Herd migrates along a route that heads westerly below Mammoth Rock, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River Drainage.

3. The San Joaquin herd segment migrates across the Sierra crest over San Joaquin Ridge between Minaret Summit and Deadman Pass from the western portion of the holding area.

A fairly consistent timeline of movement is generally observed for the Round Valley Herd's annual migration. Interannual temporal variability does occur, however, with respect to migrations. Variability in migration timing is generally dependent on environmental factors that affect food and habitat requirements (French, et al. 1989). The Round Valley Herd begins to appear in the Mammoth Lakes Basin during the spring. Migrants typically occupy the basin from April through June. Around mid-June most deer that are going to continue

their journey to summering grounds in the higher elevations of the Sierra have left the Mammoth Lakes Basin. Not all deer continue on to the higher elevations. Some choose to spend their summers in and around the holding area (Carey, et al. 2004). The Round Valley Herd will begin to return to its wintering grounds in the fall months as temperatures drop and snow begins to accumulate.

The Mammoth Lakes Basin holding area represents the point where migration associated areas are most closely located to the Project Area. Deer from the Round Valley Herd generally occupy an area south and west of U.S. Route 395, and between Tobacco Flats to the east and Mammoth and Sherwin Creeks to the west. This area is known as the Sherwin Holding Area. The close proximity of these two areas presents a high likelihood for members of the Round Valley Herd to occur within the Project Area during the spring through fall months.

4.2.4.2 Mountain Lion

Mountain lions were once the broadest ranging terrestrial mammals in the western hemisphere (Logan and Sweanor 2001), ranging from British Columbia to southern Chile and Argentina, and from coast to coast in North America (NatureServe, 2006). As time has passed, land use changes, extermination campaigns, and hunting pressure have diminished the geographic range of the mountain lion to rocky, mountainous, and relatively unpopulated areas (Currier 1983, Logan and Sweanor 2001).

A wide range of habitats, including swamps, riparian woodlands, and open space with ample brush and/or woodland cover, are utilized by mountain lions throughout their range. This highly adaptable species is found in North America between sea level and approximately 11,500 feet above MSL (NatureServe 2006).

Mule deer make up the bulk of the mountain lion's diet throughout North America. Some experts have observed mule deer constituting over 90 percent of a mountain lion's diet (Logan and Sweanor 2001). This rate has been known to vary between seasons (Currier 1983). Small to medium sized mammals, birds, and reptiles are also opportunistically consumed by mountain lions (Pierce, et al. 2000).

Home range figures are highly variable throughout the mountain lion's range with males typically utilizing larger home ranges than females. Pierce, et al. (1999) documented home ranges between 425 km^2 and 817 km^2 (164 $miles^2$ and 315 $miles^2$) for mountain lions in the Round Valley area of California. Mountain lions are generally solitary in nature, but home ranges have been known to overlap (Sweanor, Logan, and Hornocker 2000).

Pierce, et al. (1999) observed an interesting connection between mountain lion home range size and behavior of their prey. Mountain lions from the Round Valley that primarily preyed on migratory mule deer had home ranges that rarely changed over time. Contrastingly, mountain lions that primarily preyed on non-migratory mule deer tended to make seasonal migrations that corresponded to mule deer movements, both spatially and temporally. Home ranges for mountain lions that were contiguous throughout the year were larger than those with distinct summer and winter ranges.

The Round Valley mountain lion population exhibited two different modes of migration. Some lions tended to move rather slowly along the deer herd's migratory route, but did not show signs of having a discontinuous home range. Other lions moved more rapidly and had distinct summer and winter ranges that mirrored those of the Round Valley Herd.

Mountain lions that followed the migration of the Round Valley Herd to the Sherwin Holding Area have a high potential to occur within the Project Area. Logan and Sweanor (2001) documented transient behavior in numerous mountain lion populations. They also describe the possibility of mountain lions making the change from transient behavior to territorial multiple times throughout its life. Transient behavior, as described by Logan and Sweanor, usually occurs because of one or a combination of four potential conditions: (1) population isolation; (2) an extremely low, patchy, or migratory food base; (3) an extremely diffuse mountain lion population; and (4) inability to compete. If transient lions make their way into the Sherwin Holding Area it is possible that they could wander into the Project Area in search of food, mates, or establishment of a new home range.

4.2.4 Jurisdictional Waters and Wetlands

In California, certain drainage features and the associated riparian resources fall under the regulatory jurisdiction of the ACOE, RWQCB, and CDFG. These features can include: perennial, intermittent and ephemeral streams; lakes, ponds, and other impounded water bodies; and wet meadows and wetlands. Whereas the ACOE and RWQCB use the ordinary high water mark to determine their jurisdiction, CDFG may include the bed, banks and associated riparian habitat within its jurisdiction. There are numerous jurisdictional features throughout the Project area. Most notably, Mammoth Creek and its tributaries are regulated by one or more of the above mentioned agencies.

4.2.5 Sensitive Species and Habitats

The following sections indicate the habitats, as well as plant and animal species, present or potentially present in the Project Area that have been afforded special recognition. Sources used to determine the potential occurrence of special status resources in the vicinity of the site include USFWS (2009), USFS, USFS (2006 and 2008b), CNPS (CNPS 2009), CNDDB (CNDDB 2009a), and CDFG 2009a, 2009b, 2009c and 2009d).

4.2.5.1 Special-Status Wildlife Species Within the Project Area

Sensitive wildlife species include those species listed as endangered or threatened under the federal ESA or CESA, candidates for listing by USFWS or CDFG, and SSC to the CDFG. In addition, species considered sensitive by the USFS (USFS) have also been included and analyzed in this document to provide a comprehensive list of species.

A number of sensitive wildlife species were reported in the CNDDB as occurring in the vicinity of the project area. These species are included in **Table 4,** Sensitive *Wildlife Species,* which provides a summary of the sensitive wildlife species occurring or potentially occurring within the Project Area based upon their known geographic ranges, distributions, and preferred habitats. The majority of these species are not expected to be present due to a lack of suitable habitat.

In addition, several wildlife species listed as sensitive by the USFS (USFS) may occur within the general bioregional location of the Project Area. Sensitive wildlife species for the USFS are also included in Table 4, *Sensitive Wildlife Species*.

Focused surveys for fish species have been conducted for areas within the vicinity of the Project Area since 1992 excluding 1998 (Beak Consultants Inc. 1992, 1993, 1994; Sierra Nevada Aquatic Research Laboratory 1995, 1997; KDH 1998, 2001, 2002, 2003, 2004 2006; Horseshoe Canyon Biological Consultants 1999; Thomas R. Payne & Associates 2006, 2007, 2009). No sensitive fish have the potential to occur within the Project Area.

Table 4

Sensitive Wildlife Species

Invertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-Site**
Gastropoda	**Snails and Slugs**						
Hydrobiidae:	Aquatic Snails:						
Pyrgulopsis owensensis	Owens Valley springsnail	None	None	FS: Sensitive	Freshwater.	Crowley Lake	NE
Pyrgulopsis wongi	Wong's springsnail	None	None	FS: Sensitive	Freshwater.	Crowley Lake	NE

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Fishes							
Salmonidae	Trout and Salmon						
Oncorhynchus clarkii henshawi	Lahontan cutthroat trout	FT	None	None	Requires gravel riffles in streams for spawning; cannot tolerate the presence of other salmonids, Historically in all accessible cold waters of the Lahonton Basin in a wide variety of water temperatures and conditions.	Lahontan Basin, CA and NV.	NE
Comments: This species was not observed during fish surveys conducted for the Mammoth Community Water District from 1992 through 2008 (no surveys conducted in 1998) (Beak Consultants Inc. 1992, 1993, 1994; Sierra Nevada Aquatic Research Laboratory 1995, 1997; KDH 1998, 2001, 2002, 2003, 2004 2006; Horseshoe Canyon Biological Consultants 1999; Thomas R. Payne & Associates 2006, 2007, 2009).							
Oncorhynchus clarkii seleniris	Paiute cutthroat troat	FT	None	None	Cool, well-oxygnated waters. Cannot tolerate the presence of other salmonids, requires clean gravel for spawning.	Eastern Sierra Nevada and northwestern coastal California.	NE
Comments: This species was not observed during fish surveys conducted for the Mammoth Community Water District from 1992 through 2008 (no surveys conducted in 1998) (Beak Consultants Inc. 1992, 1993, 1994; Sierra Nevada Aquatic Research Laboratory 1995, 1997; KDH 1998, 2001, 2002,							

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
2003, 2004 2006; Horseshoe Canyon Biological Consultants 1999; Thomas R. Payne & Associates 2006, 2007, 2009).							
Oncorhynchus mykiss aguabonita	Volcano Creek golden trout	None	SSC	FS: Sensitive	Shallow, slow moving streams. Pools, runs, and riffles within the following habitat types: undercut banks, willows, bare banks, collapsed banks, open channel, aquatic vegetation, sedge, boulders, or rootwads.	Kern Plateau, southern Sierra Nevada.	NE
Cyprinidae	Minnows and Carp						
Gila bicolor snyderi	Owens tui chub	FE	SE	None	Needs clear, clean water, adequate cover, and aquatic vegetation. Endemic to the Owens River Basin in a variety of habitats.	Owens River Basin, California.	NE
Comments: Five tui chub were observed at an electrofishing study site in the vicinity of the confluence of Mammoth Creek and Hot Creek in October 2008); however, the tui chub that now inhabit the lower portion of Mammoth Creek appear to be hybrids of the Owens tui chub and the Lahontan tui chub (*G. b. obese*) that may have been introduced in the 1960's as baitfish. Tui chub were also recorded in the lower Mammoth Creek area from 1992 through 2007 (Thomas R. Payne & Associates 2009).							
Rhinichthys osculus ssp. *2*	Owens speckled dace	None	SSC	None	Small streams and springs in Owens Valley; occupies a variety of habitats. Rarely found in water greater than 29° C.	Owens Valley, California.	NE
Comments: This species was not observed during fish surveys conducted for the Mammoth Community Water District from 1992 through 2008 (no surveys conducted in 1998) (Beak Consultants Inc. 1992, 1993, 1994; Sierra Nevada Aquatic Research Laboratory 1995, 1997; KDH 1998, 2001, 2002, 2003, 2004 2006; Horseshoe Canyon Biological Consultants 1999; Thomas R. Payne & Associates 2006, 2007, 2009). The CNDDB has a recorded occurrence of this species approximately 300 feet from the project area in a feeder stream of Hot Creek at the Hot Creek Rearing Station; however, they disappeared from Hot Creek shortly after the springs were developed for hatchery purposes (CNDDB 2009).							

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Catostomidae	Suckers						
Catostomus fumeiventris	Owens sucker	None	SSC	None	Silty to rocky pools and creek runs. Most abundant in sections of the lower Owens River and tributaries with long runs and few riffles, over substrates of mostly fine material. Adults can thrive in reservoirs, but need gravelly riffles in tributary streams for spawning.	Sierra Nevadas and coastal south-central California; Owens River drainage.	NE
Comments: This species is not known to occur in Mammoth Creek or its tributaries upstream of the confluence of Mammoth Creek and Hot Creek.							
Amphibians							
Plethodontidae	Lungless Salamanders						
Batrachoseps campi	Inyo Mountains salamander	None	SSC	FS: Sensitive	Found in isolated springs and stream areas chiefly below the pinon-juniper belt. Found along watercourses vegetation with willow and wild rose. Found under stones and in crevices in damp places near water. Surrounding slopes are arid and vegetated with sagebrush, buckwheat, rabbitbrush, and cactus.	Inyo Mountains.	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Batrachoseps robustus	Kern Plateau salamander	None	None	FS: Sensitive	Frequents habitats mainly of Jeffrey pine and red fir in the northern and eastern humid parts of its range and lodgepole, pinyon pine, rabbitbrush, sagebrush, black oak and canyon oak in drier parts of its range. Found under rocks, bark fragments, logs, and within and under wet logs, especially in spring and seep areas near outflow streams.	Southeast Sierra Nevada on Kern Plateau, Olancha Peak to Nine Mile Canyon on the eastern slope of the Sierra Nevadas, and the Scodie Mountains, Kern County, CA.	NE
Hydromantes platycephalus	Mt. Lyell salamander	None	SSC		Granite exposures of the Sierra Nevada. Found in rock fissures, seepages from streams or melting snow, shade or low growing plants. Inhabit rocks near cliffs, cave openings, melting snowbanks, and the spray zone of waterfalls.	Sierra Nevada from Sierra Buttes, Sierra County to Franklin Pass area, Tulare County, Twin Lakes, Silliman Gap, Sequoia National Park, and Mt. Williamson, California.	P
Comments: This species was not observed during surveys for the Yosemite toad conducted by Dave Martin (Martin, pers. comm.. 2010); nor, does suitable habitat exist for this species outside of the immediate Twin Falls area.							
Bufonidae	True Toads						
Bufo canorus	Yosemite toad	FC	SSC	FS: Sensitive	Occurs in the vicinity of wet meadows in the central high Sierra Nevadas. Primarily occurs	Central high Sierra Nevadas, CA.	P

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
					in montane wet meadows; also in seasonal ponds associated with lodgepole pine and subalpine coniferous forests. Breeds in shallow edges of snowmelt pools and ponds or along edges of lakes or slow-moving streams.		
Comments: Yosemite toad was reported in *The Vegetation and Flora of Mammoth Mountain* as observed in 1983 somewhere within the Mammoth Mountain Ski Area. In addition, the CNDDB has a recorded occurrence of this species at Lake Mary in 1976; twelve specimens were observed. This species was observed in a meadow west of Lake Mary, which has been a known population since the 1970s by Dave Martin, Canorus Ltd. In 2009. Please refer to Mammoth Lakes Basin Yosemite Toad (*Bufo canorus*) Survey for further details (Martin 2009).							
Ranidae	True Frogs						
Rana muscosa	Mountain yellow-legged frog (Sierra Nevada population)	FC	SSC	FS: Sensitive	Inhabits mid to upper-elevation perennial streams, often in locations with bedrock pools. Always encountered within a few feet of water.	Sierra Nevada and southern California mountains.	NE
Comments: The project area supports trout which precludes this species from occurring. Hidden Lake in Mammoth Meadows (part of the Bodle Ditch area) has a large and deep enough pool to marginally support this species; however fish can access the lake from Bodle Ditch, the lake margins are heavily vegetation, and the lake is at the bottom of an avalanche zone thereby making this low quality habitat for the species (Martin, pers. comm. 2010).							
Rana pipens	Northern leopard frog	None	SSC	FS: Sensitive	Found in a variety of habitats including grasslands, brushland, woodland, and forest, ranging high into the mountains. Frequents springs, slow moving streams, slowly flowing	North and central U.S., Canada, in California near the Oregon border.	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
					streams, marshes, bogs, ponds, canals, and reservoirs, usually permanent water with grass, cattails, or other aquatic vegetation. May forage far from water in damp meadows.		
Reptiles							
Anguidae	Alligator Lizards						
Elgaris panamintina	Panamint alligator lizard	None	SSC	FS: Sensitive	Ranges from creosote bush scrub desert and Joshua tree zone into the lower edge of the pinyon juniper belt. Found beneath thickets of willow and wild grape near water or in drier habitats	Desert mountains of Inyo and Mono Counties.	NE
Birds							
Accipitridae	Hawks, Kites, Harriers, and Eagles						
Accipiter gentilis	Northern goshawk	None	SSC	FS: Sensitive	Nests within mature or old-growth coniferous forests. Usually nests on north slopes, near water. Typical nest trees include red fir, lodgepole pine, Jeffrey pine, and aspens.	Through U.S. and Canada.	P, F, B
Comments: This species is listed on the compendium for Valentine Camp (Valentine Camp 2009). The riparian corridor of Valentine Camp is within the project area.							

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Aquila chrysaetos	golden eagle	None	SSC, SFP	None	Mountains, deserts, and open country; prefer to forage over grasslands, deserts, savannahs and early successional stages of forest and shrub habitats.	Throughout U.S. and Canada.	NE
Haliaeetus leucocephalus	bald eagle	FD	SE, SFP	FS: Sensitive	Found near water.	Throughout U.S. and Canada	NE
Comments: Bald eagles are known to occur in the Twin Lakes area according to the *Biological Evaluation for the Mammoth Mountain Ski Area Base VII Expansion Project*, dated March 1998. Bald eagles may forage over the project area, and typically perch and nest in coniferous forests.							
Falconidae	Falcons						
Falco peregrinus anatum	American peregrine falcon	FD	SE, SFP	None	Open country, cliffs (mountains to coasts).	Very uncommon breeding resident along coast and Sierra Nevada and uncommon migrant along coat and W. Sierra Nevada. Winters inland in central valley.	NE
Phasianidae	Grouse and Ptarmigan						
Centrocerus urophasianus	greater sage-grouse	None	SSC	FS: Sensitive	Dry sagebrush plains.	Northwestern United States; Sierra Nevada.	P
Cuculidae	Cuckoos and Relatives						
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FC	SE	FS: Sensitive	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in	Western United States.	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
					riparian jungles of willow, often mixed with cottonwoods with lower story of blackberry, nettles, or wild grape.		
Parulidae	Wood Warblers						
Dendroica petechia	yellow warbler	None	SSC	None	Low trees and woodland edges, especially willows in wet areas.	U.S. and Canada.	P
Comments: This species is listed on the compendium for Valentine Camp (Valentine Camp 2009). The riparian corridor of Valentine Camp is within the project area.							
Strigidae	Owls						
Strix nebulosa	great gray owl	None	SE	FS: Sensitive	Nests in mixed conifer or red fir forests in or on the edge of meadows; requires large diameter snags in a forest with high canopy closure which provides a cool sub-canopy microclimate.	Sierra Nevadas, CA; Alaska, Canada, and northern United States.	P, F, B
Comments: This species may forage in meadows within the project area but is not expected to nest within the project area. The CNDDB has a recorded occurrence of the great gray owl in 1975 in Valentine Camp; the riparian corridor of Valentine Camp is within the project area. One owl was observed, and records indicate this was most likely a breeding area.							
Strix occidentalis occidentalis	California spotted owl	None	SSC	FS: SensitiveE	Typically in dense, multi-layered evergreen forest that includes a diversity of tree species including large trees. Most often on lower, north-facing slopes of canyons, usually within 0.3 km of water.	Western United States.	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Tyrannidae	Tyrant Flycatchers						
Empidonax traillii	willow flycatcher	None	SE	FS: Sensitive	Low brushy vegetation in wet areas, especially riparian willow thickets.	Throughout the United States.	P
Mammals							
Soricidae	Shrews						
Sorex lyelli	Mount Lyell shrew	None	SSC	None	High elevation riparian areas in the southern Sierra Nevada. Requires moist soil, lives in grass or under willows; uses logs, stumps, etc. for cover.	In the vicinity of Mount Lyell near Yosemite National Park, Sierra Nevada.	P
Comments: The CNDDB has a recorded occurrence of Mount Lyell shrew in 1914 at Old Mammoth. Two female specimens were collected.							
Vespertilionidae	Mouse-eared Bats						
Antrozous pallidus	pallid bat	None	SSC	FS: Sensitive	Nests in dry, rocky habitats/caves, crevices in rocks, arid habitats including deserts, chaparral, and scrublands.	Common in low elevations throughout California except for the high Sierra Nevada from Shasta to Kern Co. and the northwestern corner of the State of CA.	NE
Corynorhinus (Plecotus) townsendii townsendii	Townsend's western big-eared bat	None	SSC	FS: Sensitive	Found in all but sub-alpine and alpine habitats. Commonly occurs in mesic habitats characterized by coniferous and deciduous forests, but occupies a broad range of habitats.	Throughout CA.	P

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
					Maternity and hibernation colonies typically are in caves and mine tunnels.		
Lasiurus blossevillii	Western red bat	None	None	FS: Sensitive	Prefers riparian habitat; Sonoran and transitional life zones in California. Young are born and perch among tree foliage.	Southern British Columbia in Canada, through much of the western United States, through Mexico and Central America, to Argentina and Chile in South America.	NE
Comments: Although suitable habitat is present within the project area, this species does not occur in the vicinity (Perloff, pers. comm.. 2009).							
Leporidae	Rabbits and Hares						
Lepus townsendii	western white-tailed jackrabbit	None	SSC	None	Sagebrush scrub, subalpine conifer forests and juniper woodlands, alpine dwarf shrub and perennial grassland. Prefers open areas with scattered shrubs and exposed flat-topped hills with open stands of trees and a brushy or herbaceous understory.	Eastern Sierra Nevadas, northeastern California.	NE
Aplodontidae	Mountain Beavers						
Aplodontia rufa californica	Sierra Nevada mountain beaver	None	SSC	None	Mountain streams with dense, deciduous riparian vegetation.	Northwestern California and southern California mountains.	P
Comments: Sierra Nevada mountain beaver was reported in *The Vegetation and Flora of Mammoth Mountain* as observed within the boundary of the							

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Mammoth Mountain Ski Area. *Aplodontia rufa* is listed on the compendium for Valentine Camp (Valentine Camp 2009). The riparian corridor of Valentine Camp is within the project area.							
Mustelidae	Weasels, Martins, and Allies						
Gulo gulo	California wolverine	None	ST	FS: Sensitive	Found mainly in subalpine forest and alpine fellfields within alpine meadows, lodgepole forests, and red fir forests. Dens in caves, rock crevices, under fallen trees or tree roots, and in thickets. Needs water source – can travel long distances.	Sierra Nevadas and northwestern California.	NE
Martes americana	American marten	None	None	FS: Sensitive	Dense coniferous forest and lowland forest. May use rocky alpine areas. May occupy holes in dead or live trees or stumps, abandoned squirrel nests, rock piles, or burrows.	Sierra Nevadas, Klamath Ranges and north Coast Ranges.	P
Comments: American martens inhabit coniferous forests; however, may occasionally be found within the project area. This species is known to occur within the area: an American marten was reported in *The Vegetation and Flora of Mammoth Mountain* as observed within the Mammoth Mountain Ski Area (Kucera 2004)., and the CNDDB has a recorded occurrence of the American marten in 2002 within the vicinity of the Mammoth Mountain Ski Area main lodge. In addition, this species is listed on the compendium for Valentine Camp (Valentine Camp 2009). The riparian corridor of Valentine Camp is within the project area.							
Martes pennanti pacifica	Pacific fisher	FC	SSC	FS: Sensitive	Intermediate to large-tree stages of coniferous forests and deciduous riparian areas with high	Sierra Nevadas, Klamath Ranges and north Coast Ranges	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
					percent canopy closure. Use cavities, snags, logs, and rocky areas for cover and dens sites; need large areas of mature, dense forest.		
Comments: The CNDDB has a recorded occurrence of the Pacific fisher in the 1970s approximately 3.5 miles northwest of the Town of Mammoth Lakes in the vicinity of the Mammoth Lodge; however, survey work in the last 20 years has not detected this species in the area and it is not expected to occur (Perloff, pers. comm.. 2009).							
Taxidea taxus	American badger	None	SSC	None	Drier, open stands of most shrub, forest, and herbaceous habitats, with friable soils; needs sufficient food, friable soils, and open, uncultivated ground; preys on burrowing rodents.	Western two-thirds of the United States; Canada; and Mexico.	NE
Canidae	Foxes, Wolves, & Coyotes						
Vulpes vulpes necator	Sierra Nevada red fox	None	ST	FS: Sensitive	Found in a variety of habitats from wet meadows to forested areas; use dense vegetation and rocky areas for cover and den sites. Prefers forests interspersed with meadows or alpine fell-fields.	From Cascades to Sierra Nevada.	P
Comments: This species has a very low potential to occur within the project area; however, suitable habitat (meadows) are present (Perloff, pers. comm.. 2009).							

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

Table 4 (Continued)

Sensitive Wildlife Species

Vertebrates							
Scientific Name	**Common Name**	**Federal**	**State**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Bovidae	Sheep and Relatives						
Ovis canadensis californiania	Sierra bighorn sheep	FE	SE, SFP	None	Rocky, steep slopes and canyons with adjacent open areas; forages in meadows and brushlands.	High elevations of southern Sierra Nevada to Owens Valley.	NE

Key to Species Listing status Codes

FE	*Federally Listed as Endangered*	SE	*State Listed as Endangered*
FT	*Federally Listed as Threatened*	ST	*State Listed as Threatened*
FPE	*Federally Proposed as Endangered*	SCE	*State Candidate for Endangered*
FPT	*Federally Proposed as Threatened*	SCT	*State Candidate for Threatened*
FPD	*Federally Proposed for Delisting*	SFP	*State Fully Protected*
FC	*Federal Candidate Species*	SSC	*California Special Concern Species*

Source: PCR Services Corporation, 2009

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there is a potential for this species to occur on-site. F = species has the potential to forage within the Project Area. B = species has the potential to breed within the Project Area.

4.2.5.2 Special-Status Wildlife Species with Ranges that include the Project Area But Removed From Consideration Due to Lack of Suitable Habitat or Other Reasons

A shown in Table 4, *Sensitive Wildlife Species*, the following USFS (USFS) sensitive species or species known to occur in the vicinity according to the CNDDB are not expected to occur within the Project Area due to 1) a lack of suitable habitat on-site; and/or 2) (for USFS sensitive species) a limited distribution that does not include the project area:

- Owens Valley springsnail
- Wong's springsnail
- Lahontan cutthroat trout
- Paiute cutthroat trout
- Volcano Creek golden trout
- Owens speckled dace
- Inyo Mountains salamander
- Kern Plateau salamander
- Mountain yellow-legged frog
- Northern leopard frog
- Panamint alligator lizard
- Golden eagle
- American peregrine falcon
- Western yellow-billed cuckoo
- California spotted owl
- Pallid bat
- Western red bat
- Western white-tailed jackrabbit
- California wolverine
- American badger
- Pacific fisher
- Sierra bighorn sheep

4.2.5.3 Special-Status Plant Communities and Plant Species Within the Project Area

The Project Area supports plant communities considered sensitive by the CDFG's CNDDB due to their scarcity and/or because they support state and/or federal listed endangered, threatened, or rare vascular plants and animals. These communities are considered highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes. These communities are described previously and include montane wet meadow, aspen forest and woodland, and willow scrub, and any mixed community comprised in part by one of these plant communities. These communities constitute wetland and riparian natural communities.

Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFG, and species considered sensitive by the CNPS (particularly Lists 1A, 1B, and 2). Several sensitive plant species were reported in the CNDDB from the Project vicinity, and several were determined to be potentially present in the Project Area through the literature review. A discussion of each sensitive plant species observed, as well as those potentially present within the project area, is presented in **Table 5,** *Sensitive Plant Species.*

On July 20 and August 9, 2010, a field survey was conducted by USFS for the areas potentially impacted by trail connection development for the Panorama Dome trailhead and the borrow pit staging area to Mammoth Rock Trail, Mammoth Creek Park East, and Tamarack Street Trailhead (SHARP Project nos. 3, 6, 712b, and 13). No sensitive, threatened, endangered, or proposed-for-listing plant species were located during these surveys. It was determined, however, the potential habitat for sensitive and listed species does exist in Kerry Meadow.

Table 5

Sensitive Plant Species

Non –Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Bryophytes									
Bruchiaceae	Moss Family								
Bruchia bolanderi	Bolander's bruchia	N/A	None	None	2.2	FS: Sensitive	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest on damp soil. Elevations from 1,700 to 2,800 m.	Fresno, Mariposa, Nevada, Plumas, Tehama, Tulare, Tuolumne Cos., CA; NV, OR, UT.	P
Helodium blandowii	Blandow's bog-moss	N/A	None	None	2.3	FS: Sensitive	Meadows and seeps, subalpine coniferous forest on damp soil. Elevations from 1,862 to 2,700 m.	Fresno, Mono, Siskiyou Cos., CA; NV, OR, UT, WA.	P
Meesia triquetra	three-ranked hump-moss	N/A	None	None	4.2	FS: Sensitive	Bogs and fens, meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Elevations from 1,300 to 2,953 m.	Alpine, Butte, El Dorado, Fresno, Humboldt, Lassen, Madera, Mariposa, Nevada, Placer, Plumas, Riverside, Shasta, Sierra, Siskiyou, Tehama, Tulare Cos., CA; NV, OR.	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Non –Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Meesia uliginosa	broad-nerved hump-moss	N/A	None	None	2.2	FS: Sensitive	Bogs and fens, meadows and seeps, subalpine coniferous forest, upper montane coniferous forest on damp soil. Elevations from 1,300 to 2,804 m.	El Dorado, Fresno, Madera, Nevada, Plumas, Riverside, Sierra, Siskiyou, Tehama, Tulare Cos., CA; NV, OR.	NE
Peltigeraceae	Lichen Family								
Hydrotheria venosa	hydrotheria lichen	N/A	None	None	None	FS: Sensitive	Grows on rocks in woodland streams at high elevations.	Mountainous regions of U.S.	NE

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
GYMNOSPERMS									
Ophioglossaceae	Adder's Tongue Family								
Botrychium ascendens	upswept moonwort	Jul.-Aug.	None	None	2.3	FS: Sensitive	Lower montane coniferous forest on mesic soil. Elevations from 1,500 to 1,830 m.	Known in California only from two occurrences: near Jonesville on the Butte and Tehama County border, and south of Fallen Leaf Lake, El Dorado County. Butte, El Dorado, Tehama	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
								Cos., CA; ID, NV, OR, WA, and WY.	
Botrychium crenulatum	Scalloped moonwort	Jun.-Jul.	None	None	2.2	FS: Sensitive	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps. Elevations from 1,500 to 3,280 m.	Butte, Colusa, Los Angeles, Mono, San Bernardino, Tehama, and Tulare Cos., CA; AZ, ID, NV, OR, UT, WA, and WY.	P
Botrychium lineare	slender moonwort	Unknown	FC	None	1B.3	FS: Sensitive	Upper montane coniferous forest. Elevation 2,600 m.	Known in California only from one small occurrence near Piute Pass. Inyo Co.	NE
Botrychium lunaria	common moonwort	Aug.	None	None	2.3	FS: Sensitive	Meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest. Elevations from 2,280 to 3,400 m.	Mono, Modoc, Nevada, Sierra, Tulare, and Tuolumne Cos., CA; AZ, ID, NM, NV, OR, UT, and WA.	P
Botrychium minganense	mingan moonwort	Jul.-Aug.	None	None	2.2	FS: Sensitive	Lower montane coniferous forest on mesic soils. Elevations from 1,500 to 1830 m.	Butte, Fresno, and Tehama Cos., CA; AZ, ID, NV, OR, UT, and WA.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Angiosperms (Dicotyledons)									
Amaranthaceae	Amaranth Family								
Micromonolepis pusilla	dwarf monolepis	May-Aug.	None	None	2.3	None	Great Basin scrub in openings on alkaline soils. Elevations from 1,500 to 2,400 m.	Lassen, Mono, Modoc, and Riverside Cos. CA; CO, ID, NV, OR, UT, and WY.	NE
Asteraceae	Sunflower Family								
Crepis runcinata ssp. *hallii*	Hall's meadow hawksbeard	May-Jul	None	None	2.1	None	Mojavean desert scrub; pinyon and juniper woodland in mesic, alkaline areas. Elevations from 1,250 to 1,978 m.	Inyo, Lassen, and Mono Cos., CA; NV.	NE
Ericameria gilmanii	Gilman's goldenbush	Aug.-Sept.	None	None	1B.3	FS: Sensitive	Subalpine coniferous forest, and upper montane coniferous forest on carbonate or granitic, rocky soil. Elevations from 2,100 to 3,400 m.	Inyo and Kern Cos., CA. Inyo, White, and desert mountains.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Erigeron aequifolius	Hall's fleabane	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Broadleaved upland forest, lower montane coniferous forest, pinyon and juniper woodland, and upper montane coniferous forest on rocky, granitic soil. Elevations from 1,500 to 2,440 m.	Fresno, Kern, and Tulare Cos., CA. Southern high Sierra Nevada floristic province.	NE
Erigeron multiceps	Kern River daisy	Jun.-Sept.	None	None	1B.2	FS: Sensitive	Meadows and seeps, upper coniferous forest. Elevations from 1,500 to 2,500 m.	Fresno and Tulare Cos., CA.	NE
Erigeron uncialis var. *uncialis*	lone fleabane	Jun.-Jul.	None	None	1B.2	FS: Sensitive	Great Basin scrub, subalpine coniferous forest on carbonate soils. Elevations from 2,100 to 2,900 m.	Inyo, San Bernardino, Cos., CA; NV; White, Inyo, and desert mountains.	NE
Hulsea brevifolia	short-leaved hulsea	May-Aug.	None	None	1B.2	FS: Sensitive	Upper montane coniferous forest on granitic or volcanic (pumice) soil of forest openings and road cuts. Elevations from 1,500 to 3,200m.	Fresno, Madera, Mariposa, Tulare, Tuolumne Cos., CA.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Hulsea vestita ssp. *pygmaeae*	Pygmy hulsea	Jun–Oct.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock fields, subalpine coniferous forest on granitic, gravelly soil. Elevations from 2,835 to 3,900 m.	San Bernardino and Tulare Cos., CA.	NE
Machaeranthera canescens var. ziegleri	Ziegler's aster	July-Oct.	None	None	1B.2	None	Lower and upper montane coniferous forest. Elevations from 1,400 to 2,470 m.	Riverside County, CA.	NE
Senecio pattersonensis	Mono ragwort	Jul.-Aug.	None	None	1B.3.	FS: Sensitive	Alpine boulder and rock fields. Elevations from 2,900 to 3,720 m.	Mono and Nevada Cos., CA.	NE
Sphaeromeria potentilloides var. *nitrophila*	alkali tansy-sage	Jun.-Jul.	None	None	2.2	None	Meadows, seeps, and playas; usually on alkaline soil. Elevations from 2100-2400m.	Mono County, CA; ID and NV.	P

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Boraginaceae	Borage Family								
Cryptantha incana	Tulare cryptantha	Jun.-Aug.	None	None	1B.3	FS: Sensitive	Lower montane coniferous forest, gravelly or rocky soils. Elevations from 1,430 to 2,150 m.	Inyo and Tulare Cos., CA.	NE
Cryptantha roosiorum	bristlecone cryptantha	Jun.-Jul.	None	SR	1B.2	FS: Sensitive	Subalpine coniferous forest on rocky carbonate soils. Elevations from 2,440 to 3,230 m.	Inyo County, CA. White and Inyo Mountains.	NE
Brassicaceae	Mustard Family								
Arabis bodiensis	Bodie Hills rock cress	Jun.-Aug.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field, Great Basin scrub, pinyon and juniper woodland. Elevations from 2,195 to 3,530 m.	Fresno, Inyo, Mono, and Tulare Cos., CA; NV. Great Basin floristic province, White and Inyo Mountains.	NE
Arabis cobrensis	masonic rock cress	Jun.-Jul.	None	None	2.3	None	Great Basin scrub and pinyon and juniper woodland. Elevations from 1,375 to 3,105 m.	Mono and Modoc Cos., CA; NV and OR	NE
Arabis pinzlae	Pinzl's rock cress	Jul.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field, subalpine coniferous forest on scree or sandy soils. Elevations 3,000 to 3,350 m.	Mono Co., CA; NV. Great Basin floristic province, White and Inyo Mountains.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Arabis shockleyi	Shockley's rock cress	May-Jun.	None	None	2.2	FS: Sensitive	Pinyon and juniper woodland on carbonate or quartzite, rock or gravelly soils. Elevations from 875 to 2,310 m.	Inyo, Mono, and San Bernardino Cos., CA; NV.	NE
Arabis tiehmii	Tiehm's rock cress	Jul-Aug	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field; elevations from 2,970 to 3,590 m.	Known in CA from approx. 10 occurrences near Tioga Crest. Known from two occurrences in NV.	NE
Caulostramina jaegeri	Jaeger's caulostramina	May-Jul.	None	None	1B.2	FS: Sensitive	Great Basin scrub, pinyon and juniper woodland, subalpine coniferous forest on carbonate, rocky soils. Elevations from 2,135 to 2,800 m.	Inyo County CA.	NE
Draba asterophora var. *asterophora*	Lake Tahoe draba	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field, subalpine coniferous forest. Elevations from 2,500 to 3,505 m.	Alpine, El Dorado, Mono, Tuolumne Cos., CA; NV.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Draba breweri var. *cana*	hoary draba	Jul.	None	None	2.3	None	Alpine boulder and rock field, meadows, subalpine coniferous forest. Elevations from 3,000 to 3,505 m.	In California, known only from two occurrences near Lake Genevieve and Wheeler Peak.	NE
Draba incrassata	Sweetwater Mountains draba	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field; endemic to the rhyolite substrates of the Sweetwater Mountains on loose, steep, talus slopes. Elevations from 2,500 to 3,500 m.	Mono County, CA. Sweetwater Mountains.	NE
Draba lonchocarpa var. *lonchocarpa*	spear-fruited draba	Jun.-Jul.	None	None	2.3	None	Alpine boulder and rock fields on limestone scree. Elevations from 3,000 to 3,295 m.	Inyo and Mono Cos., CA; ID, NV, OR, UT, WA, and WY.	NE
Draba monoensis	White Mountains draba	Aug.	None	None	1B.2	FS: Sensitive	Alpine boulder and rock field, meadows and seeps. Elevations from 3,000 to 3,960 m.	Known only from the White Mountains in Mono Co., CA.	NE
Draba praealta	subalpine draba	Jul.-Aug.	None	None	2.3	None	Meadow and seeps on mesic soils. Elevations from 2,500 to 3,415 m.	Fresno, Inyo, Mono, and Tuolumne Cos., CA; NV, OR, WA, and WY.	P

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Draba sharsmithii	Mt. Whitney draba	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field, subalpine coniferous forest. Elevations from 3,355 to 3,960 m.	Fresno, Inyo, and Tulare Cos., CA. Southern high Sierra Nevada floristic province.	NE
Polyctenium williamsiae	William's combleaf	Mar.-Jul.	None	None	1B.2	FS: Sensitive	Marshes and swamps (alkali), playas, vernal pools. Elevations from 1,350 to 2,700 m.	Lassen and Mono Cos., CA; NV, OR.	NE
Streptanthus gracilis	alpine jewel-flower	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Subalpine coniferous forest, upper montane coniferous forest on granitic, rocky soils. Elevations from 2,800 to 3,500 m.	Fresno, Inyo, and Tulare Cos., CA.	NE
Streptanthus oliganthus	Masonic Mountain jewelflower	Jun.-Jul.	None	None	1B.2	FS: Sensitive	Pinyon and juniper woodland on volcanic or granitic, rocky soils. Elevations from 1,980 to 3,050 m.	Inyo and Mono Cos., CA; NV. White and Inyo Mountains.	NE
Chenopodiaceae	Goosefoot Family								
Atriplex pusilla	smooth saltbush	Jun.-Sep.	None	None	2	None	Great Basin scrub, meadows and seeps in alkali areas. Elevations from 1300 to 2000 m.	Lassen, Mono, and Siskiyou Cos. CA; ID, NV, and OR.	P

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Crassulaceae	Stonecrop Family								
Sedum pinetorum	Pine City sedum	Jul.	None	None	3	None	Habitat not known. Elevation 2,650 m.	Known only from type collection from deserted Pine City above Mammoth.	NE
Fabaceae	Pea Family								
Astragalus cimae var. *sufflatus*	USFSlated milk-vetch	Apr.-Jun.	None	None	1B.3	FS: Sensitive	Great Basin scrub, pinyon and juniper woodland on carbonate, rocky soils. Elevations from 1,500 to 2,075 m.	Inyo Co., CA.	NE
Astragalus johannis-howellii	Long Valley milk-vetch	Jun.-Aug.	None	SR	1B.2	FS: Sensitive	Great Basin scrub on sandy loam soils. Elevation from 2,040 to 2,530 m.	Mono Co., CA; NV. Occurs northeast of Whitmore Hot Springs in the vicinity of Hot Creek gorge.	P
Astragalus lemmonii	Lemmon's milk-vetch	May-Aug.	None	None	1B.2	FS: Sensitive	Great Basin scrub, meadows and seeps, marshes and swamps within lake shores. Elevations from 1,280 to 2,200m.	Lassen, Mono, Modoc, Plumas, and Sierra Cos., CA; NV, OR. Occurs at Hot Creek Fish Hatchery.	P
Comments: The CNDDB has a reported occurrence of *Astraglus lemmonii* just east of the Hot Creek Fish Hatchery. Approximately 61 plants were observed in 2005 by K. Nelson of the USFS. The plants were observed in an alkali meadow with loamy soil. Additional species observed included saltgrass (*Distichlis spicata*), rubber rabbitbrush, Great Basin sagebrush, as well as other species.									

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Astragalus lentiginosus var. *kernensis*	Kern milk-vetch	Jun.-Jul.	None	None	1B.2	FS: Sensitive	Meadows and seeps, subalpine coniferous forest on sandy soil. Elevations from 2,350 m. to 2,750 m.	Inyo and Tulare Cos., CA; NV. Southern high Sierra Nevada Floristic Province.	P
Astragalus monoensis	Mono milk-vetch	Jun.-Aug.	None	SR	1B.2	FS: Sensitive	Great Basin scrub and upper montane coniferous forest on pumice flats with sparse vegetative cover; Elevations from 2,110 to 3,355 m.	Mono County	NE
Astragalus ravenii	Raven's milk-vetch	Jul.-Sept.	None	None	1B.2	FS: Sensitive	Alpine boulder and rock field, upper montane coniferous forest on pumice flats with sparse vegetative cover. Elevations from 2,110 to 3,355 m.	Fresno, Inyo, and Mono Cos., CA. Great Basin floristic province.	NE
Astragalus whitneyi var. *lenophyllus*	woolly-leaved milk-vetch	Jul.-Aug.	None	None	4.3	None	Alpine boulder and rock field, subalpine coniferous forest on rocky soils. Elevations from 2,135 to 3,050 m.	Alpine, Butte, Nevada, Placer, Plumas, and Sierra Cos., CA.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Lupinus duranii	Mono Lake lupine	May-Aug.	None	None	1B.2	FS: Sensitive	Great Basin scrub, subalpine coniferous forest, and upper montane coniferous forest on pumice sand flats and coarse barren soils of volcanic origin. Elevations from 2,000 to 3,000 m.	Mono County, CA.	NE
Lupinus gracilentus	slender lupine	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Subalpine coniferous forest. Elevations from 2,500 to 3,500 m.	Inyo, Mariposa, and Tuolomne Cos., CA.	NE
Lupinus lepidus var. *culbertsonii*	Hockett Meadows lupine	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Meadow and seeps, upper montane coniferous forest on mesic, rocky soil. Elevations from 2,440 to 3,000 m.	Fresno, Mono, and Tulare Cos., CA. Occurs in Convict Lakes Basin.	P
Lupinus padre-crowleyi	Father Crowley's lupine	Jul.-Aug.	None	SR	1B.2	FS: Sensitive	Great Basin scrub, riparian scrub, upper montane coniferous forest on decomposed granite. Elevations from 2,500 to 4,000 m.	Inyo, Mono, and Tulare Cos., CA. Southern high Sierra Nevada floristic province. Inyo and White Mountains.	P

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Trifolium dedeckerae	DeDecker's clover	May-Jul.	None	None	1B.3	FS: Sensitive	Lower montane coniferous forest, pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest on granitic, rocky soils. Elevations from 2,100 to 3,500 m.	Inyo, Kern, Mono, and Tulare Cos. CA.	NE
Hydrophyllaceae	Waterleaf Family								
Phacelia inyoensis	Inyo phacelia	Apr.-Aug.	None	None	1B.2	FS: Sensitive	Meadows and seeps. Elevations from 915 to 3,200 m.	Inyo and Mono Cos. CA.	P
Phacelia monoensis	Mono County phacelia	May-Jul.	None	None	1B.1	FS: Sensitive	Great basin scrub, pinyon and juniper woodland on clay soils, often along roadsides. Elevations from 1,900 to 2,900 m.	Mono Co., CA; NV	NE
Phacelia mustelina	Death Valley round-leaved phacelia	May-Jul.	None	None	1B.3	FS: Sensitive	Mojavean desert scrub, pinyon and juniper woodland on carbonate or volcanic, gravelly or rocky soils. Elevations from 730 to 2,620 m.	Inyo and San Bernardino Cos., CA; NV.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
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Phacelia novenmillensis	Nine-Mile Canyon phacelia	May-Jun.	None	None	1B.2	FS: Sensitive	Broadleaved upland forest, cismontane woodland, pinyon and juniper woodland, upper montane coniferous forest on sandy or gravelly soil. Elevations from 1,645 to 2,640 m.	Inyo, Kern, and Tulare Cos., CA. Southern high Sierra Nevada and Mojave floristic provinces.	NE
Lamiaceae	Mint Family								
Monardella beneolens	sweet-smelling monardella	Jul.-Sept.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field, subalpine coniferous forest, upper montane coniferous forest on granitic soil. Elevations from 2,500 to 3,500 m.	Inyo, Kern, and Tulare Cos. Southern high Sierra Nevada floristic province.	NE
Nyctaginaceae	Four O'Clock Family								
Abronia alpina	Ramshaw Meadows abronia	Jul.-Aug.	FC	None	1B.1	FS: Sensitive	Meadow and seeps on granitic, gravelly margins. Elevations from 2,400 to 2,700 m.	Known from only two extant occurrences at Ramshaw Meadows and Temleton Meadows. Tulare County, CA.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
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Abronia nana ssp. *covillei*	Coville's dwarf abronia	May-Aug.	None	None	4.2	FS: Sensitive	Great Basin scrub, Joshua tree woodland, pinyon and juniper woodland, subalpine coniferous forest, upper montane coniferous forest on sandy, carbonate soils. Elevations from 1,600 to 3,100 m.	Inyo, Mono, and San Bernardino Cos., CA; NV. Desert Mountains.	NE
Onagraceae	Primrose Family								
Epilobium howellii	subalpine fireweed	Jul.-Aug.	None	None	4.3	FS: Sensitive	Meadow and seeps, subalpine coniferous forest on mesic soil, mossy seeps. Elevations from 1,970 to 2,700 m.	Fresno, Mono, and Sierra Cos., CA.	OBS
Comments: The USFS reported an occurrence of approximately 375 plants within and in the vicinity of the project area on July 21, 2009 (Nelson, per. comm.. 2009). The CNDDB has a reported occurrence of *Epilobium howellii* in the vicinity of Twin Lakes.									
Polemoniaceae	Phlox Family								
Polemonium chartaceum	Mason's sky pilot	Jun.-Aug.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field, subalpine coniferous forest on rocky, serpentine, granitic, or volcanic soil. Elevations from 1,800 to 4,200 m.	Mono, Siskiyou, and Trinity Cos., CA; NV; Inyo and White Mountains.	NE

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Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
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Polygonaceae	Buckwheat Family								
Dedeckera eurekensis	July gold	Jun.-Aug.	None	SR	1B.3	FS: Sensitive	Mojavean desert scrub on carbonate soil. Elevations from 1,220 to 2,200 m.	Inyo and Mono Cos., CA. White, Inyo, and desert mountains.	NE
Eriogonum wrightii var. olanchense	Olancha Peak buckwheat	Jul.-Sept.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field, subalpine coniferous forest on gravelly or rocky soils. Elevations from 3,260 to 3,535 m.	Known from only two occurrences on Olancha Peak, Tulare County, CA.	NE
Rosaceae	Rose Family								
Horkelia hispidula	White Mountains horkelia	Jun.-Aug.	None	None	1B.3	FS: Sensitive	Alpine dwarf scrub, Great Basin scrub, subalpine coniferous forest. Elevations from 3,000 to 3,400 m.	Inyo and Mono Cos., CA. Inyo and White Mountains.	NE
Ivesia kingii var. *kingie*	alkali ivesia	May-Aug.	None	None	2.2	None	Great Basin scrub, meadows and seeps, and playas in mesic, alkaline areas. Occurs with Distichlis, Sporobolus, Juncus, etc. Elevations from 1,200 to 2,130 m.	Inyo and Mono Cos., CA; NV and UT	P

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Petrophyton caespitosum	marble rockmat	Aug.-Sept.	None	None	1B.3	FS: Sensitive	Lower montane coniferous forest, upper montane coniferous forest on carbonate or granitic, rocky soils. Elevations from 1,200 to 2,300 m.	Fresno, Inyo, and Tulare Cos., CA.	NE
Potentilla morefieldii	Morefield's cinquefoil	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Alpine boulder and rock field on carbonate soils. Elevations from 3,265 to 4,000 m.	Inyo and Mono Cos., CA.	NE
Salicaceae	Willow Family								
Salix brachycarpa ssp. *brachycarpa*	short-fruited willow	Jun.-Jul.	None	None	2.3	None	Alpine dwarf scrub, meadows and seeps, and subalpine coniferous forest; edges of lakes and in wet meadows on limestone, marble, and metamorphic substrates . Elevations from 3,150 to 3,500 m.	Mono Co. CA; ID, NM, OR, and WA.	NE
Salix nivalis	snow willow	Jul.-Aug.	None	None	2.3	None	Alpine dwarf scrub. Elevations from 3,100 to 3,500 m.	Inyo, Mono, and Tuolumne Cos., CA	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Scrophulariaceae	Figwort Family								
Cordylanthus eremicus ssp. *kernensis*	Kern Plateau bird's-beak	Jul.-Sept.	None	None	1B.3	FS: Sensitive	Great Basin scrub, Joshua tree woodland, pinyon and juniper woodland, upper montane coniferous forest. Elevations from 1,675 to 3,000 m.	Inyo, Kern, and Tulare Cos., CA.	NE
Pedicularis crenulata	scalloped-leaved lousewort	Jun.-Jul.	None	None	2.2	None	Meadows and seeps; near streams in wet meadows.	Mono County, CA; NV and WY.	P
Penstemon newberryi var. *sonomensis*	Sonoma beardtongue	Apr.-Aug.	None	None	1B.3	None	Chaparral on rocky soils. Elevations from 700 to 1,370 m.	Lake, Napa, and Sonoma Counties, CA.	NE
Violaceae	Violet Family								
Viola pinetorum ssp. *grisea*	grey-leaved violet	Apr.-Jul.	None	None	1B.3	FS: Sensitive	Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Elevations from 1,500 to 3,400 m.	Fresno, Kern, San Bernardino, and Tulare Cos. Southern high Sierra Nevada floristic province.	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Angiosperms (Monocotyledons)									
Cyperaceae	Sedge Family								
Carex scirpoidea ssp. *pseudoscirpoidea*	western single-spiked sedge	Jul.-Sep.	None	None	2.2	None	Alpine boulder and rock fields, meadows and seeps, and subalpine coniferous forest on rocky, mesic, often carbonate soil. Elevations from 3,200 to 3,700 m.	Alpine, Inyo, and Mono Cos., CA; ID, NM, NV, OR, UT, WA, and WY.	NE
Carex tiogana	Tioga sedge	Jul.-Aug.	None	None	1B.3	FS: Sensitive	Meadows and seeps in mesic soils, lake margins. Elevations from 3,100 to 3,300 m.	Mono County, CA.	NE
Kobresia bellardii	seep kobresia	Aug.	None	None	2.3	None	Alpine boulder and rock field, meadows, subalpine coniferous forest in mesic soils; can occur on limestone substrate. Elevations from 2,955 to 3,230 m.	Mono Co., CA; OR, and ID.	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Trichophorum pumilum	little bulrush	Aug.	None	None	2.2	None	Bogs and fens; marshes and swamps; riparian scrub/riverbanks on carbontate soils.	Mono County, CA. Known in CA only from 3 occurrences near the Convict Creek and Cottonwood Creek drainages.	P
Juncaginaceae	Arrow-Grass Family								
Triglochin palustris	marsh arrow-grass	Jul.-Aug.	None	None	2.3	None	Meadow and seeps, marshes and swamps, subalpine coniferous forest. Elevations from 2285 to 3700 m.	Inyo, Mono, Tulare, and Tuolumne Cos., CA; ID, NM, NV, UT, and WA.	P
Lilaceae	Lily Family								
Calochortus excavatus	Inyo County star-tulip	Apr.-Jul.	None	None	1B.1	FS: Sensitive	Chenopod scrub, meadows and seeps on alkaline, mesic soils. Elevations from 1,150 to 2,000 m.	Inyo and Mono Cos. CA.	P
Fritillaria pinetorum	Pine fritillary	May-Jul.	None	None	4.3	None	Chaparral, pinyon and juniper woodland, and lower, upper, and subalpine coniferous forest on grantic or metamorphic soils. Elevations from 1,800 to 3,300 m.	Alpine, Fresno, Kern, Los Angeles, Mono, San Bernardino, Tulare, and Venture Cos., CA	NE

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Vascular Plants									
Scientific Name	**Common Name**	**Flowering Period**	**Federal**	**State**	**CNPS List**	**Other**	**Preferred Habitat**	**Distribution**	**Occurrence On-site**
Parnassiaceae	Grass-of-Parnassus Family								
Parnassia parviflora	small-flowered grass-of-Parnassus	Aug.-Sep.	None	None	2.2	None	Meadows and seeps. Elevations from 2000 to 2800 m.	Inyo and Mono Cos., CA; ID, NV, and WY	P
Poaceae	Grass Family								
Elymus scribneri	Scribner's wheat grass	Jul.-Aug.	None	None	2.3	None	Alpine boulder and rock field on rocky slopes. Elevations from 2,900 to 4,200 m.	Mono Co., CA and NV.	NE
Potamogetonaceae	Pondweed Family								
Potamogeton filiformis	slender-leaved pondweed	May-Jul.	None	None	2.2	None	Marshes and swamps. Shallow, clear water of lakes and drainage channels. Elevations from 300 to 2,150 m.	Alameda, Butte, Contra Costa, El Dorado, Lassen, Merced, Mono, Modoc, Mariposa, Placer, Santa Clara, Shasta, Sierra, San Mateo, Solano, and Sonoma Cos. CA, AZ, NV, OR, and WA	P

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Table 5 (Continued)

Sensitive Plant Species

Vascular Plants

Scientific Name	Common Name	Flowering Period	Federal	State	CNPS List	Other	Preferred Habitat	Distribution	Occurrence On-site
Potamogeton robbinsii	Robbins's pondweed	Jul.-Aug.	None	None	2.3	None	Marshes and swamps, deep water lakes. Elevations from 1,520 to 3,500m.	Alpine, Inyo, Mono, Lassen, Madera, Nevada, Sierra, Siskiyou, and Tuolumne Cos., CA; ID, OR, UT, and WA.	P

Key to Species Listing Status Codes:

FE	*Federally Listed as Endangered*	FC	*Federal Candidate Species*	SCT	*State Candidate for Threatened*
FT	*Federally Listed as Threatened*	SE	*State Listed as Endangered*	SFP	*State Fully Protected*
FPE	*Federally Proposed as Endangered*	ST	*State Listed as Threatened*	SR	*State Rare*
FPT	*Federally Proposed as Threatened*	SCE	*State Candidate for Endangered*	SSC	*California Special Concern Species*
FPD	*Federally Proposed for Delisting*	FS: Sensitive	*Inyo National Forest Sensitive Species*		

California Native Plant Society (CNPS):

List 1A: *Presumed extinct in California.*
List 1B: *Rare, threatened, or endangered throughout their range.*
List 2: *Rare, threatened, or endangered in California, but more common in other states.*
List 3: *Plant species for which additional USFS information is needed before rarity can be determined.*
List 4: *Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat.*

CNPS Threat Codes:

1: *Seriously endangered in California* (over 80% of occurrences threatened/high degree and 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)

Source: PCR Services Corporation, 2009

OBS = observed; NE = species not expected to occur on-site due to the lack of suitable habitat or the Project Area's location outside of the species' range; P = there remains at least a low potential for this species to occur on-site due to: (1) the inherent difficulty in observing 100 percent of the property at close range, (2) the population fluctuation of the species from year to year, (3) the small stature of the species, (4) some areas of the project area were restricted during the site visit, and/or (5) a focused survey should be conducted during the species blooming period.

Plant species listed as sensitive by the USFS may occur within the general bioregional location of the Project Area; however, several of these species are not expected to be present due to a lack of suitable habitat and/or restricted elevation range or distribution. All USFS (USFS) plant species are also included in **Table 5,** *Sensitive Plant Species*.

4.2.5.4 Special-Status Species with Ranges that Include in the Project Area But Removed From Consideration Due to Lack of Suitable Habitat or Other Reasons

The following USFS (USFS) sensitive species or species known to occur in the vicinity according to the CNDDB are not expected to occur within the project area due to 1) a lack of suitable habitat on-site; 2) (for USFS sensitive species) a limited distribution that does not include the Project Area:

- Three-ranked hump-moss
- Broad-nerved hump-moss
- Hydrotheria lichen
- Upswept moonwort
- Slender moonwort
- Mingan moonwort
- Dwarf monolepis
- Hall's meadow hawksbeard
- Gilman's goldenbush
- Hall's fleabane
- Kern River daisy
- Lone fleabane
- Short-leaved hulsea
- Pygmy hulsea
- Ziegler's aster
- Mono ragwort
- Tulare cryptantha
- Bristlecone cryptantha
- Bodie Hills rock cress
- Masonic rock cress
- Pinzl's rock cress
- Shockley's rock cress
- Tiehm's rock cress
- Jaeger's caulostramina
- Lake Tahoe draba
- Hoary draba
- Sweetwater Mountains draba
- Spear-fruited draba
- White Mountains draba
- Mt. Whitney draba
- William's combleaf
- Alpine jewel-flower
- Masonic Mountain jewel-flower
- Pine City sedum
- USFSlated milk-vetch
- Mono milk-vetch
- Raven's milk-vetch
- Woolly-leaved milk-vetch
- Mono Lake lupine
- Slender lupine
- DeDecker's clover
- Mono County phacelia
- Death Valley round-leaved phacelia
- Nine-Mile Canyon phacelia
- Sweet-smelling monardella
- Ramshaw meadows abronia
- Coville's dwarf abronia
- Mason's sky pilot
- July gold
- Olancha peak buckwheat
- White Mountains horkelia
- Marble rockmat
- Morefield's cinquefoil
- Short-fruited willow
- Snow willow
- Kern Plateau bird's-beak
- Sonoma beardtongue
- Grey-leaved violet
- Western single-spiked sedge
- Tioga sedge
- Seep kobresia
- Pine fritillary
- Scribner's wheat grass

4.2.5.5 Critical Habitat

The Project Area is not within designated critical habitat for any listed plant or wildlife species.

5. ENVIRONMENTAL IMPACTS

5.1. Thresholds of Significance

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist questions relating to biological resources have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

Threshold 1: 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.

Threshold 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

Threshold 3: 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, filing, hydrological interruption, or other means.

Threshold 4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Threshold 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Threshold 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.2 Methodology/Approach

Project-related impacts to biological resources take two forms: direct and indirect. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e., vegetation or plant communities), which in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of no or low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and, hence, population stability.

Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or eventual habitation/operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites. Such impacts include increased pollutant discharges to receiving water bodies such as wetlands or marine environments, harassment by humans and/or their pets, light and glare, or increased ambient noise levels.

The determination of impacts in this analysis is based on both the features of the Project and the biological values of the habitat and/or sensitivity of plant and wildlife species potentially affected. The Goals and Objectives of the TSMP and PRMP that avoid, preserve, or restore biological resources are taken into consideration and specifically described below prior to the assessment of potential adverse impacts.

Those direct and indirect impacts determined to be less than significant include impacts to biological resources that are relatively common or exist in a degraded or disturbed state, rendering them less valuable as habitat, or impacts that do not meet or exceed the significance thresholds defined previously. Those impacts determined to be significant are those that do meet the thresholds of significance defined above. Conclusions are based on both the features of the proposed project and the biological values of the habitat and/or sensitivity of plant and wildlife species to be affected. Specific considerations included the overall size of habitats to be affected, the Project Area's previous land uses and disturbance history, the Project Areas surrounding environment and regional context, the Project Area's biological diversity and abundance, the presence of sensitive and special-status plant and wildlife species, the Project Area's importance to regional populations of these species, and the degree to which habitats within the Project Area are limited or restricted in distribution on a regional basis and, therefore, are considered sensitive in themselves.

As noted earlier in addition to new trails alignments, the TSMP considers street crossing improvements and newon-street bikeways. Since these improvements will generally be located within existing roadways and disturbed areas, it is concluded that they will not affect biological resources; therefore, they are not analyzed in this assessment. As also noted earlier, the impact analysis for this assessment is programmatic for all Project features except the Priority Projects, which are analyzed in as much detail as possible. In order to accommodate this varying degree of specificity and the multi-faceted nature of the Project, the following impact analysis is organized into four primary sections. The first, 5.3.1 Potential Direct and Indirect Impacts, discusses potential impacts, by topical area, that could be associated with any one or more of the Project components, whether it be a new trail, park improvement, or other recreation facility. As such, the discussions under this heading are generic in nature and should be viewed in a programmatic context.

More specific impact determinations are then discussed in 5.3.2 Parks and Recreation Plan Impact Determination, 5.3.3 Trail System Master Plan, and 5.3.4 Sharp Projects Impact Determination. In each case, specific Project components are assessed with regard to the impact types discussed under 5.3.1 Potential Direct and Indirect Impacts. Although this analysis does address individual project components in greater detail, many of the alignments proposed are conceptual in nature, and are expected to undergo additional refinement as they are implemented.

5.3 Impact Analysis

5.3.1 Potential Direct and Indirect Impacts

The following are program-level analyses of Project-related direct impacts to biological resources in the Project Area. Priority Projects with the potential to directly impact habitats of sensitive plant and wildlife species are identified in the discussions of Priority Projects presented further below.

5.3.1.1 Sensitive Plant and Wildlife Species

Project-related construction activities will involve the creation of new trails in some cases, improvements to existing trails in other cases, and other related improvement such as installation of bridge stream crossings, tunneling under Minaret Road; the project also includes implementation of various park facilities or improvements. In many cases, these activities may require the removal of vegetation and wildlife habitat. Whereas native vegetation and habitat will be lost, it will more often than not be limited in extent and/or will result in the loss of already disturbed or common plant species and habitat types that are relatively abundant in the Mammoth Lakes area. Consequently, impacts associated with most Project elements will be less than significant with regard to the habitat loss for sensitive wildlife. It should be noted, however, that impacts to certain sensitive wildlife species and nesting birds are potentially significant as discussed below.

In total, eight federal/state listed species are known to occur in the Mammoth Lakes region. The USFWS has not designated critical habitat for any of these species within the Project Area. Seven of these species are considered to be absent from the project site due to the lack of suitable habitat or the proposed project site being located outside the known range of the species. One State-listed endangered species, the willow flycatcher (*Empidonax traillii*) has a low to moderate potential to nest in riparian habitat associated with Mammoth Creek and its tributaries. According to the 2007 General Plan, potential habitat for the willow flycatcher occurs along Mammoth Creek directly upstream of U.S. Highway 395 and upstream from the creek's intersection with Minaret Road. Areas adjacent to Mammoth Creek, such as the East and West Mammoth Creek Park sites included in the PRMP, and areas where trails improvements are proposed in the vicinity of Mammoth Creek, are the only sites that have the potential to support this species.

No other federal/state listed species are expected to occur in the Project Area.

Eighteen other plant and wildlife species identified as being potentially present in the region are not state/federal listed species but are considered special status. Eleven of these are considered to be absent from the Project Area due to lack of suitable habitat or the proposed project site being located outside the known range of the species. Seven special interest species have a low or moderate probability of occurrence in the Project Area. Project related impacts to non-listed wildlife would be considered potentially significant and would warrant mitigation.

In a limited number of cases Project elements are proposed within habitats that could support sensitive plants. In such cases, the loss of habitat and individuals of sensitive plant species would be considered potentially significant and would warrant mitigation.

5.3.1.2 Sensitive Habitats

In addition to the potential loss of habitats that support sensitive plant and wildlife species, CDFG maintains a list of high priority inventory natural communities. In general, these communities that are either restricted in their distribution in the state, have undergone substantial depletion over time, and/or serve as critical components of biological systems. Within the Project Area, these include aspen forest and woodland, mixed willow riparian, and montane wet meadow.

As with the loss of habitats potentially supporting sensitive plant and wildlife species, the loss of high priority inventory communities would also be potentially significant and would warrant mitigation. Losses could occur as the result of construction and maintenance activities as well as the direct effects of trampling of sensitive vegetation and invasion by exotic plant species.

It should be noted that any future activities within the Project Area that could affect the wet meadows or stream beds, banks, or associated riparian vegetation (e.g., stream crossing repair/maintenance/ improvement, bank stabilization, riparian habitat restoration) may be regulated by Section 1602 of the California State Fish and Game Code. Under the jurisdiction of the CDFG such impacts would be considered potentially significant and may require a Streambed Alteration Agreement (SAA) from the CDFG, as described in Mitigation Measure 6.1.5 below.

5.3.1.3 Federally Protected Wetlands

Project-related activities, including construction and maintenance of park and trail facilities, within the Project Area that could affect wetlands through dredging and filling (e.g., stream crossing repair/maintenance/improvement, bank stabilization, riparian habitat restoration) may be regulated by Section 404 of the Clean Water Act. Under the jurisdiction of the ACOE such impacts would be considered potentially significant and may require a CWA Section 404 Permit from the ACOE, and a certification from the RWQCB.

5.3.1.4 Wildlife Movement

Due to historic recreational use of the Project Area, including past and on-going motorized and non-motorized use of existing trails and USFS roads, potentially significant impacts to wildlife movement is not expected to result from any of the Project elements. Currently, fairly intensive recreational activities, including hiking, biking and riding are taking place in all portions of the Project Area. In particular, the SHARP area has a number of existing trails throughout including the Panorama Dome area, the area along Lake Mary Road, the Sherwin area, and area surrounding the Snowcreek development. Thus, any wildlife movement that is occurring today through these areas does so in the presence of humans and their recreational activities, and is expected to continue uninterrupted. Intensification of overall human use of recreation lands and of the trails system will occur as future projects in the Town as a whole and in this area (such as the Snowcreek VIII project), are built out. However, these changes are not caused directly by the Project, and would occur with or without the implementation of the Project. Moreover, the implementation of the plan will predominantly involve trails which are not considered to be an agent for habitat fragmentation and habitat isolation.

5.3.1.5 Local Policies or Ordinances

It is expected that with implementation of the Project by the Town, or with USFS's approval authority for facilities on its lands, will be consistent with local policy and ordinances as well as USFS land use and conservation plans. As is discussed below, adoption and implementation of the Project should incorporate certain mitigation and conservation measures. These primarily speak to the Town's 2007 General Plan Resource Management and Conservation Element which includes policies specifically directed at: sound stewardship of important wildlife and biological habitats, as well as special status plant and animal species; mitigation for potential impacts to sensitive habitats, including special status plant and animal species and mature trees; construction of active and passive recreation away from habitat areas; support of fishery management activities; and living safely with wildlife.

Nonetheless, conflicts between humans and their pets and wildlife such as bears, mountain lions and coyotes are likely to currently occur within and adjacent to the Project Area. Given the natural setting of much of the Project Area, particularly the SHARP area, it is inevitable that potential conflicts with wildlife will occur so long as humans (and their pets) continue to visit and use the Project Area and its trail and park systems. Such conflicts potentially include, but are not limited to harassment of wildlife by off-leash dogs, or by humans approaching wildlife, the feeding of wildlife, the discharge of weapons at or in proximity to wildlife, noise associated with snowmobiles and Off-Highway Vehicles, and human disturbance of breeding and foraging activities, all of which are detrimental normal wildlife behavior. Conversely, in some cases, human/wildlife conflicts have resulted in injury, often severe, to humans.

In addition, the adoption and implementation of the Project will need to be cognizant of the Inyo National Forest Land and Resource Management Plan and the management goals and standards and guidelines it contains. Specifically, these goals, standards and guidelines stress the conservation of riparian areas, sensitive plants, wildlife, and special status wildlife species. By incorporating the mitigation and conservation measures provided in this assessment the Project will be consistent with local policies and ordinances and no potentially significant impacts would be expected to result.

5.3.1.6 Conservation Plans

At this time there are no adopted or on-going region-wide habitat conservation plans in the area that would be affected by implementation of the Project. Thus, no impact would occur in this regard.

5.3.1.7 Nesting Birds

It is a violation of the federal Migratory Bird Treaty Act to disturb actively nesting birds either directly (e.g., brush and tree removal) or indirectly (eg., excessive construction noise). Should this occur during new facility and trail construction,, trail reclamation, exotic plant removal, fuel modification, maintenance or other management activities to be conducted as part of the Project, such a violation would represent a potentially significant impact and mitigation is warranted. It should be noted that this potential impact may be associated with all elements and areas of the Project, including elements within the developed Town area.

5.3.2 Parks and Recreation Master Plan

5.3.2.1 Community Center Park

Community Center Park is an approximately 5.18 acre site located at the northeast corner of Minaret Road and Forest Trail. A site visit and literature review were used to assess the potential future effects that may be significant to biological resources.

Most of the Community Center and Park site is currently developed as a community center and child care complex. Four tennis courts exist at the east side of the site. The undeveloped portions of the Community Center Park site consist of a dense conifer forest canopy with a sparse herbaceous understory.

An ephemeral drainage occurs on the north side of the existing buildings and flows into a storm drain in the paved parking lot. This feature is not likely to fall under ACOE, RWQCB, and CDFG jurisdiction due to: lack of connectivity to a relatively permanent water; intermittent surface flows during storm events only; and lack of riparian vegetation.

No special interest species are expected to occur in the Community Center Park area owing to the historic and on-going human activities and disturbances at the site and lack of suitable habitat for such species. Nonetheless, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant impacts to nesting birds. Less than significant with implementation of Mitigation Measure 6.1.10.

5.3.2.2 Shady Rest Park

Shady Rest Park is an approximately 12.52 acre site located off of Sawmill Cutoff and Sawmill Road, north of Main Street. It is located on USFS Property and is used as a Town park under a USFS Special Use Permit. The majority of the site is developed as a park with ball fields, a playground, a skate park and associated infrastructure including paved parking areas. A site visit and literature review were used to assess the potential future effects that may be significant to biological resources.

Undeveloped areas immediately adjacent to the park support basin sagebrush. Beyond the basin sagebrush areas, vegetation is dominated by a conifer community with a sparse Great Basin sagebrush understory.

No potentially jurisdictional waters or streambeds regulated by ACOE, CDFG, or RWQCB were observed at the Shady Rest Park site during the field surveys.

No special interest species are expected to occur within the permit boundaries of the Shady Rest Park site owing to the historic and on-going human activities and disturbances at the site and lack of suitable habitat for such species. Nonetheless, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant impacts to nesting birds. Less than significant with implementation of Mitigation Measure 6.1.10.

5.3.2.3 Mammoth Creek Park West

Mammoth Creek Park West is an existing 11.44-acre park located on town-owned and U.S. Forest Service property (4.97 acres town-owned, 6.47 acres USFS Special Use Permit). Existing park facilities include a paved parking lot, a grass lawn, paved MUP, playground, picnic tables and restrooms. Several small trails have been formed by park users and fishermen in order to access Mammoth Creek from the existing multi-use path. A site visit and literature review, were used to assess the potential future effects that may be significant to biological resources.

The site is dominated by alder-willow riparian scrub associated with Mammoth Creek and its banks. Alders, quaking aspen and several species of willows form the overstory while the understory consists of herbaceous riparian species. Vegetation beyond the banks consists of basin sagebrush scrub.

Mammoth Creek flows through the southern portions of Mammoth Creek Park West. It is approximately 15 to 20 feet wide at this location and contains water year-round. The Creek and riparian or wetland areas associated with it are likely to fall under ACOE, RWQCB, and CDFG jurisdiction due to the presence of moist soils and obligate hydrophytic plant species on the banks of the Creek that indicate the banks likely contain wetlands under the jurisdiction of the ACOE. Riparian habitat associated with Mammoth Creek is likely under the jurisdiction of the CDFG.

Riparian vegetation associated with Mammoth Creek is of high value to wildlife and may provide suitable habitat for special interest species including the willow flycatcher, Sierra Nevada mountain beaver, and others. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; potentially significant direct impacts to federally protected wetlands; and potentially significant direct and indirect impacts to willow flycatcher, Sierra Nevada mountain beaver, and other sensitive riparian wildlife species; potentially significant impacts to nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.5, 6.1.6, and 6.1.10.

5.3.2.4 Mammoth Creek Park East

Mammoth Creek Park East is an existing 9.01-acre park associated with the Mammoth Creek corridor. Existing facilities include a paved multi-use path (MUP), picnic benches and a gravel parking lot.

The site is dominated by alder-willow riparian scrub associated with Mammoth Creek and its banks. Vegetation beyond the banks consists of basin sagebrush scrub. Several trails have been formed by park users in order to access the Creek.

Mammoth Creek bisects the middle of the park. Mammoth Creek is considered a permanent water and is likely to fall under ACOE, RWQCB, and CDFG jurisdiction due to the presence of moist soils and obligate hydrophytic plant species on the banks of the Creek indicate that the banks likely contain wetlands that would also fall under ACOE jurisdiction. All riparian vegetation associated with Mammoth Creek would be under CDFG jurisdiction.

Riparian vegetation associated with Mammoth Creek is of high value to wildlife and may provide suitable habitat for special interest species including the willow flycatcher, Sierra Nevada mountain beaver, and others. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; potentially significant direct impacts to federally protected wetlands; and potentially significant direct and indirect impacts to willow flycatcher, Sierra Nevada mountain beaver, and other sensitive riparian wildlife species; potentially significant impacts to nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.5, 6.1.6 and 6.1.10.

5.3.2.5 Whitmore Park & Whitmore Pool

Whitmore Park and Whitmore Pool is an approximately 32.64-acre park located outside of Town limits on the north side of Benton Crossing Road, just east of Highway 395. The majority of the Whitmore site consists of existing baseball fields and associated infrastructure with some undeveloped portions of the site to the east, north and west of the ball fields. The Whitmore Park Track and Sport Complex project is proposed for the Whitmore Park site. This project would add a multipurpose sports field and running track, a building for lockers/concessions/equipment storage, and an asphalt parking and loop driveway. A separate CEQA review is underway for the proposed track project (Initial Study and Mitigated Negative Declaration: Whitmore Park Track and Sports Field Project); however, for the purpose of continuity between that documentation and this assessment, impacts and mitigation for this Project component are summarized below..

The majority of the project site consists of turf-covered ball fields and associated infrastructure including dirt driveways and parking areas and. Native vegetation has been left in place adjacent to all facilities as well as in the southwest and northeast corners of the park. This vegetation consists of Great Basin sagebrush community species including great basin sagebrush, antelope bitterbrush, and mountain snowberry.

No potential jurisdictional waters or streambeds regulated by ACOE, CDFG, or RWQCB were observed at the Whitmore Park site during the field surveys.

Four special-interest plant species, Long-Valley milkvetch (CNPS list 1B.2), Inyo phacelia (CNPS list 1B.2), alkali ivesia (CNPS list 2.2), and smooth saltbush (CNPS list 1) may occur on site as marginally suitable habitat is present. These species have the potential, albeit low, to occur on site due to the presence of degraded Great Basin sagebrush habitat. With regard to special status wildlife, the greater sage grouse is reported to use this Project component area and adjoining habitat areas “heavily” according to a comment letter, dated November 24, 2010, submitted by CDFG to the Town on the Initial Study and Mitigated Negative Declaration for the Whitmore Park Track and Sports Field Project. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq

Direct and indirect impacts determination: Potentially significant direct impacts to Long-Valley milkvetch, Inyo phacelia, alkali ivesia, and smooth saltbush; potentially significant impacts to greater sage grouse; potentially significant impacts to nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.2,6.1.4, and 6.1.10.

5.3.2.6 Trail's End Park

Trail's End Park is an existing 4.11-acre park located at the northeast corner of Wagon Wheel Road and Meridian Boulevard. A site visit and literature review were used to assess the potential future effects that may be significant to biological resources.

The eastern portion of Trails End Park is currently developed as a skate park. The rest of the site is undeveloped with the exception of a paved 10 foot wide MUP which meanders along Meridian Boulevard throughout the site west of the skate park. This MUP is surrounded by native vegetation on both sides.

Vegetation communities within the Trail's End site include developed/disturbed, montane chaparral, Great Basin sagebrush and mixed conifer forest. The disturbed/developed community includes the skate park in the eastern portion of the site and the multi-use path. Approximately one acre of habitat immediately west of the skate park contains mixed conifer forest which is moderately disturbed, likely due to foot traffic from the skate park. Montane chaparral and Great Basin sagebrush habitat surround the multi-use path.

No drainages likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area. There is a detention basin just west of the bathroom facility that likely holds overflow from a residential neighborhood north of the site. This basin is not likely jurisdictional as it does not appear to have a significant nexus to any jurisdictional waters.

No special interest plant or wildlife species are expected to occur at the Trail's End Park site due to the historic and on-going human activities and disturbances and lack of suitable habitat for such species. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant impacts to nesting birds. Less than significant with implementation of Mitigation Measure 6.1.10.

5.3.2.7 South Gateway Area

The South Gateway area is located south of Meridian Boulevard, approximately 0.65 miles east of Old Mammoth Road. A site visit and literature review, including the Environmental Impact Report for Gateway Area Specific Plan (1986), were used to assess the potential future effects that may be significant to biological resources.

Portions of the South Gateway area are currently developed. The area contains a high school, community college, public library, school district buildings, an outdoor skating rink and associated infrastructure including roads and parking lots.

Vegetation within the South Gateway site that is not developed or disturbed is dominated by Great Basin sagebrush scrub with large patches of montane chaparral and smaller areas of mixed conifer forest with a Great Basin sagebrush understory.

No drainage features likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area.

No special interest plant or wildlife species are expected to occur at the South Gateway site due to the historic and on-going human activities and disturbances on the site and lack of suitable habitat for such species. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant impacts to nesting birds. Less than significant with implementation of Mitigation Measure 6.1.10.

5.3.2.8 Town-Owned Open Space : Bell-Shaped Parcel

The Bell-Shaped Parcel is an approximately 16.4-acre undeveloped parcel located at the southwest corner of Minaret Road and Meridian Boulevard. It is bordered by Meridian Boulevard on the west and north, Minaret Road on the east, and by residential development to the south. The site is undeveloped and relatively undisturbed. Some narrow footpaths have been established, but the disturbance to biological resources caused by these is minimal. Future development plans for this parcel are unknown at this time.

The Bell-Shaped Parcel is dominated by Great Basin sagebrush and montane wet meadow habitat. The edges of the parcel contain stands of mixed conifer with a Great Basin sagebrush understory.

There is a drainage feature near the northern boundary of the Bell-Shaped Parcel that crosses the site from east to west. The drainage has an earthen bottom and had a small amount of vegetation within the banks at the time of the site visit in 2009. A parcel map prepared in 2000 identifies this drainage and adjacent vegetation as wetland. A second wetland area occurs at the southern end of the parcel. These features are likely to be jurisdictional and regulated by ACOE, RWQCB, and CDFG.

The Bell-Shaped area does not provide habitat for any special status plant or wildlife species known to occur in the vicinity. However, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat and federally protected wetlands; potentially significant impacts to nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.5, 6.164, and 6.1.10.

5.3.2.9 Town-Owned Open Space : Mammoth Creek

The Town-Owned Open Space at Mammoth Creek and Waterford Avenue is approximately 27.5 acres. A site visit and literature review were used to assess the potential future effects that may be significant to biological resources.

This site is dominated by alder-willow riparian habitat associated with Mammoth Creek.

Mammoth Creek bisects the Town-owned Open Space – Mammoth Creek site. It is approximately 10-15 feet wide at this location and contains water year-round. The Creek and riparian or wetland areas associated with it are likely to fall under ACOE, RWQCB, and CDFG jurisdiction due to the presence of moist soils and obligate hydrophytic plant species on the banks of the Creek indicate that the banks contain wetlands under the jurisdiction of the ACOE. Riparian habitat associated with Mammoth Creek is likely under the jurisdiction of the CDFG

Riparian vegetation associated with Mammoth Creek is of high value to wildlife and may provide suitable habitat for special interest species including the willow flycatcher and Sierra Nevada mountain beaver. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; potentially significant direct impacts to federally protected wetlands; and potentially significant direct and indirect impacts to willow flycatcher, Sierra Nevada mountain beaver, and other sensitive riparian wildlife species; potentially significant impacts to nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.5. 6.1.6, and 6.1.10

5.3.3 Trail System Master Plan

The TSMP Trails analyzed in this report include Recommended MUPs (also referred to as Long-Term MUPs), Recommended Potential Trails and Potential Boardwalk, as identified on Figure 2 (also shown on Map 4-7 of the DTSMP). In the following analysis, LSA/PCR assumes that ground disturbance for these trails will be minimal and will be contained to the proposed width of the trail or path and shoulders.

5.3.3.1 Recommended Multi-Use Paths

The majority of Recommended MUPs are within "in town" areas; nonetheless, these components of the Project may impact biological resources as the result of ground disturbance on vacant land and other construction activities. Design guidelines for MUPs specify that they will be between 10 feet and 12 feet wide.

The proposed MUPs will traverse several natural communities (even within the in town areas) and can potentially be located in any of the vegetation communities previously identified, including mixed conifer forest, montane chaparral, Great Basin sagebrush, montane wet meadow, and alder-willow riparian. The proposed alignment for the Shady Rest Park Path Extension, Forest Trail to Shady Rest Connector and Knolls Path are located in an area that predominantly supports mixed conifer forest with a sparse Great Basin sagebrush understory. The proposed alignment for the Mammoth Creek Path is located in an area that predominantly supports Great Basin sagebrush and montane chaparral.

Trails included in the TSMP may cross potentially jurisdictional areas not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

The recommended MUPs may also be proposed in areas that provide habitat for plant and/or wildlife species of concern that could be directly or indirectly impacted by trail construction and maintenance activities and human use. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

As a result of these potential impacts at a programmatic level, the following impact determination. The reader should note that MUPs 2-1 and 3-1 are priority projects and are analyzed at a project level under that heading below.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; federally protected wetlands; potentially significant direct and indirect impacts to plant and wildlife species of concern; and nesting birds; and could result in potentially significant human/wildlife conflicts. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10 and 6.1.11.

5.3.3.2 Recommended Potential Trails

The Recommended Potential Trails are proposed soft-surface trails located north of the UGB and Town Limits. These are located mostly on USFS land. Soft surface trails would be designed for the use of hikers, mountain bikers, and/or equestrians and winter users such as cross-country skiers and snowmobilers. Trails would vary in width depending on the intended use.

The Recommended Potential Trails are located mostly in a dense mixed conifer forest with little to no understory.

These trails included in the TSMP may cross potentially jurisdictional areas not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

Two special interest species, the American pine marten and great gray owl, have a moderate potential to occur in the Recommended Potential Trails vicinity due to the presence of a well-developed mixed conifer forest. In addition, several sensitive plants and other wildlife species may be affected by the Recommended Potential Trails. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; federally protected wetlands; potentially significant direct and indirect impacts to plant and wildlife species of concern; and nesting birds; and could result in potentially significant human/wildlife conflicts. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, and 6.1.11.

5.3.3.3 Potential Boardwalk

The Boardwalk consists of a potential six-foot wide low-impact boardwalk located within the Town's drainage/access easement in the Snowcreek Meadow Preserve. This Preserve is approximately 15 acres and is located adjacent to Mammoth Creek north of Old Mammoth Road and west of Minaret Road.

The Boardwalk would traverse a montane wet meadow as well as willow-alder riparian vegetation, both of which are considered to be sensitive natural communities.

The Boardwalk would potentially be located in a wet meadow area adjacent to Mammoth Creek. The site likely contains potentially jurisdictional areas including jurisdictional waters, wetlands and riparian habitat that are regulated by ACOE, RWQCB, and/or CDFG.

The Snowcreek VIII, Snowcreek Master Plan Update Draft EIR identified seven special-status plant species and six special status wildlife species with a moderate or high potential to occur in the Boardwalk vicinity. These species include:

- Scalloped moonwort (*Botrychium crenulatum*) – CNPS List 2
- common moonwort (*Botrychium lunaria*) – CNPS List 2
- Blandow's bog-moss (*Helodium blandowii*) –CNPS 2
- Subalpine fireweed (*Epilobium howelii*) – CNPS 1B
- Hockett Meadows lupine (*Lupinus Lepidus* var. *culbertsonii*) – CNPS 1B
- Scalloped-leaved lousewort (*Pedicularis crenulata*) – CNPS 2
- Robbins's pondweed (*Potamogeton robbinsii*) – CNPS 2
- Yosemite toad (*Bufo canoris*) – CSC, FSS
- Willow flycatcher (*Empidonax traillii*) – (State Endangered)
- Western white-tailed jackrabbit (*Lepidus townsendii townsendii*), CSC
- American badger (*Taxidea taxus*) – CSC;
- Mount Lyell shrew (*Sorex lyelli*) – CSC; and,
- Sierra Nevada mountain beaver (*Aplodontia rufa californica*) – CSC

In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; potentially significant direct impacts to federally protected wetlands; potentially significant impacts to nesting birds; and potentially significant direct and indirect impacts to plant and wildlife species of concern; potentially significant impacts to nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, and 6.1.11.

5.4 SHARP Projects

The SHARP addresses an area within the southern part of the Town limits, generally bounded to the north by the UGB, by the Town Municipal boundary to the east, and Lake Mary Road to the west, otherwise known as the Sherwin area. While virtually all of the area included in the SHARP area is within the Town's Municipal Boundary, it entirely comprises undeveloped National Forest lands administered by the USFS, including businesses operating under special-use permit. Generally, land to the east, south and west of the Sherwin area is undeveloped federal public land also administered by the USFS. To the north is a mix of open space, rural residential uses, and resort uses, including the existing Snowcreek V subdivision and proposed Snowcreek VIII resort area.

The Sherwin Area is a diverse landscape that contains such features as Mammoth Rock, the Sherwin Range, Hidden Lake, Panorama Dome, Solitude Canyon, and Mammoth Meadows as well as forests, wetlands, bodies of water, and wildlife. Topography varies from flat meadowlands to glacial moraines to the chutes and cirque of the Sherwin Range. The landscape includes areas of evergreens, sage, aspens, and other native plants rooted primarily in till and talus. While recreation use in the Sherwin has traditionally been high, no formal trailheads or facilities exist at this time and the area receives no maintenance. The area has a mix of trails, some of which are part of the Inyo National Forest trail system, others that have been user created, and some that are remnants of historical use. Facilities in this area include USFS recognized trails (such as

the Mammoth Rock Trail), USFS and TOML roads (such as 4S100 and Sherwin Creek Road), a portion of the legacy Blue Diamond Trail System, and unofficial social trails.

The SHARP recommends winter and summer projects regarding trails, public access, and recreation facilities for implementation in the Sherwin area. The SHARP identifies 31 summer and 19 winter projects. A number of these projects are analyzed as Priority Projects in Section 5.4.1., below, with the remainder addressed in this section. All of the trails identified within SHARP are located on National forest lands; some or all of the existing and proposed trails and facilities may remain or become official USFS system trails, others may be constructed, operated and maintained by the Town under Special Use Permit from Inyo National Forest, or under collaborative programs developed between the two agencies. Examples of existing trails include, but are not limited to, Mammoth Rock Trail, Panorama Dome Trail, and the Sherwin Lakes Trail. All trails and facilities proposed in this plan are subject to review under the National Environmental Policy Act and would require approval by the US Forest Service to move forward. At this time, only a select number of the proposals have been accepted by the US Forest Service for further environmental review and consideration. Additional proposals included in the SHARP document may or may not be considered by the US Forest Service as future projects.

In general, SHARP projects are located outside the UGB within undisturbed habitats, but because specific alignments have not been established for many of the trails, a project level analysis of their affects on biological resources cannot be made at this time. Only in the case of Priority Projects is a project level analysis possible. However, a programmatic analysis of non-priority facilities is appropriate.

For all of the SHARP projects there exists the associated potential for one or more of the Potential Direct and Indirect Impacts described in Section 5.3.1 of this assessment to result from Project implementation. That is, until site specific surveys are completed there is the potential for Project components to result in: impacts to sensitive plant and wildlife species; impacts to sensitive habitats; impacts to federally protected wetlands; impacts to wildlife movement; impacts to nesting birds; and, human/wildlife and habitat conflicts. It is less likely that SHARP Project components will conflict with local policies or ordinances or conservation plans.

As the non-priority SHARP Project components come on line, each will be assessed at the project level as to the potential impacts that may result. At that time, specific mitigation measures, as described below under Mitigation Measures will be incorporated into project design and implementation.

5.4.1 Priority Projects

As described above, most of the projects included in the TSMP and SHARP are conceptual; however, some projects are more fully developed and have a high priority for implementation in the short-term (i.e., next 1-5 years). These projects are considered "Priority Projects" by the Town.

The Priority Projects are summarized below along with a determination of their potential direct and indirect impacts. The Priority Projects included within the TSMP (Project Nos. 1 and 2, below) and SHARP area (Project Nos. 3-9, below) are illustrated on **Figure 7,** *SHARP Area Priority Projects*, illustrates the locations of the Priority Projects in the SHARP area (Project Nos. 3-9, below).

5.4.1.1 MUP 2-1 – Main Path (4a) – Town Loop.

This MUP would fill in a gap on the Main Path along Old Mammoth Road between Mammoth Creek Park and Minaret Road (921 linear feet).

The site is dominated by alder-willow riparian scrub associated with Mammoth Creek and its banks. Vegetation beyond the banks consists of basin sagebrush scrub. Several trails have been formed by park users in order to access the Creek.

Mammoth Creek is considered a permanent water and is likely to fall under ACOE, RWQCB, and CDFG jurisdiction due to the presence of moist soils and obligate hydrophytic plant species on the banks of the Creek indicate that the banks likely contain wetlands that would also fall under ACOE jurisdiction. All riparian vegetation associated with Mammoth Creek would be under CDFG jurisdiction.

Riparian and wetland vegetation associated with Mammoth Creek is of high value to wildlife and may provide suitable habitat for special interest species including the willow flycatcher, Sierra Nevada mountain beaver, and others. Removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; potentially significant direct impacts to federally protected wetlands; and potentially significant direct and indirect impacts to willow flycatcher, Sierra Nevada mountain beaver, sensitive riparian wildlife, and nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, and 6.1.11.

5.4.1.2 MUP 3-1 - College Connector.

This MUP, partially located along Meridian Boulevard and College Parkway, would connect Sierra Park Road to the Main Path (3,769 linear feet).

Vegetation along this trail alignment is developed and disturbed along the roads and basin sagebrush scrub from where it leaves College Parkway to where it connects to the Main Path.

No drainage features likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area.

No special interest plant or wildlife species are expected to occur at the South Gateway site due to the historic and on-going human activities and disturbances on the site and lack of suitable habitat for such species.

Direct and indirect impacts determination: Potentially significant impacts to nesting birds; less than significant with implementation of Mitigation Measure 6.1.10.

5.4.1.3 SHARP No. 1 (Summer and Winter) – Major Multi-Use Staging Area at the Borrow Pit.

This would be the primary staging area for the Sherwin area and therefore the most developed. Facilities would include parking, bathrooms, an education/interpretive area, and signage. This staging area would be open year-round to all users and would be served by public transit.

The majority of this site is disturbed due its past use as a borrow pit and a propane tank farm and much of the area is devoid of vegetation and appears to be maintained in this condition. At the edge of the disturbed areas there is basin sagebrush scrub

No drainage features likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area.

No special interest plant or wildlife species are expected to occur at the Borrow Pit site due to the historic and on-going human activities and disturbances on the site and lack of suitable habitat for such species. However, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant impacts to nesting birds; less than significant with implementation of Mitigation Measure 6.1.10.

5.4.1.4 SHARP No. 5B (Summer)

Parallel soft-surface non-motorized connections—one on the north side of Old Mammoth Road, one on the south side—from the Old Mammoth Road safe crossing to the intersection of Old Mammoth Road and Lake Mary Road. This Priority Project would include a set of parallel soft-surface non-motorized trail connections between the Old Mammoth Road safe crossing and the road's intersection with Lake Mary Road. Facilities would be limited to signage. The north trail would be approximately 2,800 linear feet and the south trail would be approximately 4,295 linear feet.

Vegetation at this site includes mixed riparian scrub, aspen forest and woodland, montane chaparral, and mixed conifer forest. The mixed riparian scrub and aspen forest and woodland are considered sensitive natural communities.

These parallel trails may cross potentially jurisdictional areas not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

Two special interest species, the American pine marten and great gray owl, have a moderate potential to occur in the Recommended Potential Trails vicinity due to the presence of a well-developed mixed conifer forest. In addition, several sensitive plants and other wildlife species may be affected by the Recommended Potential Trails. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; potentially significant direct impacts to federally protected wetlands; and potentially significant direct and indirect impacts to plant and wildlife species of concern and nesting birds. Reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, and 6.1.11.

5.4.1.5 SHARP No. 6 (Summer)

This element would be a hard-surface or paved non-motorized connector from the borrow pit staging area to the Town Loop at Hayden Cabin Museum within Mammoth Creek Park East at the bridge. This Priority

Project would include a hard-surface or paved ADA-compliant MUP from the borrow pit staging area (see SHARP No. 1 above) to the bridge at Mammoth Creek Park East. The exact surface of this trail is to be determined. The trail could be up to approximately 4,642 linear feet.

The trail would begin at the existing bridge across Mammoth Creek; however, the trail would be design to avoid impacts to the bed, banks, or riparian vegetation associated with the creek. From the bridge the trail would cross basin sagebrush scrub vegetation to the borrow pit area.

Other than Mammoth Creek, which would not be affected by the trail, no drainage features likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area. No special interest plant or wildlife species are expected to occur at the site due to lack of suitable habitat for such species; historic and on-going human activities and disturbances along this alignment, including areas disturbed by dirt roads, informal trails and use paths, and uses associated with the adjacent to the USFS stables. And Borrow Pit . However, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant impacts to nesting bird; less than significant with implementation of Mitigation Measure 6.1.10.

5.4.1.6 SHARP No. 7 (Summer)

This element consists of non-motorized "backbone" trail connections from the borrow pit staging area to the Tamarack Street trailhead. This Priority Project would articulate two separate non-motorized routes that connect the borrow pit staging area to the Tamarack Street trailhead and also connect into the summertime stacked-loop trail. The hard-surface or paved trail would be ADA-accessible and would be aligned over the existing USFS 4S100 road, which would require closure to motorized use. The complementary trail would be soft surface and aligned over the existing trail to the south, near the base of the Sherwin. Accommodation of equestrian use would be included in the design process, which may include an equestrian-only bridle path. The trail would be approximately 6,800 linear feet.

Vegetation in this area consists of Great Basin sagebrush scrub, montane chaparral, and montane wet meadow. Montane wet meadow is a sensitive natural community.

These parallel trails may cross potentially jurisdictional drainage features and wetlands not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

USFS botanists surveyed this site for sensitive plants on July 20 and August 20, 2010 (Dutcher and Satterthwaite, 2010). No sensitive, threatened, endangered, or proposed plant species were located during the survey. However, the botanists did determine there was potential habitat for sensitive plant species in Kerry Meadow through which a portion of the proposed trail may be located. In addition, potential habitat for sensitive wildlife species is present. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; and potentially significant direct and indirect impacts to plant and wildlife

species of concern and nesting birds; reduced to less than significant with implementation of Mitigation Measures 6.1.3, 6.1.4, 6.1.5, and 6.1.6, and 6.1.10.

5.4.1.7 SHARP No. 12b (Summer)

Soft-surface non-motorized trail connecting the Lake Mary Road staging area to the Panorama Vista Trail, Panorama Dome Trail, and the Lake Mary Road Bike Path. This Priority Project would include a new bridge that would connect the Lake Mary Road Bike Path to the soft-surface trail described here. This would be constructed on the east side of the existing bridge where the Lake Mary Road Bike Path currently ends. The trail would be approximately 1,074 linear feet.

The site is dominated by a dense mixed conifer community with a sparse understory. Narrow bands of alder-willow riparian habitat that are commonly associated with drainage features may also occur in the area. Alder-willow riparian habitat is a sensitive natural community.

The trail may cross potentially jurisdictional drainage features not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

Two special interest wildlife species, the American pine marten and great gray owl, have a moderate potential to occur in the area due to the presence of a well-developed mixed conifer forest. In addition, suitable habitat to support sensitive plant species may occur in the area. In addition, potential habitat for sensitive wildlife species is present. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; and potentially significant direct and indirect impacts to plant and wildlife species of concern and nesting birds; potentially significant human/wildlife conflict;.reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, and 6.1.11.

5.4.1.8 SHARP No. 13 (Summer)

This element consists of a soft-surface non-motorized connector from the borrow pit staging area to Mammoth Rock Trail. This Priority Project would include a soft-surface non-motorized connector trail from the Mammoth Rock Trail to the south side of the borrow pit staging area. Design concerns may necessitate rehabilitation of the two existing use-trails into one system trail that connects to the existing road on the south side of the borrow pit. The trail would be approximately 2,000 linear feet.

The trail would begin at its lower terminus in basin sagebrush scrub. As it climbs up toward Mammoth Rock Trail it crosses through montane chaparral, scattered coniferous forest and talus fields that exist in a mosaic pattern across the north-facing slopes of the Sherwin.

The trail may cross potentially jurisdictional drainage features not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

Two special interest wildlife species, the American pine marten and great gray owl, have a moderate potential to occur in the area due to the presence of a well-developed mixed conifer forest. In addition, suitable habitat to support sensitive plant species may occur in the area. Finally, removal of or disturbances

in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; and potentially significant direct and indirect impacts to plant and wildlife species of concern and nesting birds; potentially significant human/wildlife conflicts; reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, and 6.1.11.

5.4.1.9 SHARP No. 15 (Summer)

This Priority Project involves an Old Mammoth Road soft-surface non-motorized safe crossing. A trail would be built roughly from the western entrance of Mammoth Rock Trail and stay on the uphill (south) side of Old Mammoth Road, utilizing a portion of the existing use trail/mine road, then turn parallel to the road and continue to the uppermost hairpin turn of Old Mammoth Road. The trail would be approximately 1,506 linear feet.

Vegetation at this site is predominantly montane chaparral and mixed conifer forest creating a mosaic pattern.

The trail may cross potentially jurisdictional drainage features not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

Two special interest wildlife species, the American pine marten and great gray owl, have a moderate potential to occur in the area due to the presence of a well-developed mixed conifer forest. In addition, suitable habitat to support sensitive plant species may occur in the area. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Direct and indirect impacts determination: Potentially significant direct impacts to regulated waters and associated riparian habitat; and potentially significant direct and indirect impacts to plant and wildlife species of concern and nesting birds; potentially significant human/wildlife conflicts; reduced to less than significant with implementation of Mitigation Measures 6.1.1, 6.1.3, 6.1.4, 6.1.5, 6.1.6, 6.1.10, and 6.1.11.

6. MITIGATION MEASURES

The following mitigation measure addresses the potentially significant impacts to biological resources from the proposed project. It should also be noted that many of the Project components are located on Lands owned and managed by the USFS; if constructed or operated by the Town, they Town would be required to obtain a Special Use Permit prior to implementation. This, or construction of the proposed trails by the USFS, would trigger the need to comply with the National Environmental Policy Act (NEPA) which will entail the preparation of additional environmental documentation and review by the public and federal resource agencies. During that process, compliance with USFS land and resource management policies will be scrutinized. For example, the Inyo National Forest has adopted a Land and Resource Management Plan that sets forth forest-wide standards and guidelines that establish the minimum resource conditions that will be maintained throughout the Forest, including fish, riparian areas, sensitive plants, and wildlife. The plan also has specific management prescriptions that specify how forest resources will be managed within various

management units. Thus, in addition to the measures described below for the CEQA assessment, additional measures, protocols, and conditions of compliance may be added to the Project at the federal level.

6.1 Sensitive Plant and Wildlife Species

6.1.1 Willow Flycatcher

Prior to approval of individual projects proposed under the TSMP or PRMP that have the potential to cause impacts to riparian vegetation associated with Mammoth Creek and its tributaries, the Town shall require a habitat evaluation by a biologist well versed in the requirements of willow flycatcher to be completed. If no suitable habitat for the species is identified within 300 feet of construction or maintenance activities, no further measures would be required in association with the project. If suitable habitat for the species is identified within 300 feet of such activities, prior to construction the Town shall require that a survey be completed by a qualified biologist for the species according to CDFG survey guidelines (Bombay et. al., May 29, 2003). This survey protocol requires a minimum of two surveys, one between June 15-25 and one during either June 1-14 or June 26-July 15. Surveys during these periods must be at least five days apart and the second survey shall be conducted no more than one week prior to clearing of vegetation and/or the operation of motorized heavy equipment. If the surveys determine the species is not present within 300 feet of the area to be affected by an individual project, no further action shall be required. If, however, willow flycatcher is determined to be present and is using habitat within 300 feet of Project-related activities, inclusive of nesting and foraging, the Town shall consult with CDFG prior to initiating any construction activities in the area. Consultation may entail the processing of a 2081 Incidental Take Permit that includes certain conditions to avoid and/or mitigate for potential impacts to the species. Such conditions could include, but not be limited to, restrictions on the time of year for construction, noise monitoring, restrictions on equipment use, and others.

6.1.2 Greater Sage Grouse

In its comment letter to the Town, dated November 24, 2010, regarding the Initial Study and Proposed Mitigated Negative Declaration for the Whitmore Park Track and Sports Field Project, CDFG provided recommendations for various mitigation measures for potential impacts to greater sage grouse. These are summarized below.

In order to avoid direct and indirect impacts to mating, breeding and nesting greater sage grouse, vegetation removal should be undertaken between September 1 and March 30, outside the species nesting season, to the extent practicable. If vegetation must be cleared between April 1 and August 31 (the greater sage grouse nesting season), the town should cause a greater sage grouse nesting survey to be conducted by a biologist well versed in the requirements of the species to be completed no more than one week prior to clearing and/or the operation of motorized heavy equipment. If nesting greater sage grouse are found, no clearing should be undertaken within 300 feet of any active nest.

The potential for the Project to increase new avian predators to greater sage grouse nesting areas should be minimized through the design of facilities to minimize elevated structures and new trees that could serve as perching platforms for raptorial (hawks, owls, falcons, and eagles) and corvid (crows and ravens) birds which could prey on greater sage grouse adults, young and eggs. In addition, the use of wildlife proof trash receptacles, regular receptacle emptying, and ground litter control should be incorporated into the Project so as to minimize attracting corvids that typically scavenge in places with high human activity.

The installation of new fences or relocation of existing fences should make use of materials that will avoid and minimize direct mortality and injury to greater sage grouse as a result of fence collisions. Such materials include reflective flight diverters or markers that flip in the wind and glow in the dark to prevent collisions under low light conditions.

6.1.3 Other Sensitive Wildlife

As discussed earlier, there are a number of wildlife species of concern to federal and State resource agencies that are known or are expected to occur in the Project area. For such avian species, implementation of the mitigation measure for nesting birds below will suffice in reducing impacts to these species to less than significant.

With regard to such amphibian species, including the Mount Lyell salamander and Yosemite toad, a thorough search of areas to be disturbed shall be made by construction personnel trained in the methods of searching for these species. If any amphibians are found, regardless of species, they will be captured and relocated in like habitat no less than 100 feet away from construction sites.

Sensitive mammal species with the potential to occur on include the Sierra Nevada red fox, American marten, Sierra Nevada mountain beaver, Townsend's western big-eared bat, and Mount Lyell shrew. As with sensitive amphibians, avoidance and minimization of potentially significant impacts to these species shall entail pre-construction surveys by a biologist familiar with the sign of each species to identify signs of their presence or determine their absence no more than one week prior to initiating construction activities. Such surveys shall encompass the area to be disturbed and the habitat within 300 feet of construction activities. Due the secretive and/or nocturnal activity patterns of these species, the following signs shall be used:

- Sierra Nevada red fox – evidence of den, normally on slopes with porous soils.
- American marten – evidence of den, normally in hollow trees or downed logs.
- Sierra Nevada mountain beaver – evidence of extensive tunnels, runways and burrows beneath dense streamside vegetation.
- Townsend's western big-eared bat – evidence of occupation by colonies in caves, mine tunnels, and buildings
- Mount Lyell shrew – evidence of nests of dry leaves or grasses in stumps or under logs or piles of brush.

If no evidence of the presence of any of these species is found, no further mitigation activities shall be required. However, if evidence of the presence of any of these species is observed, impacts will be avoided or minimized in one or more of the following ways and in consultation with CDFG and/or USFS: realigning trails and relocating new facilities so as to retain a 100-foot buffer between the occupied site and construction activities and human use; suspending construction activities within 300 feet of the den, nest, or bat roosts during the breeding period, generally held to be March 1 to July 31 for these species; verifying the actual occupation of dens, nests, or roosts by means such as placing tracking medium around the den or nest entrance or conducting a bat survey at the roost entrance at sunset; temporarily blocking the entrance of a den or nest verified to be unoccupied until after construction is completed; excluding winter recreational use (both motorized and non-motorized) within one-quarter mile of any known or discovered nests, dens, or roosts.

It should be noted that the Noise assessment for the Project incorporates mitigation measures that limit engine idling from construction and avoids several pieces of equipment from operating at the same time, so as to minimize the intrusion of excessive noise into habitat areas where it could disturb sensitive wildlife.

6.1.4 Sensitive Plants

Prior to approval of individual projects proposed under the TSMP or PRMP that are located in areas not previously surveyed for sensitive plant species, and that are determined by a qualified botanist to have habitat suitable to support such plants, the Town shall require that a survey be completed by a qualified botanist for sensitive plant species within 100 feet on either side of a trail alignment or within the disturbance area of other proposed facilities. These surveys shall be conducted during the flowering period for the target species when they are most readily detectable. For those species with at least a low potential to occur in the Project area, this period is usually from late June to mid-August. For reference, the flowering period for individual species is provided in Table 5, *Sensitive Plant Species.* If no sensitive plant species are located within the area of disturbance, no further action shall be required. If sensitive plant species are located within such areas and are likely to be impacted by and individual project, conservation actions shall be implemented. Such actions shall include, but not necessarily be limited to re-routing the trail alignment so as to avoid or minimize impacts to sensitive plants while preserving an off-site population that is substantially larger than the population to be impacted, developing a transplantation program, and collecting seeds to move populations elsewhere out of harm's way. These measures shall be developed in consultation with the CDFG and USFS.

6.1.5 Sensitive Habitats

As previously noted, there are three vegetation types within the Project area that are considered sensitive. These are aspen forest and woodland, mixed willow riparian, and montane wet meadow. To the extent practicable new trails and other recreational facilities shall avoid these vegetation types. In the event this is not practicable impacts will be minimized by restricting the Project footprint, including temporary and permanent impacts, to the minimum required to implement the project. Mitigation for trees that are necessary to remove has also been incorporated in the Project's Aesthetics and Visual Resources assessment.

In the event the City elects to repair, maintain and/or improve trail crossings along stream courses and other drainage features (that often support the sensitive vegetation types mentioned above) in association with individual projects proposed under the TSMP or PRMP, prior to project approval the City shall notify and consult with the CDFG regarding the need for a Streambed Alteration Agreement (SAA). All work shall be performed in compliance with the conditions set forth in the SAA, as determined by the CDFG. Such conditions shall include the in-kind replacement or restoration of riparian habitat at a 1:1 ratio for temporary impacts and a 2:1 ratio for permanent impacts within the Project Area, or as otherwise directed by the CDFG. Alternatively, if the impacts are very minor, the CDFG may, at its discretion, allow the work to proceed under a letter of law without mitigation other than notification and consultation.

As part of the SAA agreement process and prior to beginning construction within CDFG regulated drainages, a Habitat Mitigation and Monitoring Plan (HMMP) should be developed in coordination with the CDFG and USFS if necessary that ensures no net loss of riparian habitat value or acreage. The HMMP shall include, but not necessarily be limited to, the following:

- The establishment of a reference site near regulated resources to be impacted that have similar hydrology, soil regimes, and exposure as the resources to be impacted.
- The establishment of baseline conditions at the reference site regarding absolute native shrub and tree cover, woody shrub and tree stalk density, percentage cover by non-native plant species, and plant species diversity the vegetation using the Sorensen method (Stiling, 1999) within a 400 square foot prescribed reference plot.
- The establishment of a restoration site to encompass the mitigation needs of one or more Project elements either on the Project element site or off site within the Mammoth Creek watershed.
- A minimum 3-year establishment, monitoring, and maintenance (trash collection, weeding, etc.) period.
- The establishment of the following success success criteria within a 400 square foot prescribed plot within the restoration site – 70 % of baseline absolute cover by native shrubs and trees; 70 % of baseline woody shrub and tree stalk density; no more than 5% cover by non-native plant species; and a Sorensen value of 0.6.

The HMMP shall be subject to CDFG approval and may require additional measures in addition to the mitigation discussed above. Because the implementation of individual projects proposed under the TSMP or PRMP is expected to occur over several years, the Town shall also explore the processing of a Programmatic SAA with CDFG. At a minimum, however, a SAA will be required to address the Priority Projects so they may be implemented in the near future.

Also of note, the Project's Hydrology and Water Quality assessment identified several mitigation measures which are consistent with the protection of sensitive riparian and wet meadow vegetation. These include: measures that control erosion; avoidance of wet areas, springs, wetlands, and the lower portions of slopes; crossing structures at stream crossings; and, the establishment of 50 foot wide vegetation buffers between trails, streams, and wetlands. Implementation of these mitigation measures would further reduce the potential impacts to sensitive habitats.

6.1.6 Federally Protected Wetlands

In the event the Town elects to construct, repair, maintain and/or improve trail crossing in association with individual projects proposed under the TSMP or PRMP within waters of the U.S. and federally protected wetlands, prior to project approval the Town shall notify and consult with the ACOE regarding the need for a Section 404 Permit and the RWQCD regarding the need for its 401 certification. All work shall be performed in compliance with the conditions set forth in the Permit, as determined by the ACOE. Such conditions shall include the in-kind replacement or restoration of waters and/or wetlands at a ratio of 1:1 for temporary impacts and a ratio of 2:1 for permanent impacts within the Project Area, or as otherwise directed by the ACOE. Alternatively, if the impacts are less than 0.1 acre, the ACOE may, at its discretion, allow the work to proceed without mitigation other than notification and consultation.

The mitigation shall use the same approach as is outlined above in Section 6.1.5 for the mitigation of impacts to CDFG regulated resources. As is usually the case, CDFG jurisdiction extends beyond that of ACOE and mitigation for impacts to CDFG regulated resources is inclusive of ACOE mitigation needs.

6.1.7 Wildlife Corridors

Since there would be no impact on wildlife movement or wildlife corridors, no mitigation measures are necessary.

6.1.8 Local Policies or Ordinances

In order to educate trail and facility users about the potential for human/wildlife conflicts, the Town shall install signage at all entry points to the trail system that include warning signs. The signs shall explain the risks and potential dangers that could be encountered by trail use and include instructions for what to do in case of a potential human/wildlife conflict. The signage shall include, but not necessarily be limited to the following: refer to the Police Department/Wildlife Management Officer, USFS personnel and/or CDFG personnel as appropriate when dealing with bears; prohibitions on feeding wildlife; warnings against approaching wildlife; user responsibilities for removing trash; and the prohibition of carrying or using fire arms (including bow and arrows, crossbows, pistols, rifles, handguns, shotguns, and slings).

6.1.9 Conservation Plans

Since there would be no conflict with existing Conservation Plans, no mitigation measures are necessary.

6.1.10 Nesting Birds

To the extent practicable brush and tree removal activities for trail and facilities construction and maintenance, and other elements performed by the Town in association with individual projects proposed under the TSMP or PRMP shall be initiated outside of the nesting bird season, which is generally held to be from April 1 to August 31 in the Mammoth Lakes area, and shall be carried out with no more than a two week lapse in the work. If the Town deems this to not be practicable the Town shall require a nesting bird survey by a monitoring biologist to be conducted within 300 feet (for songbirds) and 500 feet (for raptorial birds) of construction sites no more than one week prior to initiating construction to ensure no birds protected under the MBTA and/or State Fish and Game Code Section 3503 et seq. are harmed or harassed.

If no active nests of songbirds and raptors are found within 300 feet and 500 feet, respectively, of the construction site, the work may begin.

If active nests are found within the survey areas the Town shall delineate a buffer zone of 300 feet and 500 feet for songbirds and raptors, respectively, around the nest. Based on the nature of the work to be performed and the equipment to be used, the monitoring biologist may reduce the buffer zone based on intervening vegetation and topography. Such buffer zones shall remain in place until the young in the nest have fledged or the nest has failed, as determined by the monitoring biologist.

7. CUMULATIVE IMPACTS

Cumulative impacts refer to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects (Section 15130 of the *CEQA Guidelines*). A total of 24 projects have been identified for the cumulative impacts analysis. However, all but two of these are within the UGB and are not expected to have marked effects on biological resources and, therefore, would not contribute substantially to cumulative impacts. The remaining two are a land exchange

near the Mammoth Mountain Ski Area main lodge and the Casa Diablo IV Geothermal Project which is east of SR 395 and well removed from the Project Area's biological resources. Thus, any cumulative impacts that result from the Project will not be measurably greater that those discussed above for the Project by itself.

8. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of and adherence to the prescribed mitigation measures included herein, all potentially significant impacts would be reduced to a less than significant level.

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Appendix A – Plant and Wildlife Species Compendium

BRYOPHYTES

SCIENTIFIC NAME	COMMON NAME
Bruchiaceae	**Moss Family**
Aulacomnium palustre	ribbed bog moss
Bryum pseudotriquetrum	common green bryum moss
Plagiothecium denticulatum	dented silk-moss

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GYMNOSPERMS

SCIENTIFIC NAME	COMMON NAME
Cupressaceae	**Cypress Family**
Juniperus occidentalis	western juniper
Pinaceae	**Pine Family**
Abies concolor	white fir
Pinus monticola[a]	Western white pine
Pinus jeffreyi[a]	Jeffrey pine
Tsuga mertensiana[a]	mountain hemlock
Pinus contorta ssp. *murrayana*	lodgepole pine

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ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Apiaceae	**Carrot Family**
	Angelica lineariloba	Sierra soda straw
	Heracleum lanatum	cow parsnip
	Osmorhiza chilensis	western sweetroot
	Osmorhiza occidentalis	western sweet-cicely
	Perideridia parishii ssp. *latifolia*	yampah
	Sphenosciadium capitellatum[a]	ranger's buttons
	Asteraceae	**Sunflower Family**
	Achillea millefolium	yarrow milfoil
	Antennaria rosea ssp. *confinis*	rosy everlasting
	Artemisia cana	hoary sagebrush
	Artemisia ludoviciana ssp. *ludoviciana*	silver wormwood
	Artemisia tridentata	Great Basin sagebrush
	Chrysothamnus nauseosus ssp. *albicaulis*	rubber rabbitbrush
	Cirsium scariosum	elk thistle
	Erigeron peregrinus var. *hirsutus*	wandering daisy
	Erigeron sp.[a]	daisy
	Gnaphalium palustre	lowland cudweed
	Senecio hydrophilus	senecio
	Senecio triangularis	arrow-leaf butterweed
	Solidago californica	California goldenrod
	Solidago canadensis ssp. *elongata*	meadow goldenrod
	Taraxacum officinale	common dandelion
	Tetradymia canescens	cotton-thorn
*	*Tragopogon dubius*	goat's beard
	Wyethia mollis	mule's ears
	Betulaceae	**Birch Family**
	Alnus incana ssp. tenuifolia	mountain alder
	Boraginaceae	**Borage Family**
	Cryptantha muricata	prickly cryptantha
	Brassicaceae	**Mustard Family**
*	*Capsella bursa-pastoris*	shepherd's purse
	Lepidium virginicum var. *pubescens*	wild peppergrass

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ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Rorippa nasturtium-aquaticum	water cress
Thysanocarpus sp.	fringe pod
Caprifoliaceae	**Honeysuckle Family**
Lonicera involucrata	twinberry
Symphoricarpos mollis	creeping snowberry
Symphoricarpos rotundifolius	mountain snowberry
Caryophyllaceae	**Pink Family**
Stellaria longipes var. *longipes*	long-stalked starwort
Chenopodiaceae	**Goosefoot Family**
* *Chenopodium album*	pigweed
Cornaceae	**Dogwood Family**
Cornus sp.	dogwood
Ericaceae	**Heath Family**
Arctostaphylos patula	greenleaf manzanita
Pyrola asarifolia	Bog wintergreen
Fabaceae	**Legume Family**
* *Lotus corniculatus*	birdfoot trefoil
Lupinus sp.[b]	lupine
Lupinus polyphyllus	meadow lupine
Orthocarpus cuspidatus ssp. copelandii	Copeland's owls clover
Trifolium pratense	red clover
Trifolium willdenovii	clover
Fagaceae	**Oak Family**
Chrysolepis sempervirens	chinquapin
Gentianaceae	**Gentian Family**
Swertia radiata	monument plant
Grossulariaceae	**Gooseberry Family**
Ribes sp.	gooseberry
Ribes cereum	squaw currant
Ribes montigenum	alpine prickly currant
Haloragaceae	**Water-Milfoil Family**
Myriophyllum sibiricum	water-milfoil
Hippuridaceae	**Mare's Tail Family**
Hippuris vulgaris	mare's-tail

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ANGIOSPERMS (DICOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Hydrophyllaceae	**Waterleaf Family**
Phacelia ramosissima var. *subgraba*	branching phacelia
Phacelia sp.	phacelia
Hypericaceae	**St. John's Wort Family**
Hypericum anagalloides	Tinker's penny
Lamiaceae	**Mint Family**
Agastache urticifolia	horse-mint
Stachys albens	hedge nettle
Linaceae	**Flax Family**
Linum lewisii	blue flax
Malvaceae	**Mallow Family**
Sidalcea oregana ssp. *spicata*	spike mallow
Onagraceae	**Evening Primrose Family**
Epilobium angustifolium	fireweed
Epilobium ciliatum	epilobium
Epilobium glaberrimum	smoothstem willow-herb
Epilobium howellii[c]	subalpine fireweed
Gayophytum ramosissimum	gayophytum
Oenothera sp.	primrose
Polemoniaceae	**Phlox Family**
Collomia linearis	narrow-leaved collomia
Collomia grandiflora	collomia
Eriastrum wilcoxii	eriastrum
Ipomopsis aggregata	scarlet gilia
Linanthus sp.	linanthus
Polygonaceae	**Buckwheat Family**
Eriogonum sp.	buckwheat
Eriogonum umbellatum	sulphur buckwheat
Ranunculaceae	**Buttercup Family**
Aconitum columbianum	monkshood
Aquilegia sp.	columbine
Thalictrum fendleri	mountain meadow rue
Rhamnaceae	**Buckthorn Family**
Ceanothus velutinus var. *velutinus*	tobacco brush

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ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Rhamnus rubra	Sierra coffeeberry
	Rosaceae	**Rose Family**
	Fragaria sp.	strawberry
	Horkeliella congdonis	horkeliella
	Ivesia sp.[d]	ivesia
	Potentilla flabellifolia	fan-foil
	Potentilla glandulosa	stickey cinquefoil
	Potentilla gracilis var. *fastigiata*	slender cinquefoil
*	*Potentilla norvegica*	cinquefoil
	Prunus emarginata	bitter cherry
	Prunus virginiana var. *dermissa*	western chokecherry
	Purshia tridentata	antelope bitterbrush
	Rosa californica	California rose
	Rosa woodsii var. *ultramontana*	interior rose
	Salicaceae	**Willow Family**
	Populus tremuloides[a]	quaking aspen
	Salix arctica	arctic willow
	Salix exigua	narrow-leaved willow
	Salix jepsonii	Jepson's willow
	Salix lemmonii	Lemmon's willow
	Salix ligulifolia	strap-leaved willow
	Salix lucida ssp. *lasiandra*	shining willow
	Salix lutea	yellow willow
	Salix planifolia	tea-leaved willow
	Salix sp.	willow
	Saxifragaceae	**Saxifrage Family**
	Mitella breweri	Brewer's miterwort
	Scrophulariaceae	**Figwort Family**
	Castilleja applegatei	wavy-leaved Indian paintbrush
	Castilleja linariifolia	linaria-leaved Indian paintbrush
	Castilleja miniata ssp. *miniata*	meadow paintbrush
	Castilleja pruinosa	Indian paintbrush
	Mimulus guttatus	common monkeyflower
	Mimulus lewisii	Lewis' monkeyflower

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ANGIOSPERMS (DICOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
	Mimulus primuloides	primrose monkeyflower
	Mimulus tilingii	mountain monkeyflower
	Pedicularis groenlandica	elephant's head
	Penstemon sp.	penstemon
	Penstemon rostriflorus	Bridge's penstemon
	Penstemon rydbergii	penstemon
*	*Verbascum thapsus*	woolly mullein
*	*Veronica anagallis-aquatica*	water speedwell
Urticaceae		**Nettle Family**
	Urtica dioica	stinging nettle

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ANGIOSPERMS (MONOCOTYLEDONS)

SCIENTIFIC NAME	COMMON NAME
Cyperaceae	**Heath Family**
Carex heteroneura var. *heteroneaua*	sedge
Carex nervina	sedge
Carex subfusca	sedge
Carex vesicaria var. *vesicaria*	sedge
Equisetaceae	
Equisetum laevigatum	smooth scouring rush
Iridaceae	**Iris Family**
Iris missouriensis	western blue flag
Juncaceae	**Rush Family**
Juncus balticus	rush
Juncus drummondii	rush
Juncus saximontanus	rush
Luzula parviflora	hairy wood rush
Liliaceae	**Lily Family**
Allium campanulatum	Sierra onion
Allium validum	swamp onion
Calochortus leichtlinii	Leichtlin's mariposa lily
Lilium kelleyanum	Kelly's tiger lily
Lilium pardalinum	leopard lily
Maianthermum stellata	false lily-of-the valley
Sisyrinchium bellum	blue-eyed grass
Veratrum californicum[a]	corn lily
Orchidaceae	**Orchid Family**
Platanthera leucostachys	Sierra rein orchid
Poaceae	**Grass Family**
Achnatherum hymenoides	Indian rice grass
Achnatherum occidentale	needlegrass
Agropyron desertorum	desert crested wheatgrass
Agrostis sp.	bent grass
* *Bromus inermis*	common brome

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ANGIOSPERMS (MONOCOTYLEDONS)

	SCIENTIFIC NAME	COMMON NAME
*	*Dactylis glomerata*	orchard grass
	Elymus elymoides ssp. *californicus*	bottlebrush squirreltail
	Elymus glaucus	blue wildrye
	Elymus (Leymus) triticoides	wheatgrass
	Lolium perenne	English ryegrass
	Melica imperfecta	California melic
	Phleum alpinum	mountain timothy
*	*Phleum pratense*	Timothy hay
	Poa sp.	bluegrass

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INVERTEBRATES

SCIENTIFIC NAME	COMMON NAME
Insecta	**Butterflies and Moths**
Papilio rutulus	western tiger swallowtail

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FISH

SCIENTIFIC NAME	COMMON NAME
Salmonidae	**Salmon**
Oncorhynchus mykiss[a,b]	rainbrow trout
Salmo trutta[a]	brown trout
Salvelinus fontinalis[a]	brook trout
Cyprinidae	**Minnows and Carp**
Gila bicolor[a]	tui chub
Catostomidae	**Suckers**
Catostomus fumeiventris[a]	Owens sucker

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AMPHIBIANS

SCIENTIFIC NAME	COMMON NAME
Bufonidae	**True Toads**
? *Bufo boreas*	western toad
Bufo canoras	Yosemite toad
Hylidae	**Treefrogs**
? *Hyla regilla*	Pacific tree frog

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REPTILES

SCIENTIFIC NAME	COMMON NAME
Anguidae	**Alligator, Glass, and Lateral Fold Lizards**
? *Elgaria coerulea*	Sierra alligator lizard
Boidae	**Boas and Pythons**
? *Charina bottae*	rubber boa
Colubridae	**Colubrids**
Thamnophis elegans	mountain garter snake
Phrynosomatidae	**Zebra-tailed, Earless, Fringe-toed, Spiny, Tree, Side-blotched, and Horned Lizards**
? *Sceloperus graciosus*	sagebrush lizard
? *Sceloperus occidentalis*	Sierra fence lizard

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BIRDS

	SCIENTIFIC NAME	COMMON NAME
Cathartidae		**New World Vultures**
	Cathartes aura	turkey vulture
Accipitridae		**Hawks**
?	*Accipiter cooperii*	Cooper's hawk
?	*Accipiter gentilis*	northern goshawk
	Buteo jamaicensis	red-tailed hawk
Falconidae		**Falcons**
?	*Falco sparverius*	American kestrel
Phasianidae		**Pheasants and Quails**
?	*Dendragapus obscurus*	blue grouse
?	*Oreortyx pictus*	mountain quail
Columbidae		**Pigeons and Doves**
	Zenaida macroura	mourning dove
Strigidae		**True Owls**
?	*Bubo virginianus*	great horned owl
Trochilidae		**Hummingbirds**
?	*Selasphorus platycercus*	broad-tailed hummingbird
?	*Selasphorus rufus*	rufous hummingbird
?	*Selasphorus sasin*	Allen's hummingbird
?	*Stellula calliope*	Calliope hummingbird
Alcedinidae		**Kingfishers**
?	*Ceryle alcyon*	belted kingfisher
Picidae		**Woodpeckers**
	Colaptes auratus	northern flicker
?	*Picoides albolarvatus*	white-headed woodpecker
?	*Picoides nuttallii*	Nuttall's woodpecker
?	*Picoides pubescens*	downy woodpecker
	Picoides villosus	hairy woodpecker
?	*Sphyrapicus thyroideus*	Williamson's sapsucker
Strigidae		**Owls**
?	*Strix nebulosa*[d]	great gray owl

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BIRDS

	SCIENTIFIC NAME	COMMON NAME
	Tyrannidae	**Tyrant Flycatchers**
	Contopus cooperi	olive-sided flycatcher
	Contopus sordidulus	western wood-peewee
?	*Empidonax difficilis*	Pacific slope flycatcher
	Hirundinidae	**Swallows**
?	*Hirundo rustica*	barn swallow
	Petrochelidon pyrrhonota	cliff swallow
	Tachycineta thalassina	violet-green swallow
	Corvidae	**Jays and Crows**
	Corvus brachyrhynchos	American crow
?	*Corvus corax*	common raven
	Cyanocitta stelleri	Steller's jay
	Nucifraga columbiana	Clark's nutcracker
	Pica hudsonia	black-billed magpie
	Paridae	**Titmice**
	Poecile gambeli	mountain chickadee
	Sittidae	**Nuthatches**
?	*Sitta canadensis*	red-breasted nuthatch
?	*Sitta carolinensis*	white-breasted nuthatch
	Certhiidae	**Creepers**
	Certhia americana	brown creeper
	Cinclidae	**Dippers**
?	*Cinclus mexicanus*	American dipper
	Troglodytidae	**Wrens**
?	*Troglodytes aedon*	house wren
	Turdidae	**Thrushes**
?	*Catharus guttatus*	hermit thrush
?	*Sialia currucoides*	mountain bluebird
	Turdus migratorius	American robin
	Regulidae	**Kinglets**
?	*Regulus calendula*	ruby-crowned kinglet
	Vireonidae	**Vireos**
?	*Vireo gilvus*	warbling vireo
?	*Vireo cassinii*	Cassin's vireo

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BIRDS

	SCIENTIFIC NAME	COMMON NAME
Mimidae		**Thrashers**
?	*Mimus polyglottos*	northern mockingbird
Parulidae		**Wood Warblers**
?	*Dendroica petechia*	yellow warbler
?	*Dendroica townsendi*	Townsend's warbler
?	*Oporornis tolmiei*	MacGillivray's warbler
?	*Vermivora ruficapilla*	Nashville warbler
?	*Wilsonia pusilla*	Wilson's warbler
Cardinalidae		**Cardinals**
?	*Passerina amoena*	lazuli bunting
	Pheucticus melanocephalus	black-headed grosbeak
Thraupidae		**Tanagers**
	Piranga ludoviciana	western tanager
Emberizidae		**Emberizids**
	Junco hyemalis	dark-eyed junco
?	*Melospiza melodia*	song sparrow
	Passerella iliaca	fox sparrow
	Pipilo chlorurus	green-tailed towhee
	Spizella breweri	Brewer's sparrow
	Spizella passerina	chipping sparrow
?	*Zonotrichia leucophrys*	white-crowned sparrow
Icteridae		**Blackbirds**
	Agelaius phoeniceus	red-winged blackbird
	Euphagus cyanocephalus[a]	Brewer's blackbird
	Molothrus ater	brown-headed cowbird
	Quiscalus quiscula	common grackle
Fringillidae		**Finches**
	Carduelis pinus	pine siskin
?	*Carduelis psaltria*[b]	lesser goldfinch
?	*Carpodacus cassinii*	Cassin's finch
?	*Carpodacus purpureus*	purple finch
?	*Pinicola enucleator*	pine grosbeak

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MAMMALS

SCIENTIFIC NAME	COMMON NAME
Aplodontidae	**Mountain Beaver**
? *Aplodontia rufa*	mountain beaver
Arvicolidae	**Voles and Allies**
? *Microtus longicaudus*	long-tailed meadow mouse
? *Microtus montanus*	mountain meadow mouse
Canidae	**Dogs, Foxes, and Allies**
? *Canis latrans*[a]	coyote
? *Urocyon cinereoargenteus*	gray fox
? *Vulpes vulpes necator*	Sierra Nevada red fox
Cervidae	**Deer**
Odocoileus hemionus	Mule deer
Cricetidae	**Deer Mice, Wood Rats, and Allies**
? *Neotoma cinerea*	bushy-tailed wood rat
? *Peromyscus maniculatus*	deer mouse
? *Reithrodontomys megalotis*	western harvest mouse
Dipodidae	**Jumping Mice**
? *Zapus princeps*	western jumping mouse
Erethizontidae	**Porcupine**
? *Erethizon dorsatum*	porcupine
Leporidae	**Hares and Rabbits**
Lepus americanus	snowshoe hare
Felidae	**Cats**
? *Felis concolor*	mountain lion
? *Lynx rufus*	bobcat
Geomyidae	**Pocket Gophers**
Thomomys bottae	Botta's pocket gopher
? *Thomomys monticola*	mountain pocket gopher
Mephitidae	**Skunks and Stink Badgers**
? *Mephitis mephitis*	striped skunk
Mustelidae	**Weasels, Marten, and Allies**
? *Martes americana*	American marten
? *Martes pennanti pacifica*	Pacific fisher

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MAMMALS

	SCIENTIFIC NAME	COMMON NAME
Procyonidae		**Racoons and Ringtails**
?	*Procyon lotor*	racoon
Sciuridae		**Squirrels**
?	*Marmota flaviventris*	yellow-bellied marmot
	Sciurus griseus	western gray squirrel
	Spermophilus beecheyi	California ground squirrel
	Spermophilus lateralis[a]	golden-mantled ground squirrel
	Tamias sp.	chipmunk
	Tamias speciosus	lodgepole chipmunk
Soricidae		**Shrews**
?	*Sorex lyelli*	Mount Lyell shrew
?	*Sorex palustris*	water shrew
?	*Sorex vagrans*	vagrant shrew
Talpidae		**Moles**
?	*Scapanus latimanus*	broad-footed mole
Ursidae		**Bears**
	Ursus americanus[a]	black bear
Vespertilionidae		**Vesper Bats**
?	*Myotis californicus*	California myotis
?	*Myotis evotis*	long-eared myotis

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PCR Irvine

One Venture
Suite 150
Irvine, California 92618
TEL 949.753.7001
FAX 949.753.7002

PCR Santa Monica

233 Wilshire Boulevard
Suite 130
Santa Monica, California 90401
TEL 310.451.4488
FAX 310.451.5279

PCR Pasadena

790 East Colorado Boulevard
Suite 900
Pasadena, California 91101
TEL 626.204.6170
FAX 626.204.6171

PCRinfo@pcrnet.com
www.PCRnet.com