

MT. ROSE SKI TAHOE
ENVIRONMENTAL ASSESSMENT
MT. ROSE-SKI TAHOE TRAIL AND LIFT
IMPROVEMENT PROJECTS



DECEMBER 2008



USDA FOREST SERVICE
HUMBOLDT TOIYABE NATIONAL FOREST
CARSON RANGER DISTRICT

MT. ROSE SKI TAHOE
ENVIRONMENTAL ASSESSMENT

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LIST OF ACRONYMS

BE	BIOLOGICAL EVALUATION
BMP	BEST MANAGEMENT PRACTICE
CEQ	COUNCIL ON ENVIRONMENTAL QUALITY
CFR	CODE OF FEDERAL REGULATIONS
DN	DECISION NOTICE
EA	ENVIRONMENTAL ASSESSMENT
ESA	ENDANGERED SPECIES ACT
FONSI	FINDING OF NO SIGNIFICANT IMPACT
FS	FOREST SERVICE
FOREST PLAN	1986 TOIYABE NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLAN
HTNF	HUMBOLT-TOIYABE NATIONAL FOREST
MT. ROSE	MOUNT ROSE-SKI TAHOE
NDEP	NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
NEPA	NATIONAL ENVIRONMENTAL POLICY ACT (1970)
NFS	NATIONAL FOREST SYSTEM
NHPA	NATIONAL HISTORIC PRESERVATION ACT (1966)
NNHP	NEVADA NATURAL HERITAGE PROGRAM
NOPA	NOTICE OF PROPOSED ACTION
SUP	SPECIAL USE PERMIT
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
USFWS	US FISH AND WILDLIFE SERVICE
VMS	VISUAL RESOURCE MANAGEMENT SYSTEM
VQO	VISUAL QUALITY OBJECTIVES

Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record (as noted above) on this proposed action and will be available for public inspection. Comments submitted anonymously will be accepted and considered; however, those who submit anonymous comments will not have standing to appeal the subsequent decision under 36 CFR Parts 215 or 217. Additionally, pursuant to 7 CFR 1.27(d), any person may request the agency to withhold a submission from the public record by showing how the Freedom of Information Act (FOIA) permits such confidentiality. Persons requesting such confidentiality should be aware that, under FOIA, confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The Forest Service will inform the requester of the agency's decision regarding the request for confidentiality, and where the request is denied, the agency will return the submission and notify the requester that the comments may be resubmitted with or without name and address within 10 days.

MT. ROSE SKI TAHOE
ENVIRONMENTAL ASSESSMENT

CHAPTER I
PURPOSE AND NEED

I. PURPOSE AND NEED

A. INTRODUCTION

Mt. Rose-Ski Tahoe (hereinafter, Mt. Rose) is located adjacent to State Route Highway 431, approximately 11 miles from Incline Village and 25 miles from Reno, in Washoe County, Nevada (Figure 1). The proposed project site is located within the USGS 7.5-minute Mount Rose quadrangle.

Mt. Rose is operated on a combination of National Forest System (NFS) and private lands on Slide Mountain. On NFS lands the resort currently operates under a special use permit (SUP) from the United States Forest Service (Forest Service), Humboldt-Toiyabe National Forest (HTNF). The ski resort is composed of three main areas, the Mt. Rose side, located on the north side of Slide Mountain proper; the Slide side, which lies on the eastern flanks of Slide Mountain; and an area on the northern slope known as the Chutes. The Slide side and Chutes are largely comprised of NFS lands encompassing approximately 544 acres. The Mt. Rose side is composed primarily of private lands encompassing approximately 510 acres. Both the Mt. Rose and Slide side includes a lodge, parking, lifts, and ski trails.

The lift network at Mt. Rose currently consists of two high-speed detachable six-place chairlift, two fixed-grip quad chair, two fixed-grip triple chairs, and two surface lifts. Total uphill lift capacity at the resort is 12,820 skiers-per-hour. The skiing terrain distribution at Mt. Rose consists of approximately 25 percent beginner, 39 percent intermediate, and 36 percent advanced ability level. Snowmaking currently occurs on approximately 30 percent of the private land at the Mt. Rose side and approximately .01 percent on the Slide side.

B. THE NEPA PROCESS

All environmental analyses associated with projects on the HTNF are tiered to the 1986 Toiyabe National Forest Land and Resource Management Plan (Forest Plan) and the 2004 Sierra Nevada Forest Plan Amendment. Projects and activities conducted on NFS lands under the guidelines of these documents are subjected to environmental analysis as they are planned for implementation.

The Proposed Action constitutes a federal action, which has the potential to affect the quality of the human environment on public lands administered by the Forest Service. Therefore, the Proposed Action must be analyzed pursuant to the National Environmental Policy Act of 1969 (NEPA). Under NEPA, Federal Agencies must carefully consider environmental concerns in their decision-making process and provide relevant information to the public for review and comment. A Forest Service Interdisciplinary Team (IDT) convened a meeting with Mt. Rose staff on May 16, 2008 and determined that completion of an environmental assessment would fulfill the requirements of the NEPA by analyzing the potential site-specific and cumulative effects likely to result with implementation of the Proposed Action.

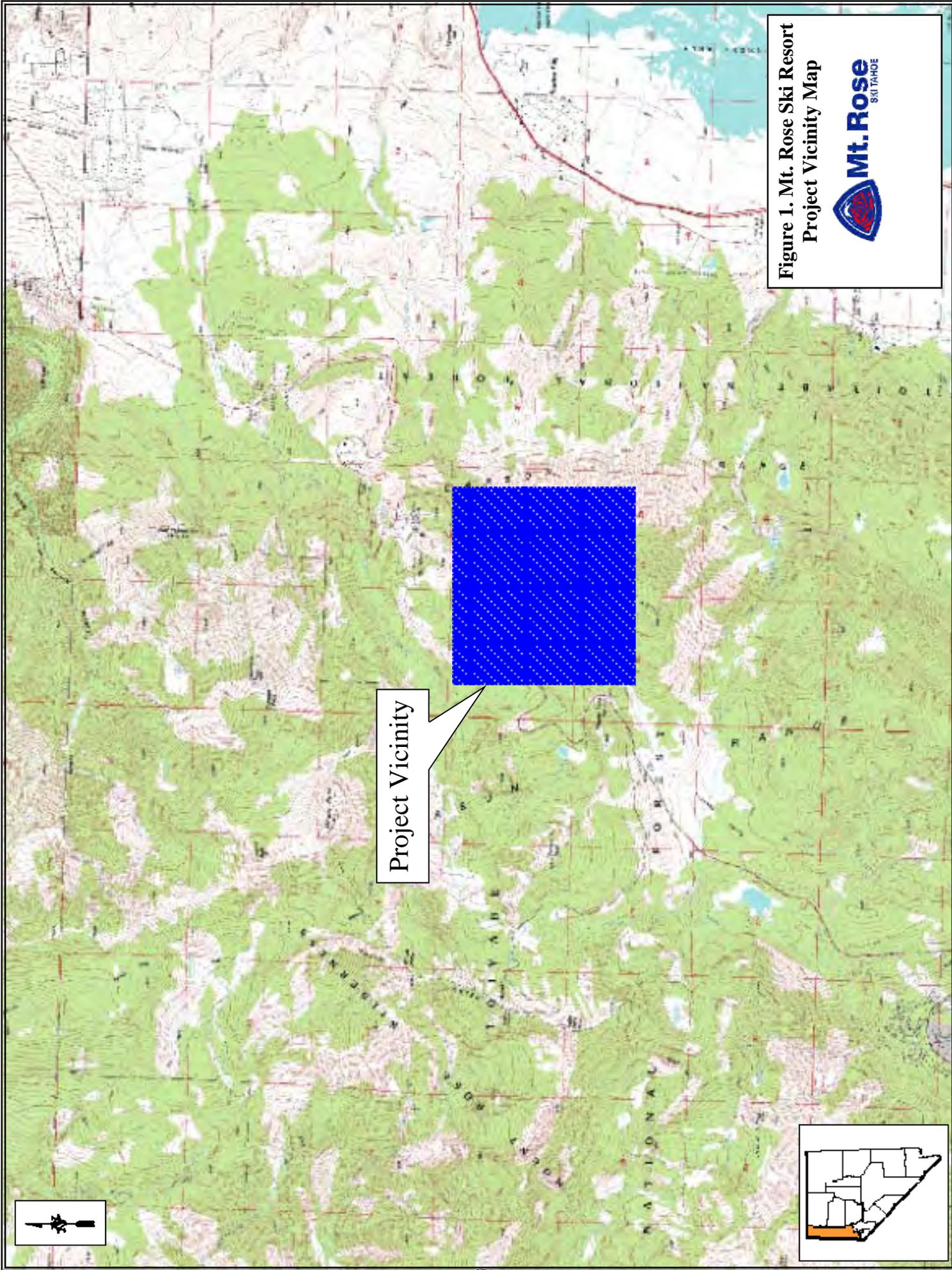
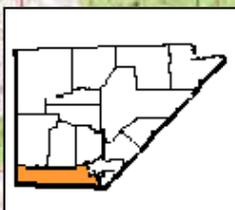


Figure 1. Mt. Rose Ski Resort
Project Vicinity Map



Project Vicinity



C. PURPOSE AND NEED FOR THE PROPOSED ACTION

The proposed action represents similar projects that were not described in the April 18, 2003 Decision Notice (DN) and Finding of No Significant Impact (FONSI) for the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements*. This referenced document along with the public record is hereby incorporated into this Environmental Assessment (EA) to minimize redundancy in previously required environmental analysis.

An important perspective of this proposal is that Mt. Rose thoroughly understands the expectations of its clientele and strives to continuously improve upon the skiing experiences offered to the public while maintaining environmental stewards towards operations and improvements. The Forest Service and Mt. Rose cooperatively determined two issues most immediate for improving the recreational experience at Mt. Rose. From these issues, the Proposed Action was developed. The Proposed Action entails two elements: (1) improving the existing trail conditions at the Slide side of the ski area on the following trails: Slide Bowl, Sunrise Bowl, Lower Bruce's Trail, Washoe Zephyr Trail, and Outlaw Trail to provide access during early season and low snow conditions, and (2) upgrading the Ponderosa and Galena fixed grip chair lifts with one high-speed, detachable chairlift on the Mt. Rose side of the resort to improve skier access and circulation on existing beginner and lower intermediate terrain served by the Ponderosa and Galena lifts.

PURPOSE AND NEED #1: SLIDE SIDE TRAIL IMPROVEMENT PROJECTS

The purpose and need of the proposed project is to provide a reliable and consistent skiing experience on the Slide side of the resort during early season and less than average snow pack. The Proposed Action is designed to increase utilization of this portion of the resort during low snow conditions and create viable access to accommodate projected increases in skier/rider volume associated with the construction of a new base lodge and locker facility on private lands at the Slide base area. In addition, the project will serve to decrease the current and overburdened of the Mt. Rose side facilities and will allow the two portions of the resort to operate as one cohesive ski area. The overall area of disturbance associated with spot grading and snow making would be 23.9 acres and 3.0 acres of rock blasting.

During the summer of 2006, Forest Service and Mt. Rose personnel developed an alternative method to traditional grading an entire trail called "spot" grading. The method includes using an excavator to re-contour irregularities, high and low spots, on existing trails. This alternative method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reducing visual impacts

A. Existing Condition:

Due to the current irregular and rocky terrain, the Slide side of the resort is significantly underutilized and frequently does not open until after the peak holiday period. This side of the resort is not reliable during early season and low snow year conditions and is not available for skiing on average until one-month after the Mt. Rose side opens. Opening days for both the Mt.

Rose and Slide sides between 1987/88 and 2007/2008 are provided in Table 1. As evidenced by this data, on average, the Mt. Rose side has opened one month earlier than the Slide side over the past 21 seasons. In addition, the Slide side has not been open for the December holiday season 43% of the past 21 seasons.

Table 1. Opening Dates for Mt. Rose and the Slide side.

Season	Mt. Rose	Slide Side
1987/88	Dec. 11	Dec. 30
1988/89	Nov. 18	Dec. 23
1989/90	Dec. 1	Jan. 19
1990/91	March 6	March 8
1991/92	Nov. 20	Dec. 30
1992/93	Dec. 9	Dec. 18
1993/94	Dec. 15	Feb. 26
1994/95	Nov. 18	Nov. 26
1995/96	Dec. 13	Dec. 20
1996/97	Nov. 23	Dec. 14
1997/98	Nov. 26	Dec. 10
1998/99	Nov. 13	Dec. 1
1999/00	Dec. 26	Jan. 21
2000/01	Nov. 17	Feb. 10
2001/02	Nov. 28	Dec. 4
2002/03	Nov. 8	Dec.8
2003/04	Nov. 7	Dec. 21
2004/05	Nov. 11	Dec. 9
2005/06	Dec. 2	Dec. 3
2006/07	Nov. 30	Feb. 13
2007/08	Dec. 2	Dec. 21
<i>Average Date</i>	<i>Nov. 30</i>	<i>Dec. 29</i>

Source: Mt. Rose Ski Tahoe

B. Need:

To enhance the existing condition of ski trails and provide the necessary linkage terrain and skier access during low snow conditions. The implementation of spot grading, rock blasting, and snowmaking on select trails on the Slide side would create an improved skiing product and significantly decrease the current over utilization of the Mt. Rose portion of the resort. The projects will improve utilization of the newly proposed Slide Lodge facility and lead to a more effective and even distribution of guests throughout the resort thereby enhancing the recreation experience.

PURPOSE AND NEED #2: MT. ROSE SIDE IMPROVEMENT PROJECTS-UPGRADE PONDEROSA/GALENA CHAIRLIFTS

The purpose and need of the proposed project at the Mt. Rose side of the resort is to improve the skier experience on existing beginner terrain served by the Ponderosa and Galena lifts. These existing fixed-grip chairlifts, which will need to be upgraded in the near future, would be replaced with a single high speed chairlift in order to meet the demands and expectations of the recreating public. The Proposed Action is designed to enable guests to spend less time waiting in

lines and more time on the snow. The detachable chairlift would also improve efficiencies by eliminating a load and unload area creating one designated lift for less advanced guests. This action responds to the goals and objectives outlined in the Humboldt-Toiyabe National Forest Plan (USDA 1986), and helps move the project area towards desired conditions described in that plan.

A. Existing Condition:

Two existing fixed grip chairlifts currently provides access to Mt. Rose's beginner and low-intermediate terrain. However, the chairlifts are not able to accommodate the current expectations and demands of the recreating public.

B. Need:

The Ponderosa and Galena fixed grip chairlifts at the Mt. Rose side of the resort need to be replaced with a single high-speed, detachable chairlift approximately 5,343 feet in length and servicing approximately 590 vertical feet. While both of these lifts are currently located entirely on private land, the current proposal would extend the top terminal 300 feet uphill of the existing location onto NFS lands within Mt. Rose's SUP area. The approximate disturbance associated with the extension onto a flat bench on NFS lands would be less than 1.5 acres. Shifting the location of the top terminal uphill provides adequate unloading and milling space for this higher capacity lift, which would also have a larger top terminal than the existing Galena fixed-grip lift. The proposed action will improve skier access and circulation on existing beginner and lower intermediate terrain served by the Ponderosa and Galena lifts.

In addition, limited tree cutting and trail grading work would be performed to connect the proposed top terminal with the existing trail network and install snowmaking. The majority of the new lift alignment would essentially share the same corridor as the existing Ponderosa and Galena chairlifts. An excavator and limited dozer work will be used for removal and installation of towers. The new unload terminal will include limited tree cutting and ground work to accommodate the top terminal, install snowmaking, and connect to the existing trail network.

D. SCOPING AND IDENTIFICATION OF KEY ISSUES

SCOPING AND IDENTIFICATION OF ISSUES TO BE ANALYZED

Approximately 120 Notice of Proposed Action (NOPA) scoping letters for the Mt. Rose-Ski Tahoe Trail and Lift Improvements Projects were mailed on May 27, 2008. Interested or potentially affected members of the public, as well as local, state, and federal governmental agencies were included on the Forest Service mailing list. A legal notice, published in the Reno Gazette-Journal on May 22, 2008 announced the initiation of the NEPA process and invited public participation and comments.

In addition to 2 letters written in support of the project, one written comment was received and reviewed by the Forest Service IDT. The comment addressed business and operations decisions that were considered outside the scope of the environmental analysis. No public open house was deemed necessary based on comments received.

KEY ISSUES

Extent of Overall Ground Disturbance

The Proposed Action entails areas of ground disturbance that would result from ski trail spot grading, the installation of snowmaking infrastructure, and replacement of the Ponderosa/Galena lift. No resource areas of concern identified as key issues.

E. FOREST SERVICE MANAGEMENT DIRECTION

Management direction is expressed in terms of both Forest Service direction and management area direction. Forest Service direction consists of goals, objectives, and management requirements, which are generally applicable to the entire Forest. Management area direction contains management requirements specific to individual areas within NFS lands and are applied in addition to the Forest Service direction management requirements.

The Forest Plan for the Toiyabe portion of the Humboldt-Toiyabe National Forest was adopted in 1986. The 1986 Forest Plan established management direction for the Toiyabe National Forest as a whole, as well as for specific management areas within it. The 2004 Sierra Nevada Forest Plan Amendment to the 1986 Forest Plan re-enforced the agency management direction.

The NFS portions of the Mt. Rose ski area are located in Management Area 2 - Carson Front, as indicated by the Forest Plan. This management area includes all NFS lands south of the Truckee River Canyon and north of the West Fork of the Carson River. Management Area 2 lies directly west of Reno, Carson City, and Minden-Gardnerville. These lands are directly visible from the Carson, Eagle, Washoe, and Truckee Meadows valleys. Key resource values in Management Area 2 are watershed, wildlife, visuals, and dispersed recreation. The Forest Plan states that coordination with federal, state, and local governments will accomplish mutual recreation, wildlife, and watershed objectives.

F. DECISION TO BE MADE

This Environmental Assessment (EA) documents the site-specific environmental analysis for alternatives 1 and 2. The Responsible Official - the Forest Supervisor for the Humboldt-Toiyabe National Forest - will make a decision based on the site-specific analysis documented for each of the two alternatives analyzed in Chapter III. The Forest Supervisor is not required to wholly select one of the two alternatives analyzed in Chapter III, but may select components of any or all alternatives, thereby formulating an entirely new alternative. The Forest Supervisor's selected alternative, and accompanying rationale for the selection, will be documented in a forthcoming Decision Notice.

In addition to determining whether to approve implementation of the Proposed Action analyzed in this document, the Forest Supervisor will also determine which mitigation measures to require. The Forest Supervisor may also require additional mitigation measures not discussed within this document.

G. LIST OF PERMITS AND APPROVALS REQUIRED FOR IMPLEMENTATION

This EA is designed to serve as an analysis document for parallel processes at several levels of government. The Forest Service decision would apply only to projects proposed on NFS lands within Mt. Rose's SUP area(s). However, potential effects resulting from implementation of the Proposed Action on activities administered by other federal, state, and local jurisdictions are also disclosed within this document.

Decisions by other jurisdictions to issue approvals related to this proposal may be aided by the analysis presented in this document. In addition to requisite Forest Service approvals, the following permits or approvals may potentially be required to implement the action alternative.

- State of Nevada Historic Preservation Officer, National Historic Preservation Act, Section 106 Consultation
- Washoe County general construction permit(s)
- Nevada Division of Environmental Protection - Storm Water Pollution Prevention Plan

MT. ROSE SKI TAHOE
ENVIRONMENTAL ASSESSMENT

CHAPTER II
DESCRIPTION OF ALTERNATIVES

II. DESCRIPTION OF ALTERNATIVES

A. INTRODUCTION

Chapter II describes the alternatives considered within this environmental analysis and summarizes the environmental consequences associated with implementing them. As required by the Council on Environmental Quality (CEQ),¹ the alternatives considered are presented in comparative form and provides both the deciding officer and the public with a clear basis for choice between alternatives. Mitigation measures, which would lessen or avoid impacts that may result from implementation of the action alternative, are also outlined.

B. PROCESS USED TO DEVELOP ALTERNATIVES

The process used to develop alternatives to the Proposed Action followed public and agency scoping (described in Chapter I) as well as internal Forest Service Interdisciplinary Team (IDT) project review. Accordingly, both public and governmental entities identified key issues for consideration within this analysis. These issues were utilized to determine the need for alternatives to the Proposed Action.

Alternatives were formulated in accordance with the following three-step process:

1. Identify the basic purposes, objectives, and environmental issues related to the Proposed Action.
2. Identify alternate ways in which these purposes and objectives could be met or ways in which potential environmental impacts might be reduced.
3. Of the potential alternatives identified, retain those which could reasonably fulfill project purposes and which have potential to address key issues associated with the proposal, along with avoiding or minimizing environmental impacts.

C. ALTERNATIVES CONSIDERED IN DETAIL

Through the scoping process one written comment was received and reviewed by the IDT. The comment addressed business and operations decisions within the Mt Rose side of the resort and was considered outside the scope of the environmental analysis. The IDT determined that particular project elements are adequately represented through the analysis of the No Action Alternative (Alternative 1) and the Proposed Action (Alternative 2). No other public or governmental entities identified any key environmental impact issues for consideration that would warrant the formulation of additional alternatives.

¹ 40 CFR 1502, 1997

ALTERNATIVE 1 - NO ACTION

Alternative 1, the No Action Alternative, reflects a continuation of existing management practices without changes, additions, or upgrades to the portions of the ski area operating on NFS lands. Given that no new improvements would occur on NFS lands under the No Action Alternative; this alternative provides a baseline for comparing the effects of the action alternative. Alternative 1 is described below.

Slide Side

The No Action Alternative would not allow for the increased reliability and duration of the operating season on the Slide side of the resort. The Slide side would remain underutilized and unable to open until after the peak holiday period as shown in Table I-1 due to fluctuations in annual snowfall. Alternative 1 would translate to a decreased recreational experience in the early and late season periods as select trails are inoperable or marginalized. Guests would continue to encounter overcrowded conditions on the Mt. Rose side during periods of low natural snowfall.

Mt. Rose Side

Under the No Action Alternative no extension of the Ponderosa/Galena upper lift terminal would occur on NFS lands. Skier access and circulation on existing beginner and lower intermediate terrain would not improve the skiing experience nor meet the expectations of the recreating public.

ALTERNATIVE 2 - PROPOSED ACTION

Alternative 2, the Proposed Action, represents the logical progression of development at Mt. Rose and is designed to enhance current skiing facilities and conditions. These actions respond to the goals and objectives outlined in the Toiyabe Forest Plan (USFS 1986), and helps move the project area towards desired conditions described in that plan. Mitigation measures and Best Management Practices (BMPs) described below will protect natural resources while minimizing the potential impacts to the environment.

Slide Side

Terrain improvements on the Slide side of the ski area includes conducting spot grading, rock blasting, and installing snowmaking infrastructure on select trails. This alternative will create a reliable and consistent skiing experience during low snow conditions as well as alleviate overcrowded conditions on the Mt. Rose side. During the summer of 2006, Forest Service and Mt. Rose personnel developed an alternative method to traditionally grading an entire trail called “spot” grading. The method entails using an excavator to re-contour irregularities and high and low spots on existing trails. This alternative method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reducing potential visual impacts. Seeding, mulching, and fertilizing would be conducted immediately following site disturbance.

Under Alternative 2 projects being proposed on various existing trails for site-specific environmental review include approximately 23.9 acres of spot grading on Slide Bowl, Sunrise Bowl, Lower Bruce’s Trail, and Washoe Zephyr Trail; 3.0 acres of rock blasting on Outlaw Trail; and snowmaking installation on the Sunrise Bowl (See Figure 2). All proposed projects are

situated on NFS land within Mt. Rose's Ski Area Permit boundary.

Spot Grading on Slide Bowl

Mt. Rose is proposing to spot grade approximately 13.8 acres of the area known as the Slide Bowl to improve the skiing experience in early and late season low snow conditions (See Figure 3). This terrain provides a crucial link to allow access from the upslope transition trails to the Slide lodge facilities.

The proposed action includes using an excavator and limited dozer work to spot grade areas of higher elevation along the trail. This method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reduce potential visual impacts. Snowmaking will also be included in this area as previously approved in the 2003 Master Development Plan.

Spot Grading and Snowmaking - Sunrise Bowl

Mt. Rose is proposing to spot grade approximately 4.1 acres of the Sunrise Bowl trail to improve the skiing experience in early and late season low snow conditions and improve the necessary linkage terrain needed to access the Slide lodge facilities (See Figure 4).

The proposed action includes using an excavator and limited dozer work to spot grade areas of higher elevation along the trail. This method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reduce potential visual impacts.

The proposed action will also include the installation of a snowmaking pipeline to supplement the limited spot grading. The snowmaking pipeline will also be used for irrigation purposes during the summer to promote re-vegetation in the re-contoured areas. Mt. Rose currently holds water rights adequate to supply the proposed snowmaking coverage area on the Sunrise Bowl. The proposed snowmaking line would generally be buried to a depth of between 4 to 5 feet to reduce the risk of freezing. Disturbance widths would be approximately 40 feet. When burying the line, topsoil or surface layers would be removed, stockpiled, and used during revegetation. The disturbance corridor for line installation would be blended into the surrounding trail area.

Spot Grading The Washoe Zephyr Trail

Mt. Rose is proposing to spot grade approximately 3.8 acres of the Washoe Zephyr trail to improve the skiing experience in early and late season low snow conditions (See Figure 5). The proposed action includes using an excavator and limited dozer work to spot grade areas of higher elevation along the trail. This method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reduce potential visual impacts.

Spot Grading Lower Bruce's Trail

Mt. Rose is proposing to spot grade approximately 2.2 acres of Lower Bruce's trail from the intersection of the Badlands trail to the Zephyr Return traverse in order to improve the skiing experience in early and late season low snow conditions and improve the necessary linkage terrain needed to access the Slide lodge facilities (See Figure 6).

The proposed action includes using an excavator and limited dozer work to spot grade areas of higher elevation along the trail. This method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reduce potential visual impacts.

Rock Blasting Outlaw Trail

Mt. Rose is proposing to rockblast 3.0 acres along the Outlaw trail. This activity will greatly enhance the existing conditions of this trail and allow for utilization during early and late season low snow conditions (See Figure 7).

Rock blasting includes drilling a hole into the rock and using explosive for dispersal. After blasting the rock debris will be worked by hand into depression areas. Slope contours would remain relatively intact. Mt. Rose has had extensive experience with this type of activity on previous projects. Mt. Rose has a Blasting Plan contained in its 2007 Final Erosion Control Plan approved by the NFS that outlines safety issues associated with this activity as well as procedures to notify the public before blasting commences.

Mt. Rose Side – Upgrade Ponderosa/Galena Chairlifts

The Ponderosa and Galena chairlifts, which service Mt. Rose's teaching and beginner terrain, would be replaced with a single high-speed, detachable chairlift approximately 5,343 feet in length and servicing approximately 590 vertical feet. While both the Ponderosa and Galena lifts are currently located entirely on private land, the current proposal would extend the top terminal 300 feet uphill of the existing location onto NFS lands within Mt. Rose's permit area (See Figure 8). Shifting the location of the top terminal uphill provides adequate unloading and milling space for this higher capacity lift, which would also have a larger top terminal than the existing Galena fixed-grip lift. The new lift alignment would essentially share the same corridor as the existing Ponderosa and Galena chairlifts.

Project construction includes less than 1.5 acres of disturbance including installation of the top terminal, connection to the existing trail network, and installation of snowmaking (See Figure 9). Within this subalpine conifer forests consisting mainly of lodgepole pine and mountain hemlock trees approximately 46 trees under 6-inches, 83 trees between 6 and 12-inches, 41 trees 12 to 24-inches, and 3 trees greater than 24-inches would be removed. Designated tree islands would not be removed in order to minimize impacts and to improve the overall aesthetics and experience of the unload area. Limited excavator and dozer work would take place to remove terrain irregularities within the top terminal area and to connect to the existing trail network. Timber generated from the project activities would be sold as firewood, chipped into mulch, or remain on site as large woody debris.

Currently the Mt. Rose snowmaking system terminates at the top of the existing Galena unload area. The proposed action includes installing a snowmaking pipeline from this existing location through the unload area and connecting back to the existing main line located on Lower Around the World (See Figure 9). The area for snowmaking along the Lower Around the World trail was previously approved in the 2003 Master Development Plan. The proposed snowmaking line would generally be buried to a depth of between 4 to 5 feet to reduce the risk of freezing. When

burying the line, topsoil or surface layers would be removed, stockpiled, and used during revegetation.

D. MITIGATION MEASURES AND BEST MANAGEMENT PRACTICES

NEPA and CEQ regulations require the identification of all relevant, reasonable mitigation measures that could reduce the impacts of the project action, even if those measures are outside the jurisdiction of the Forest Service. Mitigation measures are also expected to rectify impacts through repairing, rehabilitating, or restoring the affected environment and to reduce or eliminate impacts over time by maintenance operations during the lifetime of the action. In addition, construction monitoring will consist of a qualified Forest Service person being on site to see that planned mitigation and best management practices are followed.

Grading activities associated with the Slide side and Mt. Rose side projects would involve disturbance of the soil to affect a change in slope contours. During grading, topsoil would be removed from cut and fill locations, and stockpiled. Slopes would be re-contoured to blend with the surrounding terrain and topsoil would be replaced prior to fertilizing, seeding, and mulching. Best Management Practices for drainage and erosion control will be implemented. Mt. Rose has a Storm Water Pollution Prevention Plan (SWPPP) developed for Washoe County and a Forest Service approved Erosion Control Plan that is tailored to facility improvements. The BMPs contained in these plans have proven effective over time on similar projects and would apply to all improvement actions described in this EA. In addition, Mt. Rose will comply with all applicable federal, state, and local laws and regulations as well as all terms and conditions contained within the Ski Area Permit.

A number of elements incorporated within the design of the Proposed Action effectively serve to mitigate potential adverse effects. As previously discussed, the US Forest Service and Mt. Rose personnel developed an alternative method to traditional grading an entire trail called “spot” grading. The method includes using an excavator to re-contour irregularities and high and low spots on existing trails. This alternative method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reduce potential visual impacts. Table 2 describes measures that would be required with the implementation of the proposed action to avoid, minimize, or mitigate the potential impacts identified in Chapter III.

In addition to the mitigation measures outlined in Table 2, Mt. Rose would be required to prepare and submit for Forest Service approval the following documents:

- Project construction details;
- Pre-construction erosion control/drainage management plans;
- Vegetation management plan;
- Post-construction erosion control plans;
- Post-construction revegetation plans.

Table 2
Potential Effects to be Mitigated and Proposed Mitigation Measures

AIR QUALITY	
Fugitive dust	<ol style="list-style-type: none"> 1. To the extent feasible, site improvements will be conducted promptly in order to reduce the potential for dust emissions. The area disturbed by clearing, earth moving, or excavation activities would be kept to a minimum at all times, allowing improvements to be implemented in sections. 2. Erosion control and revegetation efforts will commence immediately following grading as per the approved Forest Service Erosion Control Plan.
SOILS	
Soil erosion initiated by spot grading, and construction activities	<ol style="list-style-type: none"> 1. The existing Forest Service approved Erosion Control Plan will be implemented. 2. Revegetation measures will occur in all disturbed areas. 3. A construction plan will be developed and submitted to the Forest Service for review and approval prior to implementation of proposed project elements.
Loss of topsoil and soil mixing	<ol style="list-style-type: none"> 1. Waterbars, rolling dips, and other drainage structures for erosion control will be placed as needed within the minimum required spacing. 2. In all areas where grading or soil disturbance will occur, stockpile and re-spread topsoil following slope spot grading and prior to re-seeding. Avoid soil-disturbing activities during periods of heavy rain or wet soils.
Waterbars	<ol style="list-style-type: none"> 1. Waterbar spacing should generally be 75-100 feet, on steeper slopes a closer spaced interval of 50 feet may be necessary. 2. Waterbars should drain into armored, energy-dissipating infiltration basins of appropriate size wherever feasible. In places where topography and slope makes it practical, more than one waterbar may drain into a basin of appropriate size. Waterbars may also drain into undisturbed vegetated areas adjacent to the slope. 3. Water bars and drainage basins should be inspected seasonally, and maintained and cleared of sediment at regular intervals and as necessary.
Soil compaction	Areas determined to have been compacted by grading activities may require mechanical subsoiling or scarification to the compacted depth to reduce bulk density and restore porosity.
VEGETATION RESOURCES	
Revegetation Irrigation	<ol style="list-style-type: none"> 1. The frequency and quantity of irrigation is a function of species, site conditions, and precipitation. Deep watering is more effective than shallow watering and helps to conserve water supplies. Water should percolate at least two inches below the root zone during each watering. Watering will be conducted as described in the Erosion Control Plan. Irrigation water distribution may be conducted with either sprayers or dripline systems.
Seeding Mix	<p>Mt. Rose will work with the Forest Service in developing an appropriate weed-free, native seed mix. Mt. Rose will also work with the Forest Service on application and timing. The seed mix will be site specific and based on:</p> <ol style="list-style-type: none"> 1. elevation of Mt. Rose, 2. existing habitat/vegetation, and 3. recent reseeding success by Mt. Rose. 4. preference for native species

**Table 2
Potential Effects to be Mitigated and Proposed Mitigation Measures**

Tahoe draba	<ol style="list-style-type: none"> 1. Tahoe draba has not been found within the project areas on either the Slide or the Rose side of the resort. 2. Although no Tahoe draba is located within the project area and there would be no impact associated with construction, adjacent habitat and individuals were identified on the Switchback and upper Washoe Zephyr trail. Prior to commencing ground disturbing activities in these areas surveys will be conducted to identify the individuals/aggregations and this area will be avoided using construction fencing to avoid unintentional disturbance. 3. Prior to the initiation of construction activities, Mt. Rose will provide species recognition training for all construction personnel.
Galena Creek Rockcress	<ol style="list-style-type: none"> 1. Galena Creek rockcress has not been found within the project areas on either the Slide or Rose side of the resort. 2. Prior to the initiation of construction activities, Mt. Rose will provide species recognition training for all construction personnel.
NOXIOUS WEEDS	
	<ol style="list-style-type: none"> 1. Work cooperatively with Nevada State agencies and Washoe County to: (1) prevent the introduction and establishment of noxious weed infestations and (2) control existing infestations. 2. As part of project planning, conduct a noxious weed risk assessment to determine risks for weed spread (high, moderate, or low) associated with the proposed trail improvements. 3. Require off-road equipment and vehicles (both Forest Service and contracted) used for project implementation to be weed free. 4. Conduct follow-up inspections of ground disturbing activities to ensure adherence to the Regional [4] Noxious Weed Management Strategy. 5. Routinely monitor noxious weed control projects to evaluate the need for follow-up treatments or different control methods. Monitor known weed infestations, as appropriate, to determine changes in weed population density and rate of spread. 6. Use certified weed free hay and straw.
WETLAND AND RIPARIAN AREAS	
	<ol style="list-style-type: none"> 1. No wetland or riparian disturbance is associated with the project and no impacts will occur.
WILDLIFE	
Effects to Migratory Birds	<ol style="list-style-type: none"> 1. The effects to nesting migratory bird species would be minimized by trimming and cutting outside the avian breeding season, which is approximately from April 1 through August 31. Trimming and cutting of vegetation during the avian breeding season may be done if the work area is declared clear of nesting birds by a qualified biologist.
VISUAL RESOURCES	
Visual effects of construction of the proposed improvements	<ol style="list-style-type: none"> 1. Use helicopters for transport of Ponderosa/Galena ski lift components (e.g., towers) and other construction materials where areas cannot be accessed by existing roads. 2. Structures should be constructed of materials that blend with the landscape character. 3. Minimize soil disturbance due to construction activity and revegetate disturbed areas promptly.

Table 2
Potential Effects to be Mitigated and Proposed Mitigation Measures

CULTURAL RESOURCES	
Discovery of unidentified historic properties	<ol style="list-style-type: none"> 1. A cultural resource pedestrian survey and record search for both the Mt. Rose and Slide side project areas did not reveal the presence of any resources. 2. If undocumented historic and/or prehistoric properties are located during ground disturbing activities associated with construction activities, they will be treated as specified in 36 CFR 800.11 concerning Properties Discovered During Implementation of an Undertaking.

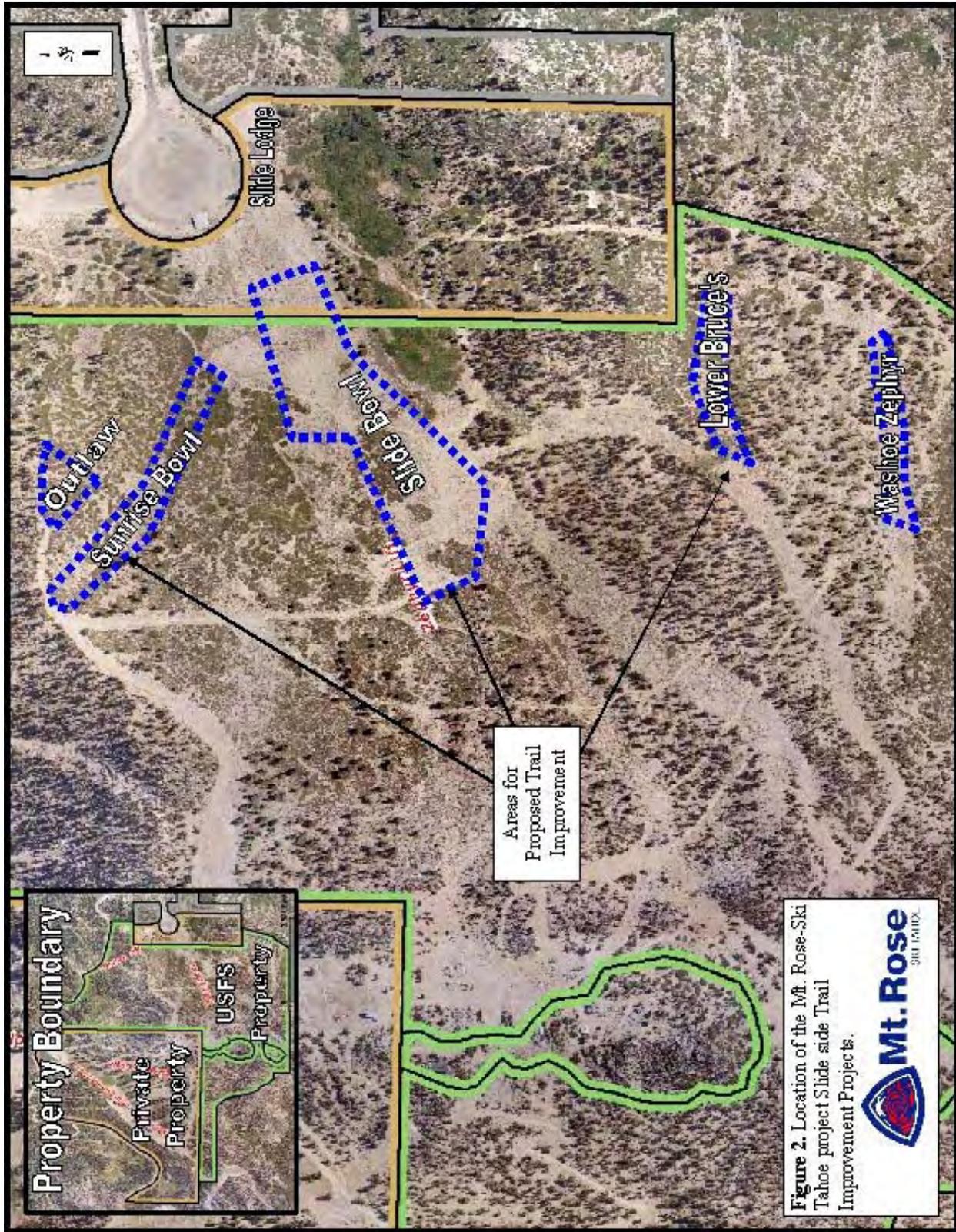
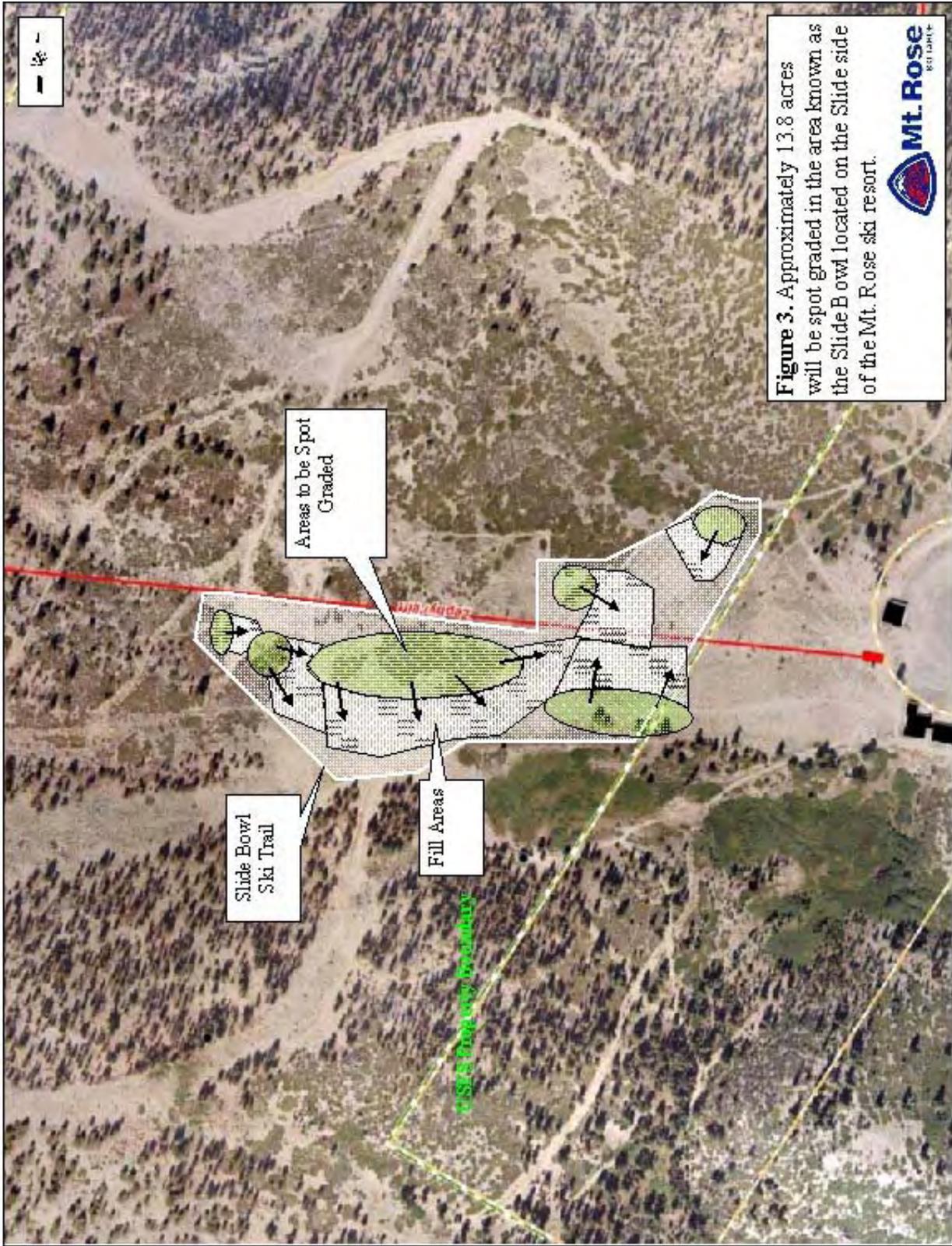


Figure 2. Location of the Mt. Rose-Ski Tahoe project Slide side Trail Improvement Projects.





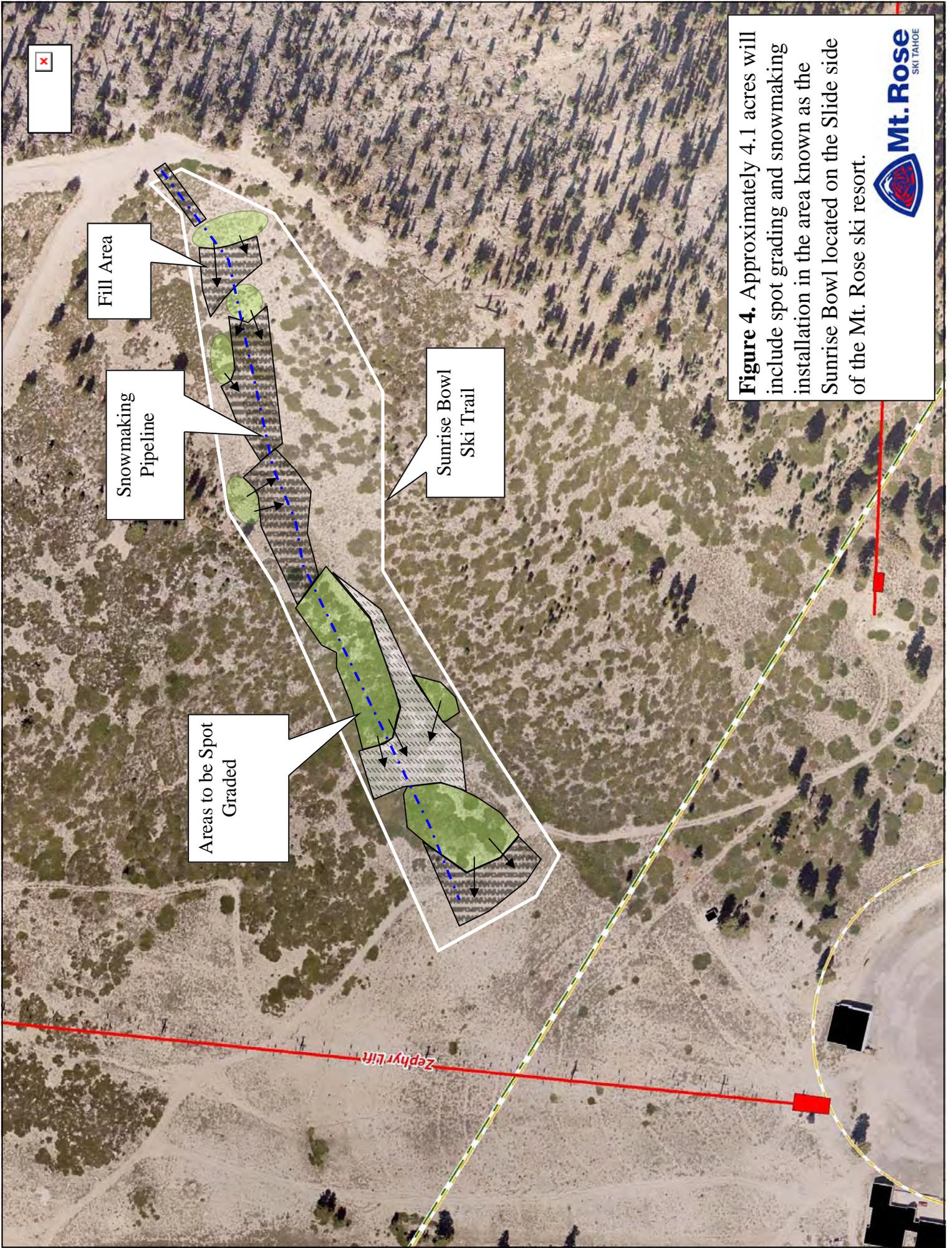
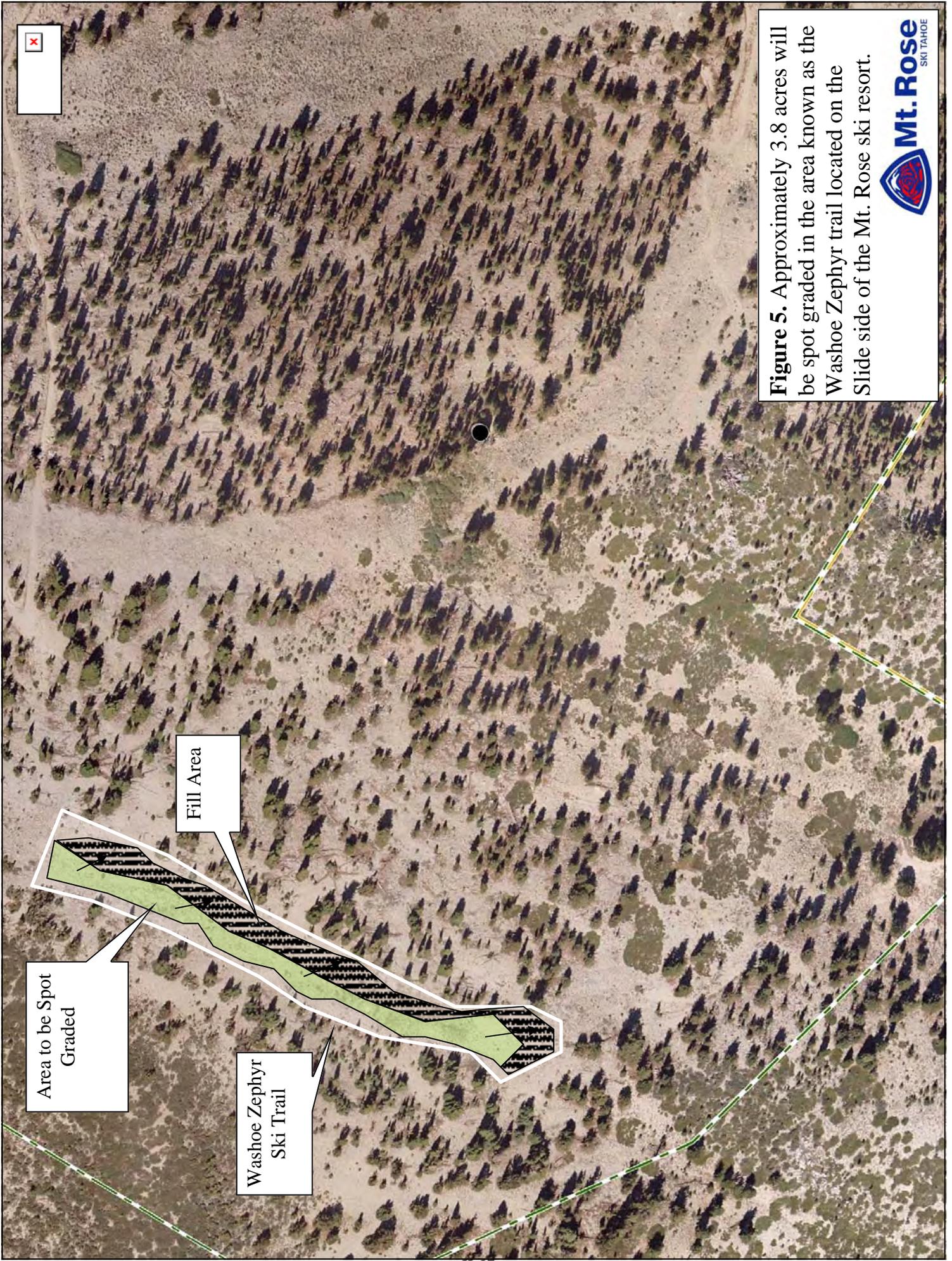


Figure 4. Approximately 4.1 acres will include spot grading and snowmaking installation in the area known as the Sunrise Bowl located on the Slide side of the Mt. Rose ski resort.





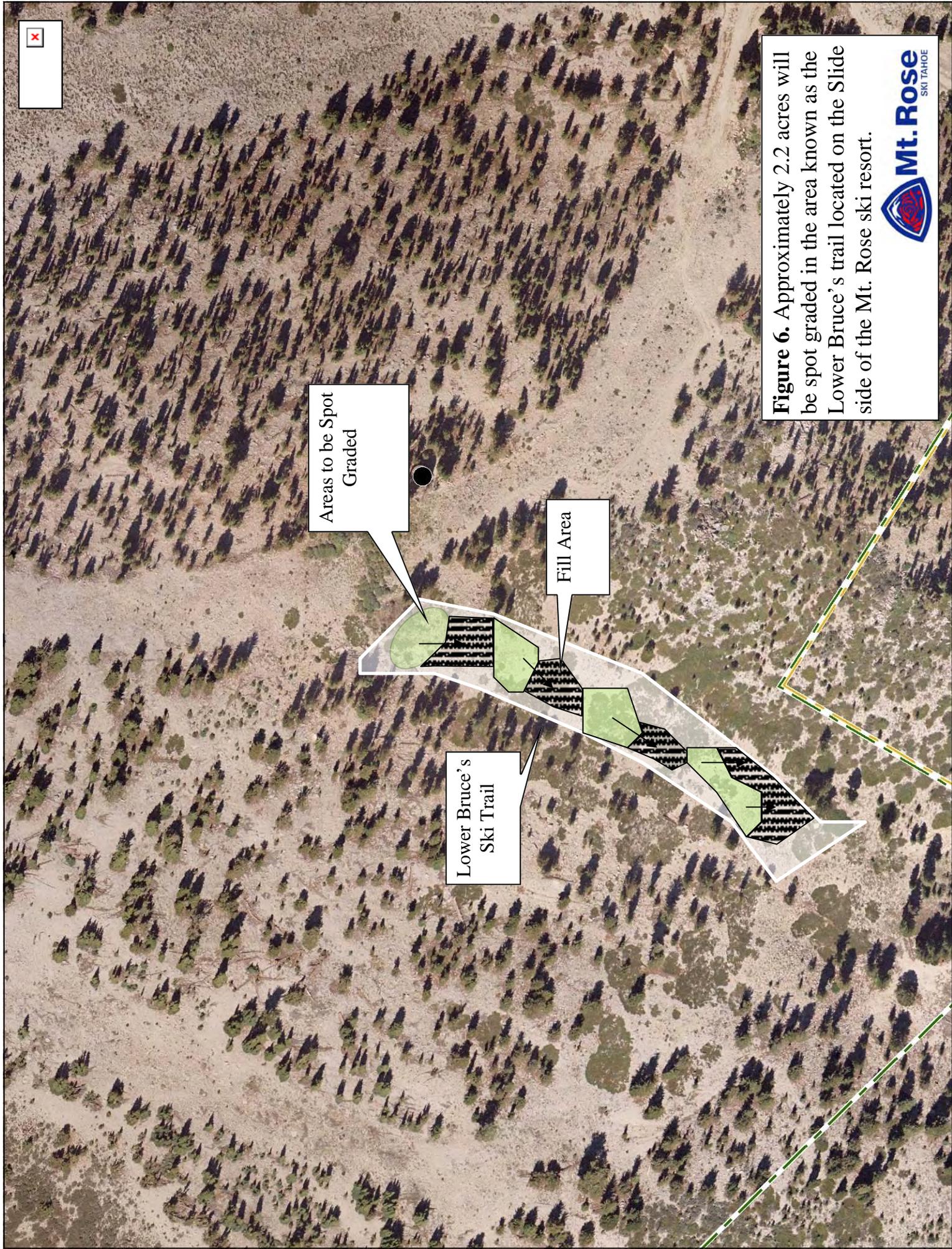
Area to be Spot Graded

Fill Area

Washoe Zephyr Ski Trail

Figure 5. Approximately 3.8 acres will be spot graded in the area known as the Washoe Zephyr trail located on the Slide side of the Mt. Rose ski resort.





Areas to be Spot Graded

Fill Area

Lower Bruce's Ski Trail

Figure 6. Approximately 2.2 acres will be spot graded in the area known as the Lower Bruce's trail located on the Slide side of the Mt. Rose ski resort.



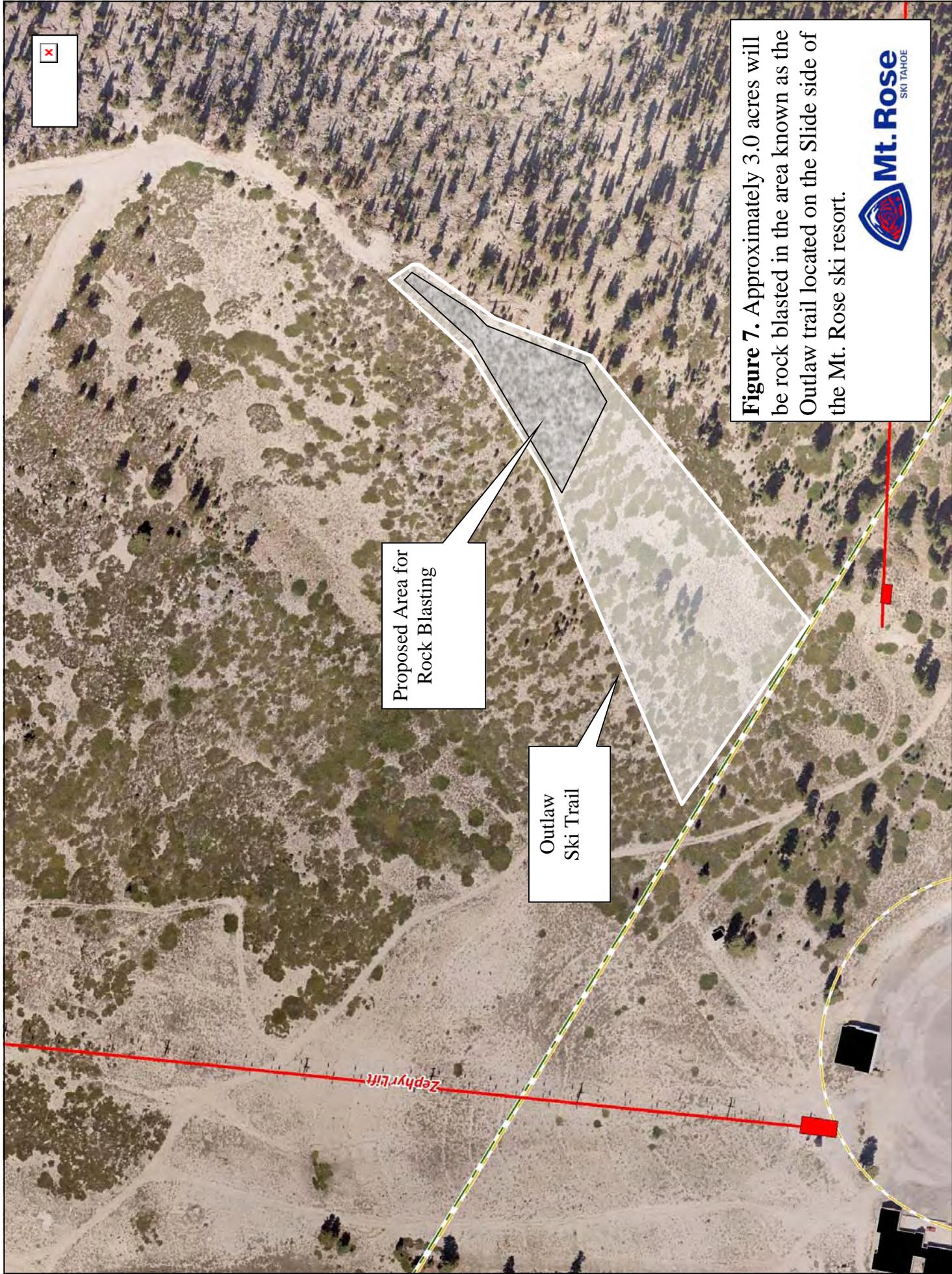


Figure 7. Approximately 3.0 acres will be rock blasted in the area known as the Outlaw trail located on the Slide side of the Mt. Rose ski resort.



Proposed Area for
Rock Blasting

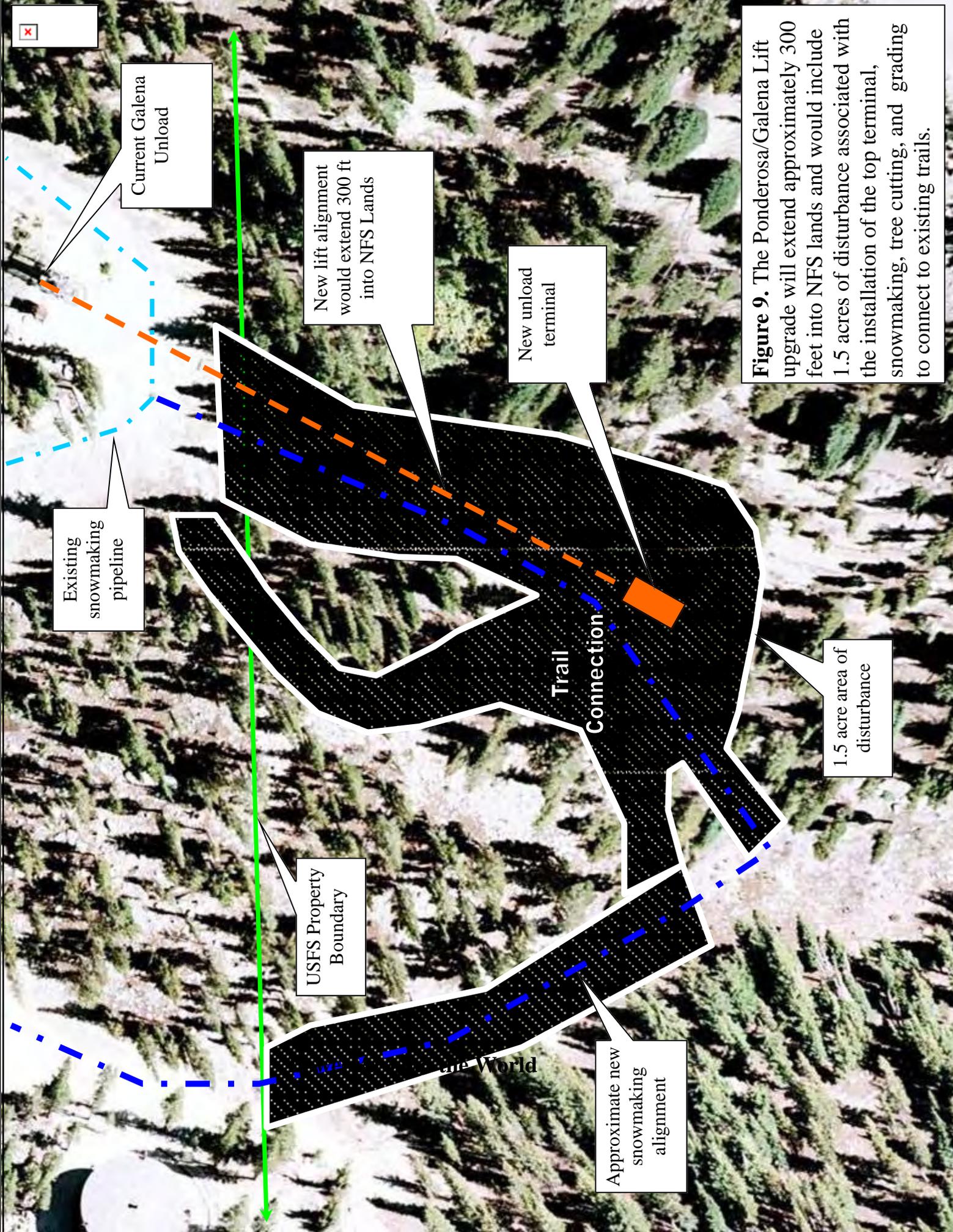
Outlaw
Ski Trail

Zephyr Lift



Figure 8. Location of the Mt. Rose-Ski Tahoe Ponderosa and Galena Chairlift Upgrade Project.





Current Galena Unload

New lift alignment would extend 300 ft into NFS Lands

New unload terminal

Existing snowmaking pipeline

Trail Connection

1.5 acre area of disturbance

USFS Property Boundary

Approximate new snowmaking alignment

Figure 9. The Ponderosa/Galena Lift upgrade will extend approximately 300 feet into NFS lands and would include 1.5 acres of disturbance associated with the installation of the top terminal, snowmaking, tree cutting, and grading to connect to existing trails.

MT. ROSE SKI TAHOE
ENVIRONMENTAL ASSESSMENT

CHAPTER III
AFFECTED ENVIRONMENT
AND ENVIRONMENTAL CONSEQUENCES

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A. INTRODUCTION

Chapter III provides a focused overview of the study area's immediate and surrounding environment. The Council on Environmental Quality (CEQ) regulations directs agencies to succinctly describe the environment that may be affected by the alternative under consideration, including the No Action alternative.¹ The description of existing conditions for each resource in this chapter is followed by an analysis of the environmental consequences associated with the selection of each alternative. The direct, indirect, and cumulative effects anticipated to result with the implementation of each alternative are disclosed.

Resources that were analyzed specifically for the Proposed Action include: cultural, resort facilities and infrastructure, recreation, vegetation, visual, watershed/soils, and wildlife. Specific resources that were analyzed for the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* are incorporated by reference in this document due to the redundancy and negligible change of the potential impacts and current conditions. These resources include:

- Air Quality
- Geotechnical Resources
- Social and Economic Resources
- Traffic and Parking
- Wetlands and Riparian Areas

The 2003 Environmental Assessment referenced above identifies Tahoe draba (*Draba asterophora* var. *asterophora*) as a species that could be impacted with the associated improvement projects at the ski resort. All of the currently proposed projects on the Slide side and Mt. Rose side of the ski resort are located outside or below the elevation habitat for Tahoe draba. Pre-construction surveys were performed in 2007 and 2008 to ensure no sensitive species, including Tahoe draba, would be affected by construction. In addition to the NEPA required surveys on NFS Lands, Mt. Rose performed biological surveys on private property to ensure protection of special status species and habitat. A Biological Assessment/Biological Evaluation is provided for all elements of the proposed action in Appendix A.

Potential effects on the environment resulting from the Proposed Action are analyzed below. Chapter III is organized by resource section and follows the following order:

INTRODUCTION

This provides background information pertaining to the resource area, and why it is applicable to this analysis.

¹ 40 CFR 1502.15

SCOPE OF THE ANALYSIS

The scope briefly describes the geographic area(s) likely to be affected by the alternative for each resource analyzed. Spatial areas may be different for direct, indirect, and cumulative effects.

FOREST PLAN DIRECTION

This section summarizes pertinent Forest Plan direction and defines the management objectives for each resource.

CURRENT CONDITION

The current condition describes the existing condition of the resource, based upon current uses and management.

DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

This section describes and analyzes the direct and indirect effects anticipated to result with the selection of each of the respective alternatives.

- Direct effects are caused by the action and occur at the same time and place.
- Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (i.e., likely to occur within the duration of the project).

CUMULATIVE EFFECTS

Cumulative effects are the result of the incremental effects of any action when combined with other past, present, and reasonably foreseeable future actions, and can result from individually minor, but collectively significant actions taking place over time.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

An irreversible commitment is a permanent or essentially permanent use or loss of resources; it cannot be reversed, except in the extreme long term. Examples include minerals that have been extracted or soil productivity that has been lost. An irretrievable commitment is a loss of production or use of resources for a period of time.

FOREST PLAN CONSISTENCY

This section demonstrates whether the predicted effects of each alternative are consistent with Forest Plan standards and guidelines and/or follow Forest Plan direction.

B. CULTURAL RESOURCES

INTRODUCTION

In 2003 cultural resource surveys and reporting was completed on all non-surveyed portions of NFS lands at Mt. Rose-Ski Tahoe that were proposed for disturbance as part of the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvement* (2003 EA). A Class I records search of NFS lands was conducted at the Nevada State Museum and the Carson Ranger District for the project. The results of the records search indicated that nine previous inventories had been conducted within one mile of the project area. A detailed description of the cultural resource findings presented in the 2003 EA is incorporated by reference into this EA. In addition to the assessments above, the 2008 cultural resources survey report for these project actions conducted by a Registered Professional Archeologist is included in Appendix B.

Installation of the Ponderosa/Galena upper lift terminal on the Mt. Rose side of Slide Mountain on NFS lands is proposed to be placed on an approximate area of 1.5 acre of non-surveyed NFS land. To provide complete coverage on NFS lands an updated cultural resource record search and a pedestrian survey of the area was conducted on June 23 and June 25, 2008. No cultural resources were identified.

SCOPE OF THE ANALYSIS

This cultural resources analysis includes a pedestrian survey conducted on a 1.5 acre area on previously unsurveyed NFS lands on the Mt. Rose side of Slide Mountain where the Ponderosa/Galena upper lift terminal is planned.

FOREST PLAN DIRECTION²

Forest-wide Standards and Guidelines

Direction in the Forest Plan calls for full implementation of State Historic Preservation Office (SHPO) standards, as well as standards supported by the archaeological community. The Forest Plan also states that a cultural resource inventory will be conducted prior to surface disturbing projects and when there is an agency decision which could have an effect on significant sites in areas where previous survey and evaluation have not been accomplished.

CURRENT CONDITIONS

Surveys conducted for the 2003 EA had a records search radius that encompassed the current project area. No sites were previously recorded in the project area and no previous survey had occurred in the project area either. As a result, an updated cultural resource inventory was conducted for this EA to meet Forest Plan requirements for the proposed project action on NFS lands. The inventory of the previously unsurveyed 1.5 acre area for the Ponderosa/Galena upper lift terminal extension was conducted on June 25, 2008.

² USDA Forest Service, 1986

Pre-field research

A Class I records search covering the project area was conducted to identify any previously conducted surveys or previously recorded cultural resource within or near the project area. The Carson Ranger District of the Humboldt-Toiyabe National Forest, Nevada State Historic Preservation Office, and Mount Rose Ski Area environmental office were searched for updated information available for any project conducted since the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements*.

Survey Methods in the Field

The June 25, 2008 Class III inventory was conducted by a qualified archeologist. An intensive systematic pedestrian survey was conducted using a 5 meter transect interval within the project area.

Findings

No new cultural resources were identified as a result of the records search or intensive pedestrian survey. No cultural resources were noted within the project area. None of the proposed trail improvements on the Slide side or Mt. Rose side would impact any cultural resources.

DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Selection of Alternative 1 would result in no direct, indirect, or cumulative impacts to cultural resource sites in the project areas on the Slide side or Mt. Rose side NFS lands. Alternative 1 would continue existing management practices without the extension of the Ponderosa/Galena upper lift terminal operating on NFS land.

Alternative 2 – The Action Alternative

No new cultural resource sites or isolated artifacts were identified during the June 25, 2008 survey for the placement of the Ponderosa/Galena upper lift terminal on NFS lands. Therefore, the Proposed Action would have no effect on any cultural resource properties.

In the event that previously undiscovered resources (i.e., chipped or ground stone, historic debris, building foundations, or human bone) are identified during ground disturbing activities associated with project implementation, Mt. Rose would cease all work and immediately notify the Forest Service who, in turn, would implement the procedures specified in 36 CFR 800.11(b)(2).

CUMULATIVE EFFECTS

No cumulative effects to cultural resources were identified through this analysis.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The action alternative presents no irreversible or irretrievable commitments of cultural resources within the area of potential effect because there would be no effects to cultural resources.

FOREST PLAN CONSISTENCY

Mt. Rose Ski Tahoe

This analysis indicates no inconsistencies with the 1986 Forest Plan. The Proposed Action on NFS lands is relatively minor, no resources would be considered cumulatively effected.

C. RESORT FACILITIES AND INFRASTRUCTURE

INTRODUCTION

The majority of the Mt. Rose facilities and infrastructure are located on private land. Proposed modifications and expansions to these facilities require approvals that are outside of this NEPA process. However, because these facilities and infrastructure support the recreational experience and the overall use of NFS lands, a description of their current condition and proposed changes is provided.

SCOPE OF THE ANALYSIS

The majority of the analysis for resort facilities and infrastructure is referenced in the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* and extends from the NFS lands to the private lands which comprise the two base areas at Mt. Rose.

FOREST PLAN DIRECTION

The Forest Plan directs the agency to: 1) maintain buildings, structures, and utility systems to protect capital investments and, 2) manage, monitor, and maintain all water and wastewater systems to preserve water quality, protect public health, and eliminate potential sources of pollution.³

CURRENT CONDITION

Power

NV Energy, formerly known as Sierra Pacific Power Company, supplies power to both sides of the resort. A NV Energy power line is currently direct buried in the area known as the Slide Bowl where spot grading is being proposed. In June and October of 2008, a site visit with Forest Service, NV Energy, and Mt. Rose personnel took place to evaluate the condition of the power line and to coordinate activities with the proposed grading. NV Energy is currently in the process of renewing their permit with the Forest Service and may potentially need to replace the power line due to the installation not meeting current standards of depth.

DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Power

The power supply that runs through the area known as the Slide Bowl would potentially need to be replaced by NV Energy regardless of the No Action Alternative.

³ USDA Forest Service, 1986, pg. IV-56

Alternative 2 – The Proposed Action

Power

The power supply that runs through the area known as the Slide Bowl may need to be relocated by NV ENERGY and spot grading activities would take place in conjunction with the line removal and reinstallation.

CUMULATIVE EFFECTS

None of the proposals are considered cumulatively considerable and the upgrade is necessary to meet current standards and specifications of buried power lines on NFS lands. No other current or future proposals to infrastructure or utilities in the area have been identified.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

No irreversible or irretrievable commitments of resources on NFS lands would occur under any of the alternatives. The replacement of the power line could be allowed to regenerate at any point in time.

FOREST PLAN CONSISTENCY

This analysis indicates no inconsistencies with the 1986 Forest Plan.

D. RECREATIONAL OPPORTUNITIES AND EXPERIENCES

INTRODUCTION

Due to the rich history of developed and dispersed winter recreation at Mt. Rose-Ski Tahoe, an analysis of current and potential recreational opportunities is included in this environmental assessment.

SCOPE OF THE ANALYSIS

The scope of the analysis for recreational opportunities in this environmental assessment is limited to NFS lands within Mt. Rose's Special Use Permit (SUP) boundary. The greater Reno area provides the majority of Mt. Rose's clientele, due to the ski area's proximity to the city. The action alternative is designed to bolster enthusiasm for recreating in the Slide side through trail improvements in select areas and placement of the Mt. Rose Ponderosa/Galena upper lift terminal to more fully accommodate the recreational experience. It is anticipated that these improvements would generate increased attendance levels and meet the demands of the recreating public.

FOREST PLAN DIRECTION

One of the management goals listed under Forest Management Direction in the 1986 Forest Plan states "The Toiyabe will increase the quality and quantity of developed and dispersed recreation opportunities with particular emphasis in the Sierra Nevada ..."⁴

⁴ USDA Forest Service, 1986, pg. IV-1

CURRENT CONDITION

Recreational History of the Analysis Area

Opening days for both the Mt. Rose and Slide side sides are provided in Table I-1. The Mt. Rose side has opened to the public one month earlier than the Slide side over the past 21 seasons. The rocky and irregular terrain necessitates more snow to open Slide side to skiing. The improvements proposed for the Slide side are intended to enhance this portion of the resort thereby relieving overcrowded conditions on the Mt. Rose side. By carrying out the proposed trail improvements, Mt. Rose would achieve a more cohesive management scenario, ensure a reliable opening date, and offer a more balanced recreational experience across both the Slide side and Mt. Rose side of the ski resort.

The Forest Service officially allows backcountry access to NFS lands from three historic entry points which leave the Slide side SUP boundary. No effect to these accesses would occur as a result of the proposed action.

DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

Alternative 1 –No Action

Lands Administration

Administration of NFS lands at Mt. Rose would not change under the No Action Alternative. Under Alternative 1, visitation at Mt. Rose would be expected to increase commensurate with regional population gains. However, opening dates for the Slide side would be expected to fluctuate as Table I-1 indicates due to the absence of trail improvements.

Lift

No extension of the Ponderosa/Galena upper lift terminal on NFS lands would occur under the No Action Alternative.

Snowmaking, Season Length, and Utilization of the Slide side

Under this alternative, the development of snowmaking capabilities on the Sunrise Bowl would not be approved on NFS lands. The No Action Alternative would not affect opening and closing dates for either the Slide side or Mt. Rose sides. These dates would continue to be subject to fluctuations in annual snowfall.

As previously described, currently the Slide side portion of the resort is significantly underutilized. The irregularity of the terrain cause guests to gravitate toward the more reliable snow conditions found on the Mt. Rose side. Under the No Action Alternative, the existing imbalance of use would continue. Guests would continue to encounter overcrowded conditions on the Mt. Rose side during periods of low natural snowfall when the Slide side terrain is either inoperable or marginalized.

Alternative 2 – The Proposed Action

Lands Administration

Under Alternative 2, visitation at Mt. Rose would be expected to increase commensurate with regional population gains. Opening dates for the Slide side would be expected to occur earlier and extend later in the season due to the trail improvements. In addition, Mt. Rose would be able to better accommodate for the forecasted increased usage of the Slide side of the resort associated with a new lodge and locker room facility.

Snowmaking, Season Length, and Utilization of the Slide side

Under Alternative 2, the development of snowmaking capabilities on the Sunrise Bowl would be approved on NFS lands. With the proposed trail improvements at the Slide side, utilization of this portion of the resort could occur earlier and extend later in the season, as comparably smaller amounts of natural and artificial snow would be necessary for use.

The effects of implementation of trail improvements to lessen the severity of terrain irregularities on Slide Bowl, Sunrise Bowl, Lower Bruce's Trail, and Washoe Zephyr Trail and rock blasting on the Outlaw Trail are expected to lead to a more effective and even distribution of guests throughout the resort thereby enhancing the recreation experience and improved skiing condition.

Overall, trail improvements would result in approximately 26.9 acres of ground disturbance. Not carrying out the proposed trail improvements at the Slide side would translate to decreased skiability in the early and late season periods, as more natural snowfall would be necessary to achieve appropriate snow depths on ungroomed trails.

Lift

Upgrading the existing Ponderosa and Galena lifts would improve skier access and circulation on existing beginner and lower intermediate terrain served by the Ponderosa and Galena lifts. These existing fixed-grip chairlifts would be replaced with a single high speed detachable chairlift in order to improve the skiing experience and meet the demands and expectations of the recreating public. By extending the Ponderosa/Galena upper lift terminal onto NFS lands guest would be provided a safer area for unloading. This action responds to the goals and objectives outlined in the Toiyabe Forest Plan (Forest Service 1986), and helps move the project area towards desired conditions described in that plan.

CUMULATIVE EFFECTS

No cumulative effects to recreational resources in the vicinity of Mt. Rose have been identified through this analysis.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Improvements to existing ski trails in the SUP would not constitute a completely irreversible or irretrievable commitment of resources. At any time, the ski trails could return to their natural state and the vegetation could reestablish itself. The limited area of disturbance for the placement of the Ponderosa/Galena upper lift terminal could also be returned to its natural state.

FOREST PLAN CONSISTENCY

Recreation is a key resource value on the HTNF and the action alternative is considered to be consistent with current management practices within Management Area 2.

E. VEGETATION

INTRODUCTION

Extensive vegetation and sensitive plant species surveys have been performed every year between 2000 and 2008 for several Mt. Rose resort improvement projects. Surveys are included as part of the 2003 *Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* and a 2008 *Biological Assessment/Biological Evaluation (BA/BE)* included as Appendix A.

The results of these previous surveys and associated reports are contained in the Mt. Rose project file at the Carson Ranger District and incorporated by reference into this Environmental Assessment. The vegetation type most common in the project areas is shrub land on the Slide side where trail improvements are proposed. In the vicinity of the Ponderosa/Galena upper lift terminal, conifer forest dominates the landscape.

SCOPE OF THE ANALYSIS

Biological surveys were conducted in 2007 for the Slide side trail improvement projects and in 2008 for the Ponderosa/Galena upper lift terminal on the Mt. Rose side. Based on discussions with the Forest Service District Botanist, biological surveys focused mainly on the two sensitive species known to be present in the vicinity: the Tahoe draba (*Draba asterophera* var. *asterophera*) and Galena Creek rockcress (*Arabis rigidissima* var. *demota*). All areas were surveyed on foot and a GPS receiver was used to identify survey limits and any sensitive plant species. A written request was submitted to the USFWS on May 27, 2008; as required in 50 CFR 402.12(c), for a list of threatened, endangered, and proposed species known or likely to occur in the analysis area. The species list provided by the USFWS on June 9, 2008 for the project identified no listed plant species. In addition, a request from the Nevada Natural Heritage Program was made on May 29, 2008 and a species list provided on June 2, 2008. Both lists were used in the impact analysis.

Regarding effects to Tahoe draba, the activities on the Slide side and Mt. Rose side of the resort are below the elevation for this species, and pre-construction surveys were performed to ensure no sensitive species would be affected by construction⁵. The sections of the proposed Slide side trail improvements were designed to specifically avoid Tahoe draba plants. Although the Galena Creek rockcress has been observed in The Chutes area, none were observed in the proposed project areas. Although no Tahoe draba is located within the project area, adjacent habitat and individuals were identified outside of the project area on one Slide side trail and the Ponderosa and Galena lift area. Prior to commencing ground disturbing activities in these areas surveys will be conducted to identify the individuals/aggregations and this area will be avoided using

⁵Mt. Rose 2007 and Dains 2008

construction fencing to avoid unintentional disturbance. A Biological Evaluation (BE) prepared for the proposed action is included as Appendix A.

FOREST PLAN DIRECTION

With regard to threatened, endangered, and sensitive plant species, the goal of the 1986 Forest Plan is to recognize and protect these plants through habitat management. Forest Service direction stipulates management of forest habitats and activities to achieve recovery of threatened and endangered plant species and to ensure that sensitive plant species do not become threatened or endangered.

Forest-wide Standards and Guidelines, as amended by the Sierra Nevada Forest Plan Amendment,⁶ allow for incidental removal of vegetation for certain uses and activities. This standard and guideline is intended to provide for the operation, maintenance and development of existing permitted recreation services including ski trails. Vegetation removal is considered "incidental" when it occurs to facilitate recreation activity and the maintenance, operation, and development of the supporting infrastructure and recreational uses.⁷

CURRENT CONDITION

Vegetation

Extensive vegetation surveys were conducted for the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements*. Habitat types were mapped for the portion of the projects on proposed NFS lands in the Slide side.⁸ Existing vegetation types within the Slide side project areas along Slide Bowl, Sunrise Bowl, Lower Bruce's Trail, and Washoe Zephyr Trail include xeric shrub habitat dominated by Greenleaf manzanita (*Arctostaphylos patula*). A subalpine conifer forest is along the trail fringes consisting largely of Lodgepole pine (*Pinus contorta*). In addition, vegetation surveys have been conducted each year between 2003 and 2007 to monitor the success of Tahoe draba re-vegetation measures at the resort⁹.

Vegetation in the Ponderosa/Galena lift terminal construction area is limited to lodgepole pine, Mountain hemlock, and scattered herbs including mountain phacelia (*Phacelia hastata*), spreading phlox (*Phlox diffusa*), and Parry's rush (*Juncus parryi*). The construction area is flat to gently sloping and lacks organized drainages or areas where water accumulates.

Federally Listed Species

There are no Federally listed plant species present in the project area, and none were observed during previous surveys or during the vegetation survey conducted on June 17, 2008.

⁶ USDA Forest Service, 2001a

⁷ USDA Forest Service, 2002

⁸ JBR Environmental Consultants, Inc. 2002a

⁹ JBR Environmental Consultants, Inc. 2003, 2004, 2005, and Mt. Rose 2006, 2007

Forest Service Sensitive Plant Species

Two Forest Service sensitive species are known on Slide Mountain: the Tahoe (or star) draba and the Galena Creek rockcress. The Tahoe draba is found on both NFS and private lands above 8,900 feet¹⁰ and the Galena Creek rockcress is found near the base of The Chutes¹¹.

Tahoe draba

Tahoe draba is listed as a sensitive species in both the Intermountain and Pacific Southwest Regions of the Forest Service which manages most of the populations. In Nevada, this species is on the Nevada Heritage Program's Sensitive List, Nevada Native Plant Society's watch list, and is ranked a S1 species (Critically imperiled due to extreme rarity, imminent threats, and/or biological factors). Tahoe draba is known to occur at the Mt. Rose Ski Resort between 8,900 and 10,700 feet in elevation. It typically occurs on northern aspects of talus slopes, decomposed granite slopes, and rock crevices, disturbed terrain (e.g., ski trails), avalanche chutes, and road cuts in areas with little to no canopy cover, sparse or no surface litter, and areas that accumulate deep snow during the winter months.¹² Threats listed in the Sierra Nevada Forest Plan Amendment (Forest Service, 2001) include ski area development, hikers, horseback riders and utility line construction.

The results of the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* suggest that Tahoe draba numbers are much higher than current records indicate and that the plant may be more common than believed. The new plant locations found during the 2002 surveys on Mt. Rose and the surrounding NFS land exceeded the estimated number of Tahoe draba plants (2,066) in Nevada.¹³

Galena Creek rockcress

Galena Creek rockcress is a geographically restricted regional endemic, which is known only from the Carson Range of the Sierra Nevada in southern Washoe County, Nevada, and just recently reported in southern Placer County, California. Habitat for Galena Creek rockcress includes open, rocky areas along forest edges of conifer and/or aspen stands and brushy slopes on moderate to steep slopes of northerly aspects generally between 7,020 and 10,020 feet in elevation.¹⁴ The threats to the species listed in the Sierra Nevada Forest Plan Amendment are ski area development, timber harvest, recreation trail construction, maintenance and use, and any activities that degrade air quality, cause erosion, or aid in illegal plant collection.¹⁵

No plants were observed in the project footprint or surrounding area during the June 2008 survey. In addition, plant surveys conducted in 2007 for this proposed project action resulted in no detections of Galena Creek rockcress and revealed the area had little to no potential habitat for the species.

¹⁰ JBR Environmental, Inc, 2000, 2002b, and 2002c

¹¹ JBR Environmental, Inc. 2000

¹² Parsons, 2001; NNHP, 2001b; CalFlora, 2002; and CNDDDB, 2002

¹³ NNHP, 2001b

¹⁴ NNHP, 2001a.

¹⁵ USDA Forest Service, 2001.

DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Selection of Alternative 1 would result in no direct or indirect effects to vegetation in the project area. Alternative 1 would continue existing management practices without changes, additions, or upgrades to the portions of the ski area on the Slide side operating on NFS lands. The proposed placement of the Ponderosa/Galena upper lift terminal on NFS lands would not be undertaken.

Alternative 2 – The Proposed Action

Vegetation Removal

Selection of Alternative 2 would result in some disturbance to vegetation in the project area. The majority of trail improvements on the Slide side would affect mostly sparsely vegetated or shrub areas (See Photos 1-2). No trees would be removed. A total of 26.9 acres of spot grading, snowmaking, and rock blasting is proposed on existing trails in the Slide side under Alternative 2.

During the summer of 2006, Forest Service and Mt. Rose personnel developed an alternative method to traditional grading an entire trail called “spot” grading. The method includes using an excavator to re-contour irregularities, and high and low spots on existing trails. This alternative method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area and reduce visual impacts.

The project will also include the installation of a snowmaking pipeline on the Sunrise Bowl. The snowmaking pipeline will also be used for irrigation purposes during the summer to promote re-vegetation in the re-contoured areas. The proposed snowmaking pipeline will connect to an existing pipeline that will terminate at the top section of the Sunrise Bowl trail. The length of the pipe is approximately 550 feet. The installation will require a trench approximately 4.5 feet deep and 4 feet wide. Construction equipment will include an excavator for trenching activities. Construction equipment shall be cleaned prior to moving on to the job to prevent transport of noxious weeds in undercarriage mud.

For the Ponderosa/Galena upper lift terminal, project construction includes less than 1.5 acres of disturbance including installation of the top terminal, connection to the existing trail network, and installation of snowmaking (See Figure 9). Within this subalpine conifer forests consisting mainly of lodgepole pine and mountain hemlock trees approximately 46 trees under 6-inches, 83 trees between 6 and 12-inches, 41 trees 12 to 24-inches, and 3 trees greater than 24-inches would be removed. Designated tree islands would not be removed in order to minimize impacts and to improve the overall aesthetics and experience of the unload area. Limited excavator and dozer work would take place to remove terrain irregularities within the top terminal area and along the connecting trails in order to ensure that the unload area can be utilized during low snow conditions. Timber generated from the project activities would be sold as firewood, chipped into mulch, or remain on site as fallen timber.

Currently the Mt. Rose snowmaking system terminates at the top of the existing Galena unload area. The proposed action includes installing snowmaking pipeline from the current location through the unload area and connecting back to the existing main line located on Lower Around the World (See Figure 9). The proposed snowmaking line would generally be buried to a depth of between six to eight feet to reduce the risk of freezing. Disturbance widths would be approximately 40 feet. When burying the line, topsoil or surface layers would be removed, stockpiled, and used during revegetation. The disturbance corridor would follow the same alignment as the tower installations and would be blended into the surrounding trail area. The new Ponderosa/Galena Chairlift would be the first chair open during early season operations and limited tree removal, earth work, and snowmaking are crucial to the operation and business of the Mt. Rose ski resort. Mitigation measures and Best Management Practices (BMPs) described below will protect natural resources while minimizing the potential impacts to the environment.

Under Alternative 2 no sensitive vegetation communities would be affected by the proposed action. Forest Service approved re-vegetation measures will occur in all disturbed areas. Additional mitigation measures, including BMPs and sediment control measures, that are contained in Mt. Rose’s Forest Service approved Erosion Control Plan will be incorporated into the project action to avoid potential environmental impacts.



**Photo 1. Grading—
Slide Bowl**

**Photo 2. Grading and
Snowmaking – Sunrise
Bowl**



Mt. Rose Ski Tahoe

Forest Service Sensitive Plant Species

Galena Creek rockcress

Galena Creek rockcress is known to occur in portions of the Mt. Rose area. However, surveys conducted in the project area resulted in no detections of the plant or potential habitat. No ground disturbance is proposed in areas where this species has been previously found. As with Alternative 1, there would be no effects to the Galena Creek rockcress under Alternative 2.

Tahoe Draba

A total of ten individual Tahoe draba plants were observed near the upper boundary of the Washoe Zephyr trail spot grading area. Based on this finding the project area boundary was lowered to avoid any potential impacts to the individual plants or the surrounding habitat. Pre-construction surveys will take place to identify these plants and to install protective fencing to avoid disturbance. All other proposed trail improvement actions at the Slide side are located below the elevation habitat for Tahoe draba.

A survey for Tahoe draba and other sensitive species was conducted for the placement of the Ponderosa/Galena upper lift terminal on June 17, 2008. No plants were found in the area proposed for the upper lift terminal project footprint. A few individual plants were located approximately 500 feet away in the trail known as Switchback. Although these plants are well outside of the project area, pre-construction surveys will take place to identify these plants and to install protective fencing to avoid disturbance.

The effects of the proposed action on the two sensitive plant species found in the project area are analyzed in the Biological Evaluation (BE) prepared for the project and included as Appendix A. Under Alternative 2 no sensitive vegetation communities would be affected by the proposed action and would not contribute toward a federal listing of the species. No other sensitive species would be affected by the proposed action

CUMULATIVE EFFECTS

No cumulative effects to vegetation resources were identified through this analysis. There would be no cumulative effects to Tahoe draba or Galena Creek rockcress as these species are not found in the project action areas.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The action alternative would not result in any irreversible or irretrievable commitments of vegetative resources. All disturbed areas will be re-vegetated. Furthermore, at any time, the proposed trails could return to their natural state.

FOREST PLAN CONSISTENCY

For consistency with the 1986 Forest Plan, a noxious weed risk assessment would be conducted prior to any construction. BMPs and specific prevention practices in the Region 4 Noxious Weed Management Strategy have been utilized to develop mitigation measures incorporated in Table II-1 - Potential Effects to be Mitigated and Proposed Mitigation Measures. These measures include the following procedures:

- Mt. Rose will only use certified weed free material such as straw bales, mulch, fill material, etc. on the project area.
- Construction equipment brought to the project area from off-site will be thoroughly cleaned by the contractor to prevent weed contamination.
- When implementing ground disturbing construction projects, Mt. Rose will ensure that only the minimum area is disturbed and the area susceptible to infestation is therefore limited.
- Mt. Rose will ensure that any noxious weeds that are identified on the project area will be suppressed or treated before seed can be dispersed.
- Where appropriate, Mt. Rose will promptly revegetate disturbed areas in order to provide competition for weeds and reduce the likelihood that they will become established.

F. VISUAL RESOURCES

INTRODUCTION

This visual analysis was completed to determine the level of visual disturbance associated with trail improvements in the Slide side and construction of the Ponderosa/Galena upper lift terminal on the Mt. Rose side of Slide Mountain to provide a basis for which to compare the effects of the Proposed Action. The area for the upper lift terminal is not visible from adjacent communities and would not present an affect to the surrounding view-shed.

SCOPE OF THE ANALYSIS

The *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* contains a detailed analysis of visual resources on NFS lands within the Mt. Rose SUP and is incorporated by reference into this Environmental Assessment. The following analysis of visual resources is limited to the project areas on the Slide side and the installation of the upper Ponderosa/Galena lift terminal. The purpose of this additional analysis is to provide site-specific detail regarding the proposed action and to reflect changes in landscape due to vegetation removal during the proposed trail improvements.

FOREST PLAN DIRECTION

Forest Management Direction

The Forest landscape will be managed with sensitivity for visual quality.¹⁶

Management Area 2 – Carson Front

Maintain a visual quality objective (VQO) of *Partial Retention* along the Mt. Rose, US 50, and Kingsbury highways.¹⁷ Manage the “seen” area as viewed from US 395 and other major highways along the Sierras.

FOREST SERVICE LANDSCAPE MANAGEMENT

The goal of landscape management on all NFS lands is to manage for the highest possible visual

¹⁶ USDA Forest Service, 1986, pg. IV-3

¹⁷ USDA Forest Service, 1986, pg. IV-81

quality, commensurate with other appropriate public uses, costs, and benefits. VQOs are based on the physical characteristics of the land and the sensitivity of the landscape setting as viewed by humans. VQOs define how the landscape will be managed; the level of acceptable modification permitted in the area, and under what circumstances modification may be allowed to occur.

As part of this analysis, the inherent ability of the landscape to absorb the effects of the physical characteristics of the area and their ability to overcome the effects of alteration were considered. Slope, vegetation (i.e., type, pattern and contrast), landform, and viewing distance are important factors affecting the landscape's ability to accommodate alteration.

Visual Resource Management System (VMS) Distance Zones

Distance zones are divisions of the landscape being viewed. Viewing distance affects how change is perceived in a landscape. Generally, landforms and special landscape features have more visual effect when viewed within the foreground zone (zero to ½ mile) and are particularly vulnerable to disturbances in that distance zone. VMS distance zones are based upon the proximity of the observer to the landscape as follows:

Foreground: The limit of this zone is based upon distances at which details can be perceived. Normally foreground views are limited to areas within ¼ to ½ mile of the observer.

Middleground: Alterations in the middleground (½ to four miles) become less distinctive. This zone extends from the foreground zone to three-to-five miles from the observer.

Background: This zone extends from the middleground to infinity.

CURRENT CONDITION

Much of the existing development at Mt. Rose predates the creation of the Forest Plan. Mt. Rose meets the criteria for Partial Retention as directed in the SUP. In the foreground to middleground and background views, developed trails at Mt. Rose – Ski Tahoe can be distinguished.

Washoe County Regional Open Space Program

The Regional Open Space Plan identifies the lands in the southern portion of Washoe County that should be considered as open space resources requiring protection. The Forest Service currently manages 59,000 acres of public land within the Washoe County Regional Open Space Plan area boundary.¹⁸ The preservation of the area's natural, cultural and visual resources is of the utmost importance to maintaining the quality of life in the Truckee Meadows. Appropriate management of Forest Service managed lands plays an integral part in maintaining this quality of life.¹⁹

DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

¹⁸ Washoe County 1994.

¹⁹ Washoe County Commission 2000.

Selection of Alternative 1 would not result in any alteration to the appearance of NFS lands, either at the Slide side or Mt. Rose side of Slide Mountain. Trails on NFS lands would continue to be in compliance with the identified *Partial Retention* VQO.

Alternative 2 – The Proposed Action

A visual analysis of project areas was conducted to determine the sensitivity of the landscape as viewed from several points. Several points from the Slide side base and proposed NFS land for the extension of the Ponderosa/Galena upper lift terminal were examined. Activities may only repeat form, line, color, and texture, which are frequently found in the characteristic landscape. Changes in the qualities of size, amount, intensity, direction, and pattern should not be evident.

Strategic vegetation removal from spot grading and rock blasting throughout the select trails, to accommodate a better skiing experience, would be visibly negligible to detect from the background, middle and foreground vantage points (See Figures 10-12). Spot grading reduces the potential impact to the surrounding view-shed in comparison with traditional methods of grading a run from edge to edge. The proposed trail improvements would blend well with the natural form, line and color of the Slide side. Trail improvements would be visually subordinate to the surrounding features and line forms within the characteristic landscape due to the topography. The Proposed Action presents no reduction in the visual integrity of Slide Mountain when viewed from Reno or the Mt. Rose highway. Therefore, this aspect of the proposal would meet the *Partial Retention* VQO.

The visual effects of trail improvements at the Slide side are considered short-term and minor. Once vegetation is reestablished (one to two years) the effects of trail improvements would not be discernable from the current condition. This determination was based on the definition of *Partial Retention* and the visual simulations and comparative analysis of the trails.



Pre-project
condition



Post-project
condition

Figure 10. A visual simulation of the background view from Reno and the change in landscape appearance resulting from the project action.



Pre-project
condition



Post-project
condition

Figure 11. A visual simulation of the middleground view from Reno and the change in landscape appearance resulting from the project action.



Pre-project condition



Post-project condition

Figure 12. A visual simulation of the foreground view from U.S. 395 and the change in landscape appearance resulting from the project action.

For the Ponderosa/Galena upper lift terminal, project construction includes less than 1.5 acres of disturbance including installation of the top terminal, connection to the existing trail network, and installation of snowmaking (See Figure 9). Within this subalpine conifer forests consisting mainly of lodgepole pine and mountain hemlock trees approximately 46 trees under 6-inches, 83 trees between 6 and 12-inches, 41 trees 12 to 24-inches, and 3 trees greater than 24-inches would be removed. Designated tree islands would not be removed in order to minimize impacts and to improve the overall aesthetics and experience of the unload area. This area is not visible from the surrounding viewshed. Limited excavator and dozer work would take place to remove terrain irregularities within the top terminal area and along the connecting trails in order to ensure that the unload area can be utilized during low snow conditions.

Currently the Mt. Rose snowmaking system terminates at the top of the existing Galena unload area. The proposed action includes installing snowmaking pipeline from the current location through the unload area and connecting back to the existing main line located on Lower Around the World (See Figure 9). The area for snowmaking along Lower Around the World was previously approved in the 2003 Master Development Plan. The proposed snowmaking line would generally be buried to a depth of between six to eight feet to reduce the risk of freezing. Disturbance widths would be approximately 40 feet. When burying the line, topsoil or surface layers would be removed, stockpiled, and used during revegetation. The disturbance corridor would follow the same alignment as the tower installations and would be blended into the surrounding trail area. The new Ponderosa/Galena Chairlift would be the first chair open during early season operations and limited tree removal, earth work, and snowmaking are crucial to the operation and business of the Mt. Rose ski resort. Mitigation measures and Best Management Practices will protect natural resources and minimize the potential impacts to the environment.

The proposed action would not pose an adverse incremental effect to visual resources.

CUMULATIVE EFFECTS

The Proposed Action represents an unsubstantial, incremental effect to the visual integrity of the select trails on the Slide side and Mt. Rose side of Slide Mountain and would not cumulatively detract from the scenic integrity of the landscape.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The action alternative presents no irreversible or irretrievable commitments of visual resources in the foreground, middleground, or background views. At any point in time, trails could be allowed to regenerate with native vegetation and infrastructure could be removed. Trails will be revegetated with native vegetation

FOREST PLAN CONSISTENCY

Under the Action Alternative, the trail improvements and placement of the Ponderosa/Galena upper lift terminal would be in compliance with the Forest Plan and therefore consistent with agency direction.

G. WATER AND SOILS

INTRODUCTION

Mt. Rose is located on Slide Mountain, approximately 15 miles southwest of Reno, Nevada, within the Carson Ranger District of the Humboldt-Toiyabe National Forest. It is situated approximately 5.6 miles northeast of Lake Tahoe, the largest alpine lake in North America. There are several primary drainages within the Mt. Rose vicinity. Galena Creek and Browns Creek drain from the western (primarily private lands) portions of Mt. Rose. The Slide side, located on NFS lands, is drained by Winters, Ophir Creek, and Davis creeks. All of these streams flow eastward into Nevada; none of the watersheds within the Mt. Rose vicinity/project area are tributary to the Tahoe Basin. Winters, Davis, and Ophir creeks all flow into Washoe Lake, while Browns and Galena creeks are both tributaries to Steamboat Creek, which flows northeast from Washoe Lake toward its confluence with the Truckee River.

SCOPE OF ANALYSIS

The scope of the water and soils analysis entails the primary drainages into which water flows from the ski areas, on private, county, and NFS lands. These five watersheds include Galena, Browns, Ophir, Winters, and Davis creeks. As part of the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* extensive modeling of these watersheds was undertaken and is incorporated by reference into this analysis.

FOREST PLAN DIRECTION

The 1986 Forest Plan requires the agency to implement BMPs for the protection and improvement of water quality and soil productivity. The Plan also requires that projects meet or exceed state water quality standards.

CURRENT CONDITION

Climate

Mt. Rose lies on the eastern, lee side of the Sierra Nevada Range, between elevations ranging from approximately 8,260 feet at its base to approximately 9,700 feet at its summit. Average annual precipitation within this elevation zone is approximately 40 inches per year. Winter snowfall is the predominant source of moisture, and spring runoff forms the main source of water for streamflow.

Water Resources

Water Rights

Mt. Rose has developed water supplies to serve its mountain restaurants and snowmaking operations. Water supplies for these activities are derived from ground water sources originating from a high capacity well and multiple spring sources. The right to divert and put this water to beneficial use has been granted by the State Engineer of Nevada through issuance of various permits approving ground water withdrawals for ski area uses. Each permit defines an instantaneous rate of diversion and annual volume of water that may be diverted for the intended uses. The permits contain other provisions as necessary to protect other water users in the State.

Snowmaking

Mt. Rose's existing snowmaking diversions are obtained from the Big Springs Well, located east of the ski area on private property. The well was constructed in 1998 and has a reported yield of 1.22 cfs. Presently the well provides a source of snowmaking water for coverage of 84 acres of terrain on the Mt. Rose private lands and limited snowmaking on the Slide side of the resort.

Water Yield

Snowmelt-dominated streamflow hydrographs are characterized by a high flow period during spring/early summer and by periods of relatively low flow during the remainder of the year. This flow regime means that most of the runoff is delivered during a relatively short period, resulting in high-energy streamflow characteristics, with a potential for stream channel modification and related effects, such as lateral channel movement, channel scour, and bank sedimentation. Present water yields from these watersheds are affected by the existence of the trail system currently in place, as well as the input of additional water in the form of existing snowmaking.

Stream Channels

Davis Creek and Winters Creek originate on NFS lands within the Slide side while Browns Creek originates from the Rose side on private lands. Davis Creek and Winters Creek, and Browns Creek are ephemeral streams, flowing primarily in the spring and early summer fed by snowmelt. None of the proposed actions will adversely affect any watercourse.

Vegetative Cover

The extent and types of vegetative cover on the trails within the Slide side is somewhat variable. Existing cover is primarily comprised of isolated stands of shrub or manzanita. Vegetative cover in the area of the proposed Ponderosa/Galena upper lift terminal is forested.

Water Quality

The streams within the Mt. Rose vicinity are classified by the State of Nevada Division of Environmental Protection (NDEP) as Class A waters. Class A designation reflect generally high water quality, characteristic of undeveloped, high altitude, alpine and sub-alpine snowmelt-fed watersheds, and are capable of supporting the defined beneficial uses.

Soils

Existing Natural Resources Conservation Service (NRCS) soils mapping data provides source material for assessment of the soils resources of the project area. Soils field work and mapping was conducted in the Mt. Rose area in 1978 by the NRCS in cooperation with other agencies, including the Forest Service.

Two distinct soil mapping families were identified within the Mt. Rose area by the soils field survey; as indicated by the NRCS soils survey data as described in the soils section. The predominant complex within the Mt. Rose area is the Graylock-Temo Rock outcrop complex, 30 to 70 percent slopes. The characteristic of this complex is described in the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities*

Improvements incorporated by reference into this Environmental Assessment. The soils on Slide Mountain are susceptible to erosion.

DIRECT AND INDIRECT ENVIRONMENTAL EFFECTS

Alternative 1 – No Action

Water Resources

Snowmaking

Alternative 1 would not increase snowmaking coverage beyond existing and previously approved areas. Mt. Rose would continue snowmaking on 84 acres of terrain and may continue limited expansion on private lands areas. However, the development of snowmaking capabilities would not occur within the Sunrise Bowl or within the Ponderosa/Galena upper terminal area. This would not allow Mt. Rose to rely on snowmaking to open certain areas during early season and low snow conditions as experienced during the recent years.

Water Yield

Alternative 1 would not increase water yield and subsequent runoff within the NFS areas.

Stream Channels

Stream channel conditions would not be anticipated to change under Alternative 1 relative to existing conditions. Snowmaking coverage on the Sunrise Bowl or the area of the Ponderosa/Galena upper lift terminal would not be implemented, and stream flow conditions would continue at existing levels.

Vegetative Cover

Under Alternative 1, spot grading and selective rock blasting would not occur on trails within NFS lands in the Slide side. Vegetative cover on these trails would not be disturbed. No vegetation removal for the placement of the Ponderosa/Galena upper lift terminal would occur.

Water Quality

It is unlikely that water quality would change under Alternative 1. The primary potential for changes in water quality would be as a result of additional sediment loading caused by new or changed management actions on NFS land, such as spot grading of existing trails or placement of the Ponderosa/Galena upper lift terminal. Under Alternative 1, neither would occur within the Slide side or Mt. Rose side of Slide Mountain, and water quality effects would not be realized.

Soils

Under Alternative 1, soils resources would likely be unchanged relative to existing conditions. No changes in productivity, cohesiveness, compaction or sediment production would occur on NFS land within the select Slide side trails or the Mt. Rose Ponderosa/Galena upper lift terminal, because land treatment and management prescriptions would remain unchanged.

Alternative 2 – The Proposed Action

Mt. Rose Ski Tahoe

Water Resources

Snowmaking

The proposed implementation of additional snowmaking coverage on the 4.1 acres of Sunrise Bowl and less than 1.5 acres of the Mt. Rose Ponderosa/Galena upper lift terminal would require additional diversions of water from the Big Springs Well located on private property. In general, optimal coverage depths can demand as much as 1.0 acre feet (AF) of water for each acre of terrain covered. Water rights at the Big Springs Well limit snowmaking diversions to a total of 60 AF per year for both existing and proposed terrain coverage.

Proposed snowmaking terrain coverage will originate from Big Springs well and would be delivered to storage at the existing 500,000 gallon storage tank located near the top of the North Rim trail. The proposed snowmaking coverage would utilize Mt. Rose's existing permitted water diversion allocations located on both the Slide and Rose side of the resort. Previously approved snowmaking in the Slide Bowl (2003 EA) would originate from a to be determined location on the Slide side or from the existing storage tank located on private property.

Water Yield

The proposed improvement activities are not anticipated to effect the watershed hydrology in the Slide side or Mt. Rose side of Slide Mountain. Trail improvements and vegetation removal can affect the water balance by decreasing the amount of water removed via evapotranspiration and affecting the infiltration characteristics of the select trails, thus increasing the quantity of water available for runoff. The Proposed Action calls for minimal vegetation clearing that would occur primarily in the form of selective vegetation removal and as a result the water yield related effects of vegetation thinning would likely be nearly negligible. Mt. Rose and the Forest Service have coordinated spot grading activities on past projects to preserve islands of vegetation that minimize erosion runoff. Mt. Rose has a Forest Service approved Erosion Control Plan, including BMPs and sediment control measures that would be implemented. Disturbed soil surface areas would be treated immediately after trail improvements are complete.

The change in the water balance due to snowmaking on the Sunrise Bowl trail and chairlift improvement would cause negligible water yield increases, changes in hydrograph timing or peak flow. A nearly negligible increase in the volume and distribution of water is expected due to the Proposed Action.

Stream Channels

Any effects to ephemeral stream channels due to the selective removal of vegetation on both the Slide side and Mt. Rose side would be negligible. Any slight increase in runoff would not be expected to cause alterations in the stream channel systems.

Vegetative Cover

Under Alternative 2, Slide side spot grading and selective rock blasting would result in varying degrees of effect to existing vegetation on Slide Bowl, Sunrise Bowl, Lower Bruce's Trail, and Washoe Zephyr trail. Selective rock blasting would not result in removal of existing vegetative cover in the immediate area, although there would be some cover loss due to terrain effects from

rock removal. In general, the cover loss would be less on trails such as Slide Bowl, Washoe Zephyr trail, and Lower Bruce's Trail where existing cover is sporadic. Loss of vegetation would be greater on the Sunrise Bowl, where there is currently greater shrub cover.

The installation of snowmaking pipe and electrical wiring on the Sunrise Bowl trail will require a 40 foot wide construction path and a trench approximately 4.5 feet deep and 4.5 feet wide. The sequencing for snowmaking activities would include the removal of boulders, stockpiling topsoil, trenching activities, and boulder displacement. Similar snowmaking construction methods would occur on the Ponderosa/Galena upper lift terminal. Rock blasting creates minimal disturbance to the project area and will not require any permanent stabilization measures.

Installation of the Ponderosa/Galena upper lift terminal would require removal of approximately 46 pine trees under 6-inches, 83 trees between 6 and 12-inches, 41 trees 12 to 24-inches, and 3 trees greater than 24-inches. Designated tree islands would not be removed in order to minimize impacts and to improve the overall aesthetics and experience of the unload area. Limited excavator and dozer work would take place to remove terrain irregularities within the top terminal area and along the connecting trails in order to ensure that the unload area can be utilized during low snow conditions.

Water Quality

Implementation of the Proposed Action would involve Slide side spot grading and selective rock blasting activities on a total of 26.9 acres of trails. An additional 1.5 acres of ground disturbance would occur as a result of the extension of the Ponderosa/Galena upper lift terminal on NFS lands. Increases in sediment detachment, transport, and deposition, as well as accompanying nutrient loading are the primary potential effects to water quality associated with these activities is not expected to adversely affect water quality.

During the summer of 2006, Forest Service and Mt. Rose personnel developed an alternative method to traditional grading an entire trail called "spot" grading. The method includes using an excavator to re-contour irregularities, high and low spots, on existing trails. This alternative method minimizes the potential disturbance area while preserving islands of native vegetation that will assist in the natural recruitment of vegetation in the area, stabilization of slopes, and reducing visual impacts.

The risk for sediment transport is greatest for the steepest slopes, where higher shear stresses contribute to greater soil detachment potential. The potential risks would be greatest during construction activities when soils are disturbed and before re-vegetation and stabilization occurs. These effects would be partially mitigated via application of Mt. Rose's Forest Service approved Erosion Control Plan which describes Best Management Practices (BMPs) and sediment control measures for implementation during and after trail improvements. Implementation of the Proposed Action would occur during the summer of 2009. During spot grading, disturbances associated with terrain modification would be phased so as to minimize the overall extent of soil disturbance at any point in time.

Mt. Rose Ski Tahoe

Mt. Rose and Forest Service staff would monitor and evaluate the effectiveness of erosion control and re-vegetation efforts and revise strategies in response to information gained during implementation. Drainage management, erosion control, and re-vegetation measures will be implemented by Mt. Rose as directed by the Forest Service to minimize the potential for connection of disturbed areas (CDA) to any stream network. Mt. Rose's will follow its approved Forest Service Surface Water Management Plan, which is included as Appendix C in the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* to ensure that runoff, erosion control, and re-vegetation measures are implemented and maintained. In addition, Mt. Rose will prepare a Storm Water Pollution Prevention Plan to outline BMPs for project construction.

Soils

The *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* identifies minimal hill slope erosion processes, and produces site-specific predictions for both sediment detachment and sediment deposition at Mt. Rose project sites. In addition, Mt. Rose will implement its existing Storm Water Pollution Prevention Plan to carryout BMPs for project construction.

The potential for an increase in sediment detachment following implementation of terrain modifications would be minimized through implementation of re-vegetation and stabilization measures. These measures are outlined as a part of the Surface Water Management Plan provided as Appendix C in the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* and Mt. Rose's existing Forest Service approved Erosion Control Plan.

Slide Side Spot Grading, Snow Making and Rock Blasting

There are several primary effects to soils resources associated with terrain modifications. Spot grading utilizing heavy machinery causes soils compaction and loss of soil tilth. Loss of topsoil and a decrease in soils organic matter associated with disturbances to the rooting zone can reduce the soils productivity. Soils disturbances can increase the risk of soil particle detachment and transport due to surface water erosion, increasing sediment yields. NRCS soils mapping within the Mt. Rose vicinity identifies the soils in the Mt. Rose watersheds as coarse-grained sandy loams.

Spot grading disturbances associated with terrain modification would be phased so as to minimize the overall extent of soil disturbance at any point in time. All disturbance activities associated with spot grading and snowmaking will include stockpiling and removing topsoil to be used during re-vegetation activities. Permanent stabilization measures including: erosion ditches, seeding with a Forest Service approved seed mix, bio-fertilizer, and mulch will be implemented immediately following site disturbance. Selective rock blasting on the Outlaw Trail is assumed to create minimal soil disturbance, and therefore negligible risk for increased sediment yield.

Mt. Rose Side Improvement Projects – Upgrade Ponderosa/Galena Chairlifts

Mt. Rose Ski Tahoe

The approximate area of soil disturbance associated with the extension of the Ponderosa/Galena upper lift terminal onto NFS lands would be less than 1.5 acres. The topography of the project area is relatively flat.

An excavator and limited dozer work will be used for installation of towers and the terminal. The new unload terminal will include limited tree cutting and ground work to accommodate the top terminal, install snowmaking, and connect to the existing trail network.

The proposed project would not alter drainage within the area, or the rate and amount of surface runoff, nor would water quality in the area be impacted. All disturbance activities associated with the lift upgrade activities will include stockpiling and removing topsoil to be used during re-vegetation activities. Permanent stabilization measures including: erosion ditches where necessary, seeding with a Forest Service approved seed mix, bio-fertilizer, and mulch will be implemented immediately following site disturbance.

In comparing Alternative 2 with Alternative 1, the potential for sediment detachment after re-vegetation and stabilization is expected to be negligible for Alternative 2 as compared to Alternative 1. The primary reason for this similarity is that there is minimal spot grading on very steep slopes greater than 40% for Alternative 2. In addition, Mt. Rose would implement drainage and re-vegetation measures according to the plans describe above.

CUMULATIVE EFFECTS

The water resources effects that are most likely to be cumulative in nature is a slight increase in water yields due to snowmaking applications on the Sunrise Bowl and trail and the upgrade to the Ponderosa/Galena chairlifts. In addition, increased sediment production caused by changes in land cover and usage could possibly occur. These effects are outlined below.

Alternative 1 – No Action

Under Alternative 1, Mt. Rose would continue in its current operational state, and there would not be further anticipated water or soil related cumulative effects above those exhibited under existing conditions.

Alternative 2 – The Proposed Action

The proposed improvement activities are not anticipated to affect the watershed hydrology on the Slide side or Mt. Rose side of Slide Mountain. Trail improvements and vegetation removal can affect the water balance by decreasing the amount of water removed via evapotranspiration and affecting the infiltration characteristics of the select trails, thus increasing the quantity of water available for runoff. The Proposed Action calls for minimal vegetation clearing that would occur primarily in the form of selective vegetation removal and as a result the water yield related effects of vegetation thinning would likely be nearly negligible. Mt. Rose and the Forest Service have coordinated spot grading activities on past projects to preserve islands of vegetation that minimize erosion runoff. Mt. Rose has a Forest Service approved Erosion Control Plan, including BMPs and sediment control measures that would be implemented. Disturbed soil surface areas would be treated immediately after trail improvements are complete.

The change in the water balance due to snowmaking on the Sunrise Trail would cause negligible water yield increases and changes in hydrograph timing. A nearly negligible increase in the volume and distribution of water is expected due to the Proposed Action. For Winters Creek, the watershed in which the additional snowmaking coverage is proposed, the increase in yield is small relative to existing annual yield and peak flow, and would be unlikely to affect sediment delivery or transport, stream bank erosion, or stream water quality.

Trail improvements, snowmaking pipeline burial, and installation of the Ponderosa/Galena upper lift terminal would result in a limited incremental increase in sediment yields and effects to soils quality and productivities that could be permanent in nature, and therefore cumulative in effect beyond existing conditions. However, with implementation of Mt. Rose's Forest Service approved Erosion Control Plan and Surface Water Management Plan it is not expected that soil losses would be negligible above existing conditions. Consideration of additional disturbance in the watershed included the Atoma Insect Salvage and Fuels Reduction Project (www.fs.fed.us/r4/htnf/projects/carson/atoma_dm.pdf) located across from the Mt. Rose main parking lot and was determined to be negligible and acceptable.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

Alternative 1 – No Action

Under Alternative 1, Mt. Rose would continue in its current operational state, and there would not be further anticipated water or soil related irreversible and irretrievable commitment above those exhibited under existing conditions.

Alternative 2 – The Proposed Action

Water yield increases related to the proposal would not represent any irreversible or irretrievable resource commitments. The primary water yield related effects would be as a result of a slight increase in snowmaking, which is a management action that is reversible and whose reversal would result in yield conditions returning to pre-implementation conditions. It is unlikely that the small yield-related effects associated with the proposal would cause any irreversible changes in stream channel characteristics.

With successful re-vegetation and stabilization measures, the proposed action would not result in an increase in sediment detachment associated with the trail improvements, snowmaking pipeline burial, and installation of the Ponderosa/Galena upper lift terminal that would affect water quality. Implementation of Mt. Rose's Forest Service approved Erosion Control Plan and Surface Water Management Plan would avoid soil losses above existing conditions.

Some losses of soils resources associated with terrain modifications would be permanent and would represent an irreversible commitment of soils resources. Although topsoil harvesting and preservation as a BMP during spot grading can mitigate soils-related effects, the disturbance to the soil horizon that would occur associated with the turnover caused by spot grading would cause some losses in soil organic matter, tilth, and productivity that would be permanent in nature.

Mt. Rose Ski Tahoe

FOREST PLAN CONSISTENCY

The action alternative would be consistent with Forest Plan direction. A Forest Service approved Erosion Control Plan has already been developed by Mt. Rose and would be implemented prior to implementation of project elements. Additionally, state water quality and soil standards would not be adversely affected by the proposed action. The action alternative would not degrade or retard wetland or riparian function/viability within the project area.

H. WILDLIFE AND FISHERIES

INTRODUCTION

Wildlife surveys were performed in 2000, 2001, 2002, and 2006 by JBR for several Mt. Rose resort improvement projects including the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* and a *2006 Biological Evaluation (BE)*.²⁰ Updated surveys were performed in 2007 and 2008 for specific projects outlined in this document.

The results of the wildlife surveys and associated reports are contained in the Mt. Rose project file at the Carson Ranger District and incorporated by reference into this Environmental Assessment. These documents contain detailed analysis of wildlife and fisheries resources on NFS lands within the Mt. Rose SUP. Updated wildlife surveys and a Biological Evaluation for specific projects outlined in this document are included as Appendix A. The following analysis of wildlife and fisheries resources is limited to the project areas on the Slide side and the installation of the upper Ponderosa/Galena lift terminal. There are no Threatened or Endangered species in either of the project areas that would be affected by the project activities (See Appendix A).

CURRENT CONDITION

Federally Listed Threatened or Endangered Species

A written request was submitted to the USFWS on May 27, 2008; as required in 50 CFR 402.12(c), for a list of threatened, endangered, and proposed species known or likely to occur in the analysis area (See Attachment A). Correspondence provided by the USFWS on June 9, 2008 for the project identified no listed, proposed, or candidate species occur in the project area (File No. 2008-SL-0361). In addition, the Nevada Natural Heritage Program was conducted on May 29, 2008 for potential endangered, threatened, candidate, and/or risk plant and animal taxa in the project area (See Attachment B).

Forest Sensitive Species

A Biological Evaluation (BE) was prepared for the project record to evaluate the impacts of project activities to Forest Sensitive species (USDA 1995, updated 1999 and 2003). Based on this evaluation, the project area has limited potential habitat for the following wildlife species listed as Sensitive in Region Four: mountain quail, flammulated owl, white-headed woodpecker, and wolverine. The following Forest Sensitive plant species also have the potential to occur in

²⁰ JBR Environmental Consultants, Inc. 2001, 2002, and Mt. Rose 2006

or near the project area: Tahoe draba and Galena Creek rockcress. Refer to the BE in Appendix A for specific species information and analysis.

Management Indicator Species

Management indicator species (MIS) are identified in the Toiyabe National Forest Land and Resource Management Plan as representing a group of species having similar habitat requirements. MIS are not federally listed as threatened, endangered, or Forest Sensitive but have the potential to be affected by project activities. A review was conducted to determine: 1) if the project is within the range of any MIS, 2) if habitat is present within the proposed project area, and 3) if there are potential direct, indirect or cumulative effects on habitat components. MIS associated with habitats that may be affected by the project will be analyzed below.

The following MIS were selected for analysis for the Mt. Rose and Slide side projects:

Mule Deer	<i>Odocoileus hemionus</i>
American Marten	<i>Martes americana</i>
Yellow-Rumped Warbler	<i>Dendroica coronata</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Williamson's Sapsucker	<i>Sphyrapicus varius</i>
Northern Goshawk	<i>Accipiter gentilis</i>

The following species were not selected for further analysis due to absence of habitat or because the project will not directly or indirectly affect the habitat:

Sage Grouse	<i>Centrocercus urophasianus</i>
Yellow Warbler	<i>Dendroica petechia</i>
Lahontan Cutthroat Trout	<i>Oncorhynchus clarki henshawi</i>
Palmer's Chipmunk	<i>Eutamias spp.</i>
Paiute Cutthroat Trout	<i>Oncorhynchus clarki seleniris</i>
Macroinvertebrates	

Mule Deer – The Loyalton–Truckee mule deer herd is a bi- state herd whose range encompasses much of northern and western Washoe County, Nevada. Deer in this area generally move to the higher elevations near the Sierra Crest, including the MT. Rose Ski Resort, in May and will remain until the first heavy snowfall forces them down below the snowline (Rodgers 1999). The Mt. Rose Ski area is not specifically designated as critical winter or summer (fawning) range for mule deer. Range for mule deer is generally considered “critical” when habitat components meet or exceed the biological requirements necessary to sustain a viable population of mule deer. Critical winter range is typically found at lower elevations where brush stands remain snow free and readily accessible for browsing and cover. Critical fawning habitat for mule deer is generally found in aspen and meadow habitat types which are not present in the Mt. Rose Ski area. Habitat for mule deer in the Mt. Rose area is probably best described as transitional or “intermediate” range. These areas typically act as corridors of available forage and cover for mule deer as they migrate between winter and summer ranges. Mule deer are known to be present in the project area during the summer, although their numbers do not appear to be high (JBR 2001).According

Mt. Rose Ski Tahoe

to NDOW, statewide mule deer populations in Nevada dropped from about 149,000 in 1993 to 109,000 in 2003. Along the Carson Front Range, populations have been steadily declining for the last several decades. For example, herd numbers along the Front Range have declined from approximately 7,000 hundred animals in 1980 to approximately 2,700 deer currently (NDOW 2007). A 2007 status report from the Nevada Department of Wildlife concluded that the decline in the herd is likely due to considerable critical winter range lost in western Washoe County due to wildfires, urban development, and increased recreation use (NDOW 2007).

American Marten - In California, marten occur in the northern Sierra Nevada at elevations of 3,400 feet to 10,400 feet, averaging 6,600 feet (USDA 2001). Marten are known to be present in the project area (JBR 2001). Martens have a large home range size of over 8.1 square miles for males and 2.3 square miles for females (Buskirk et al 1994) Preferred habitat for denning and resting is characterized by dense (60 to 100% canopy), multi storied, multi species late seral coniferous forests with a high number of large (> 24 inch dbh) snags and downed logs (Freel 1991). These areas are generally in close proximity to both dense riparian corridors (used as travelways), and include an interspersion of small (<1 acre) openings with good ground cover (Ibid). Marten use rest sites daily and therefore availability of these sites in suitable habitat is critical to their well being (Martin and Barrett 1991). Marten prey items vary seasonally feeding primarily on ground squirrels and chipmunks during spring through fall and squirrels, mice, and snowshoe hares in the winter (Zielinski et al. 1983). Alterations to marten habitat are their greatest threat and may even promote local extinctions (Lacy and Clark 1993, Ruggiero et al., 1994). Martens can generally tolerate human disturbance provided the disturbance is temporary and the martens habitat is not impacted (Koehler et al 1975). The project area is potential habitat for marten. Marten were located on the Slide Mountain portion of Mt. Rose Ski Resort in 2002 during surveys conducted for the Mt. Rose Master Plan Development Project (JBR 2003)

Yellow Rumped Warbler -The yellow-rumped warbler is considered to be highly adaptable and can be found in a variety of habitats including coniferous forest, mixed woodlands, deciduous forest, pine plantations, bogs, forest edges, and openings (Sibley 2000). Yellow-rumped warblers are summer residents that have been observed in the project area (JBR 2001). Yellow-rumped warblers are primarily insectivores but also depend on berries in the winter. The Audubon race of yellow-rumped warbler breeds from southern British Columbia through the mountains and coastal coniferous forests of including the Sierra Nevada (Cornell 2003). According to USGS Breeding Bird Survey information, population trends of yellow-rumped warblers in the Sierra Nevada and the state of Nevada have increased between 1996 and 2006 (Sauer 2007). The project area is potential habitat for yellow rumped warbler.

Hairy Woodpecker -Hairy woodpeckers are associated with deciduous and coniferous woodlands found throughout North America (Ryser 1985, Erlich et. al 1988). In the Sierra Nevada, hairy woodpeckers nest in low to moderate canopy closure (< 70%) containing trees with a minimum dbh of 25 cm and minimum height of 4.6 meters (Sousa 1987). The hairy woodpecker requires cavities for nesting and foraging and feeds primarily on wood boring insects and insect larvae. Hairy woodpeckers are considered opportunistic foragers and will feed from a variety of substrates including snags and downed logs (Sousa 1987). The USGS Breeding Bird survey reports population trends of hairy woodpeckers in the Sierra Nevada appear to be stable (Sauer et al., 2007). Threats to hairy woodpeckers include loss of habitat from

activities such as logging that remove large diameter trees and snags (Siegel and DeSante 1999). Suitable habitat for hairy woodpecker is found in the project area.

Williamson's Sapsucker - Williamson's sapsuckers are found along the entire length of the Sierra Nevada and are considered a year-round resident on the Toiyabe National Forest (Finch 1991). This sapsucker breeds at middle to high elevations, generally from 4,900–10,500 feet in montane mixed deciduous-coniferous forest with quaking aspen as an important nesting substrate (Finch 1991). Availability of dead trees or live trees with heartwood rot is a critical component of breeding habitat (Finch 1991). Williamson's Sapsucker nests are located in fairly large snags (1 – 2.5 ft in diameter) (GBBO 2005). If large snags are preserved, the species appears to be fairly tolerant of habitat disturbances and may even respond to forest fires with population increases, if additional large snags are created in the process and at least some live trees remain for forage (Ibid). Therefore, any activity that removes large diameter trees and snags can have a negative effect on Williamson's sapsuckers by reducing nesting availability (Siegel and DeSante 1999). In the Sierra Nevada, population trends were reported as slightly decreasing between 1966 and 2006 (Sauer et al 2007). The project area is potential habitat for Williamson's sapsucker.

Northern Goshawk- Northern goshawks are typically associated with late seral or old growth forests, characterized by contiguous stands of large trees and large snags with closed canopies (>40 percent) and an understory which contains varying vertical structure but is not over crowded with “dog-hair” thickets of trees or other vegetation types (Clough, 2000). Stick nests are often built in trees on north or northwest facing slopes of less than 30 percent and near water. Large aspens or conifers within a stream corridor are often selected as nest trees (Ibid). Within the Sierra Nevada, northern goshawks breed from approximately 2,500 feet in ponderosa pine vegetation type through approximately 9,000 feet in the red fir and lodgepole pine vegetation types, and throughout eastside pine forests on the east slope (Keane 1999). On the Carson Ranger District, known goshawk nest sites are in large aspens and conifers within stream corridors with an average canopy cover of 55%.

The proposed project area lacks suitable canopy cover and forest structure to support northern goshawks. Previous surveys conducted have resulted in no detections of goshawks (JBR, 2001; JBR, 2002b) and the species is therefore unlikely to be found in the project area.

Other Species Considered

Neotropical Migratory Birds-The migratory songbirds found in North America include roughly 350 species, of which about 250 are known as “neotropical migrants” (NTMB). Migratory birds spend their winters in the tropics of southern Mexico, Central and South America, and the West Indies. Migratory songbirds can be found in virtually every habitat on the continent, and usually half or more of the breeding birds in any sampled area are migratory (Robinson 1997). Meadow-riparian habitat is identified as “high priority” habitat for neotropical migratory birds (NTMB) in the 1999 Draft Avian Conservation Plan for the Sierra Nevada Bioregion (Siegel and DeSante 1999). The 1999 Draft Plan lists species considered critically dependent upon meadow-riparian habitats found in the Sierra Nevada including the Alpine County area. A priority

Species table including trend information calculated from the Breeding Bird Survey (BBS) is located in the project file.

Much of the habitat in the project area for the Slide side trail improvements is shrub. The habitat surrounding the proposed Ponderosa/Galena upper lift terminal is conifer forest. Bird species with potential to utilize these habitats include the northern flicker (*Colaptes auratus*), yellow-rumped warbler (*Dendroica coronata*), brown creeper (*Certhia americana*), western woodpecker (*Contopus sordidulus*), olive-sided flycatcher (*Contopus cooperi*), Steller's jay (*Cyanocitta stelleri*), red crossbill (*Loxia curvirostra*), Townsend's solitaire (*Myadestes townsendi*), Clark's nutcracker (*Nucifraga columbiana*), lazuli bunting (*Passerina amoena*), downy woodpecker (*Picoides pubescens*), hairy woodpecker (*Picoides villosus*), pine grosbeak (*Pinicola enucleator*), western tanager (*Piranga ludociciana*), red-breasted nuthatch (*Sitta canadensis*), white-breasted nuthatch (*Sitta carolinensis*), hermit thrush (*Catharus guttatus*), mountain chickadee (*Poecile gambeli*), Cassin's finch (*Carpodacus cassinii*), and red-naped sapsucker (*Sphyrapicus nuchalis*).

ENVIRONMENTAL CONSEQUENCES

Alternative 1 –No Action

Selection of Alternative 1 would result in no direct or indirect effects to wildlife either on the Slide side or Mt. Rose sides of Slide Mountain in the project area. Alternative 1 would continue existing management practices without changes, additions, or upgrades to the portion of the ski area operating on NFS lands.

Alternative 2 – The Proposed Action

Forest Service Sensitive Species

The potential impacts of Alternative 2 on Forest Service sensitive wildlife species with potential habitat in the project area are analyzed in the Biological Evaluation prepared for the project and included as Appendix A. Sensitive wildlife species which have limited potential habitat in the project area include: mountain quail, flammulated owl, white-headed woodpecker, wolverine, and Townsend's big-eared bats. Of these species it was determined that only the white-headed woodpecker may be impacted from project activities due to disturbance of foraging habitat. However, impacts are expected to be minor and temporary and will not result in a trend toward federal listing or loss in viability (See Biological Evaluation). Although some habitat features associated with mountain quail, flammulated owl and wolverine are present in and/or adjacent to the project area, overall the project area lacks sufficient density, abundance and or quality of these habitat features to support populations of these species. Therefore the project will have no impacts to mountain quail, flammulated owl, wolverine, or Townsend's big-eared bat. Sensitive plant species with potential to occur in the project area include Tahoe draba and Galena Creek rockcress. However, based on surveys, these plants do not occur in areas where project activities will be occurring and therefore there will be no impact to these species.

Forest Service Management Indicator Species

Mt. Rose Ski Tahoe

Mule deer

Direct and Indirect Effects: Mule deer are known to be present in the project area during the summer, although their numbers do not appear to be high. The 1.5 acre treed area near the proposed Ponderosa/Galena Chairlift area is considered suitable habitat for mule deer. Direct effects to mule deer include displacing deer from foraging areas during project activities. However, disturbance within suitable habitat for mule deer will be occurring in a relatively small area (1.5 acres). During project activities, mule deer would likely move to adjacent available habitat for forage and cover. Indirectly, the loss of approximately 180 trees will reduce cover for mule deer in the area. However, the reduction in cover is confined to a small area and is not considered critical habitat for mule deer.

Cumulative Effects: Over the last ten years, large scale development between Highway 50 and the Truckee River has reduced critical winter range significantly for mule deer and has contributed to the overall decline of the Loyalton-Truckee herd. The future development of large scale residential developments in the Verdi and Truckee area will further reduce critical deer winter range for this herd. Recent catastrophic wildland fires have also played a role in herd reduction by completely eliminating thousands of acres of critical winter, transition and summer range. Many burned areas have been replaced by invasive or non-native species that out-compete native vegetation and provide little or no forage value for mule deer. The Forest Service, in cooperation with the Nevada Department of Wildlife, is currently implementing several deer habitat restoration projects in order to improve habitat in these areas.

Determination: Based on the above assessment, it is expected that some disturbance to mule deer may occur from implementation of the proposed project. However, the overall disturbance to mule deer is expected to be minor and important habitat requirements will not be affected. Therefore, the proposed action may affect individual mule deer, but will not contribute to a downward trend in the population of the Loyalton-Truckee deer herd.

American marten

Direct and Indirect Effects: The American marten is known to be present in the project area (JBR 2001). The 1.5 acre treed area near the proposed Ponderosa/Galena Chairlift area is considered suitable habitat for marten. However, the lack of abundant downed logs, snags and large diameter trees make it unlikely marten use the area for denning and/or consistent foraging. Marten presence in the area is expected to be infrequent and used primarily while traversing to more suitable habitat. Marten present in the project area during tree removal activities would likely be displaced. Because this area is not considered important breeding and/or foraging habitat for marten, impacts from disturbance are expected to be minimal. Indirectly, the loss of approximately 180 trees will reduce habitat for marten in the area. The loss of trees may reduce some connectivity to higher quality habitat areas located within the project area. However, martens have large home ranges and are often opportunistic in their foraging ability. Therefore, it is expected that the removal of a small number of trees would only minimally affect the marten.

Cumulative Effects: Historic logging and other disturbances in the Mt. Rose area, have reduced habitat potential for marten in the Mt. Rose area. Recreation, including ski resort development, has also likely had some impact on habitat availability for marten in the Mt. Rose area.

Determination: Based on the above assessment, implementation of the proposed project will not affect marten habitat and will not lead to a downward trend in the population.

Yellow-rumped warbler

Direct and Indirect Effects: Yellow-rumped warblers are summer residents that have been observed in the project area (JBR 2001). Under the proposed action, direct effects to yellow-rumped warblers include flushing birds from nesting and or foraging areas during project activities. However, no project activities will occur during the breeding season will minimize impacts to yellow-rumped warblers. Indirect effects include the removal of available habitat for yellow-rumped warblers. However, under the proposed action, only a small number of trees will be removed and dense pockets of vegetation will not be treated and will continue to provide adequate nesting habitat for the warbler.

Cumulative Effects: Local, large scale wildfires that have recently occurred in the area have likely reduced habitat for yellow-rumped warblers. For example, the Waterfall fire burned approximately 1,500 acres of mixed conifer on National Forest Lands. Regionally, other fires such as Martis, Crystal, and Cottonwood have also burned thousands of acres of forested habitat. Population trends of yellow warblers appear to be increasing in the state of Nevada, indicating suitable habitat conditions are available. Reforestation efforts associated with the burned areas will continue to improve habitat conditions for yellow-rumped warblers.

Determination: Based on the above assessment, it is expected that the proposed action may have minor impacts on yellow-rumped warbler habitat, but will not lead to a downward trend in the population.

Williamson's sapsucker

The project area is potential habitat for Williamson's sapsucker, although its presence has not been confirmed. Under the proposed action, direct effects to Williamson's sapsucker include flushing birds from nesting and or foraging areas during project activities. Disruptions to breeding could lead to mortality of eggs and/or juveniles and allow for the increased risk of nest parasitism. However, under the proposed action, project activities will not occur until after the breeding season for most migratory birds. Indirectly, Williamson's sapsuckers could be affected from a reduction in canopy cover and structural diversity within the project area. Williamson's sapsuckers require conifer and/or deciduous stands that include large diameter snags and some structural diversity within the stand. Loss of these habitat features is considered one of the largest threats to this species. However, the majority of trees being removed are small diameter (between 6 and 12 inches) with only three trees over 24 inches being removed. Therefore impacts to important habitat features for the sapsucker are expected to be minimal.

Cumulative Effects: Local, large scale wildfires that have recently occurred in the area have likely had mixed impacts on Williamson's sapsuckers. Although thousands of acres of forested lands were burned, these burns provided an abundance of snags, many of which remain adjacent or within patches of live, in-tact stands of conifer and/or aspen. Personal fuelwood and hazardous tree projects have likely had some negative impacts on these woodpeckers. Population trends for Williamson's sapsuckers appear to be stable and/or increasing in the state of Nevada, indicating suitable habitat conditions are available.

Determination: Based on the above assessment, it is expected that the proposed action may have minor impacts to Williamson's sapsucker habitat, but will not lead to a downward trend in the population.

Hairy woodpecker

Hairy woodpeckers are known to be present in the project area (JBR 2001). Under the proposed action, direct effects to hairy woodpecker include flushing birds from nesting and or foraging areas during project activities. Disruptions to breeding could lead to mortality of eggs and/or juveniles and allow for the increased risk of nest parasitism. However, under the proposed action, project activities will not occur until after the breeding season for most migratory birds including the hairy woodpecker. Indirectly, hairy woodpeckers could be affected from a reduction in canopy cover and structural diversity within the project area. Hairy woodpeckers require conifer and/or deciduous stands that include large diameter snags and some structural diversity within the stand. Loss of these habitat features is considered one of the largest threats to this species. However, the majority of trees being removed are small diameter (between 6 and 12 inches) with only three trees over 24 inches being removed. Therefore impacts to important habitat for hairy woodpeckers are expected to be minimal.

Cumulative Effects: Local, large scale wildfires that have recently occurred in the area have likely had mixed impacts hairy woodpeckers. Although thousands of acres of forested lands were burned, these burns provided an abundance of snags, many of which remain adjacent or within patches of live, in-tact stands of conifer and/or aspen. Personal Fuelwood and hazardous tree projects have likely had some negative impacts on these woodpeckers. Population trends for hairy woodpeckers appear to be stable and/or increasing in the state of Nevada, indicating suitable habitat conditions are available.

Determination: Based on the above assessment, it is expected that the proposed action may have minor impacts to hairy woodpecker habitat, but will not lead to a downward trend in the population.

Northern goshawk

The project area lacks adequate cover and forest structure to support northern goshawks. In addition, the level of disturbance associated with skier activity and highway traffic may preclude goshawks from nesting in the area. Goshawks are not known to occur in the project area. Therefore, the proposed action will not affect habitat for goshawks and will not cause populations to trend downward.

Neotropical Migratory Birds (NTMB)

Under the proposed action, direct effects to migratory birds include being flushed from foraging and breeding areas from project activities. If disturbance levels are consistently high, migratory birds may permanently avoid these areas. However, under the proposed action, project activities will not occur until after the breeding season is over for most migratory birds. Disputations to non-breeding birds will be temporary and will not limit the birds ability to sufficiently forage in the area.

Indirectly, migratory birds could be affected from loss of nesting and foraging habitat particularly in the tree removal area portion of the project. Under the proposed action, 1.5 acres of fir habitat will be removed to allow for construction of a new chairlift and chairlift offload. Although this will result in some loss of habitat for migratory birds, it equates to a relatively small amount of available habitat in the area. Furthermore, homogenous fir stands are not considered a priority habitat for migratory birds in the 1999 Draft Avian Conservation Plan for the Sierra Nevada Bioregion (Siegel et al. 1999).

On the Sierra front, recent wildfires have burned thousands of acres of trees and shrub landscapes, reducing available nesting and foraging habitat for a number of migratory birds. However, habitat conditions are gradually improving in these burned areas from natural regeneration and Forest Service tree and brush planting efforts. Based on the above assessment, although some migratory birds may be temporarily displaced, the proposed project will not cause a downward trend in migratory bird populations.

MT. ROSE SKI TAHOE

ENVIRONMENTAL ASSESSMENT

APPENDICES

APPENDIX A

BIOLOGICAL EVALUATION

BIOLOGICAL EVALUATION
for
BIRDS, MAMMALS, FISH, AMPHIBIANS, AND PLANTS

for the Implementation of the
Mt. Rose Tahoe (Mt. Rose) Trail and Lift Improvement Projects
Carson Ranger District
FY2009

PREPARED BY _____ DATE

Cliff Wilson
MT. ROSE SKI RESORT

REVIWED BY /s/Maureen Easton DATE:1/5/2009

Maureen Easton
DISTRICT WILDLIFE BIOLOGIST

REVIEWED BY /s/ Joanne Baggs DATE:1/5/2009

Joanne E. Baggs
FOREST BOTANIST

1.0 INTRODUCTION

This Biological Evaluation (BE) has been prepared to evaluate potential effects of the Mt. Rose-Ski Tahoe (Mt. Rose) Trail and Lift Improvement Projects on plants and animals designated as sensitive by the 1995 United States Forest Service Region 4 Sensitive Species List (USDA 1995, amended 1999, 2003).

This BE was prepared in accordance with Forest Service Manual (FSM) direction 2672.42 and meets legal requirements set forth under Section 7 of the Endangered Species Act of 1973, as amended, and implementing regulations [19 U.S.C. 1536 (c), 50 CFR 402.12 (f) and 402.14 (c)].

2.0 PROJECT AREA DESCRIPTION

The project area is located in Washoe County, Nevada and encompasses private property owned by Mt. Rose and, National Forest System (NFS) lands operated under a special use permit (SUP) from the Humboldt-Toiyabe National Forest (HTNF).

The ski resort is composed of three main areas, the Mt. Rose side, located on the north side of Slide Mountain proper, the Slide side, which lies on the eastern flanks of Slide Mountain, and an area on the northern slope known as the Chutes (Figure 1). Both the Mt. Rose and Slide sides include a lodge, parking, lifts, and ski runs. Elevations in the project area range from approximately 7,500 feet above mean sea level (AMSL) in the northeast portion of the area to approximately 9,700 feet AMSL at the summit of Slide Mountain.

Vegetation in the project area consists mostly of conifer forest, smaller wetland and riparian zones, and unforested shrub land. Previous disturbance in the project area includes the construction of buildings, roads, ski trails, and parking lots. Several buildings and antenna towers used for communications equipment have been constructed in the area near the summit of Slide Mountain.

The project area is adjacent to the Mt. Rose Highway (State Route 431), one of the main transportation routes between Lake Tahoe and Reno-Sparks. Maintenance vehicles traveling to the communications site on the Slide Mountain summit pass through the southwest portion of the project area on a daily basis in the summer. In the winter months, snowcats are used for maintenance access. The Mt. Rose campground is located adjacent to the southwest boundary of the project area. The project area is used heavily by hikers in the warmer months and by skiers in the winter months.

3.0 DESCRIPTION OF THE PROPOSED PROJECTS

Mt. Rose is proposing to improve and upgrade existing ski trail and lift infrastructure in order to meet increased recreational demand and provide a reliable skiing product during less than average snow pack conditions. Additional information analyzing potential effects of the proposed projects may be found in the Environmental Assessment prepared for this project. The proposed projects entail two elements: (1) improving the existing trail conditions at the Slide side of the ski area to provide access during low snow conditions, and (2) upgrading the Ponderosa

and Galena existing fixed grip chair lifts with one high-speed, detachable chairlift on the Mt. Rose side.

3.1 Slide Side Trail Improvement Projects

The Slide Side Trail Improvement Projects will provide a reliable and consistent skiing experience during early season and less than average snow pack conditions. Projects being proposed on various existing trails for site-specific environmental review at the Slide side include: approximately 23.9 acres of spot grading; 3.0 acres of rock blasting; and snowmaking installation on the trail known as Sunrise Bowl. All proposed projects are situated on NFS land within Mt. Rose's Forest Service-issued SUP area (Figure 2).

During the summer of 2006, US Forest Service and Mt. Rose personnel developed an alternative method to traditionally grading an entire trail called "spot" grading. Spot grading requires the use of an excavator and limited dozer work to excavate the areas of higher elevation and using the material created as fill in the areas of lower elevation. This alternative method minimizes the potential disturbance area while preserving islands of native vegetation and reducing potential visual and environmental impacts.

The installation of snowmaking pipe and electrical wiring on the Sunrise Bowl will require a 40 foot wide construction path and a trench approximately 4.5 feet deep and 4.5 feet wide. The sequencing for snowmaking activities would include the removal of boulders, stockpiling topsoil, trenching activities, and boulder displacement. Rock blasting creates minimal disturbance to the project area and will not require any permanent stabilization measures.

Previous environmental documentation pertinent to the proposed projects on Slide side includes the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements*. The EA discloses disturbance to sensitive species, specifically the Tahoe draba (*Draba asterophora* var. *asterophora*). All of the currently proposed projects are located below the elevation habitat for Tahoe draba, and pre-construction surveys were performed JBR Environmental in 2007 to ensure no sensitive species would be affected by construction (See Attachment C).

The proposed project would not alter drainage within the area, or the rate and amount of surface runoff, nor would water quality in the area be impacted. All disturbance activities associated with spot grading and snowmaking will include stockpiling and removing topsoil to be used during revegetation activities. Permanent stabilization measures including: erosion ditches, seeding with a USFS approved seed mix, bio-fertilizer, and mulch will be implemented immediately following site disturbance.

SPOT GRADING ON SLIDE BOWL

Spot grading would occur on approximately 13.8 acres in various sections of the area known as Slide Bowl. As previously approved in the Master Development Plan snowmaking would be installed at a later date to allow for better utilization of this area during the early season.

SPOT GRADING AND SNOWMAKING - SUNRISE BOWL

Spot grading and snowmaking installation would occur on approximately 4.1 acres of the Sunrise Bowl trail. The snowmaking pipeline would also be used for irrigation purposes during the summer to promote re-vegetation in the re-contoured areas.

SPOT GRADING LOWER BRUCE'S TRAIL

Spot grading would occur on approximately 2.2 acres of the Lower Bruce's trail from the intersection of the Badlands terrain park to the Zephyr Return traverse.

SPOT GRADING WASHOE ZEPHYR TRAIL

Spot grading would occur on approximately 3.8 acres of the Washoe Zephyr trail.

ROCK BLASTING OUTLAW TRAIL

Rock blasting would occur on approximately 3.0 acres of the Outlaw trail. Rock blasting includes drilling a hole into the rock and using explosive for dispersal. After blasting, the remaining rock debris is worked by hand into depression areas.

3.2 Mt. Rose Side Improvement Projects-Upgrade Ponderosa/Galena Chairlifts

The proposed projects at the Mt. Rose side of the resort will improve skier access and circulation on existing beginner and lower intermediate terrain served by the Ponderosa and Galena lifts. These fixed grip chairlifts would be replaced with a single high-speed, detachable chairlift approximately 5,343 feet in length and servicing approximately 590 vertical feet. While both of these lifts are currently located entirely on private land, the current proposal would extend the top terminal 300 feet uphill of the existing location onto NFS lands within Mt. Rose's SUP area. The approximate disturbance associated with the extension onto NFS lands would be less than 1.5 acres. Shifting the location of the top terminal uphill provides adequate unloading and milling space for this higher capacity lift, which would also have a larger top terminal than the existing Galena fixed-grip lift.

The majority of the new lift alignment would essentially share the same corridor as the existing Ponderosa and Galena chairlifts. Construction activities associated with the lift replacement will include reusing numerous lift towers from the previous chair lifts and upgrading the chive assemblies that are used to guide the rope line. Additional installation of lift towers and the removal of old towers that cannot be used in the new alignment will take place adjacent to existing roadways. An excavator and limited dozer work will be used for removal and installation of towers. The new unload terminal will include limited tree cutting and ground work to accommodate the top terminal, install snowmaking, and connect to the existing trail network (Figure 3).

Previous environmental documentation pertinent to the proposed lift upgrade includes the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* (USFS, 2003). The EA discloses disturbance to sensitive species, specifically the Tahoe draba (*Draba asterophora* var. *asterophora*). All of the currently proposed projects are located below the elevation habitat for Tahoe draba, and pre-construction surveys were performed to ensure no sensitive species would be affected by construction (Daines, 2008; See Attachment D).

The proposed project would not alter drainage within the area, or the rate and amount of surface runoff, nor would water quality in the area be impacted. All disturbance activities associated with the lift upgrade activities will include stockpiling and removing topsoil to be used during revegetation activities. Permanent stabilization measures including: erosion ditches where necessary, seeding with a USFS approved seed mix, bio-fertilizer, and mulch will be implemented immediately following site disturbance.

4.0 ANALYSIS PROCESS

4.1 Current Management Direction

Current management direction on desired future conditions for Threatened, Endangered and Sensitive species on the Humboldt-Toiyabe National Forest can be found in the following documents, filed at the Carson Ranger District:

- Forest Service Manual and Handbooks (FSM/H 2670)
- National Forest Management Act (NFMA)
- Endangered Species Act (ESA)
- National Environmental Policy Act (NEPA)
- Toiyabe National Forest Land and Resource Management Plan (LRMP)
- Sierra Nevada Forest Plan Amendment 2001 and 2004
- Species management guides or conservation strategies
- Intermountain Region (R4) Sensitive Species List
- Recovery Plans for individual species

4.2 Consultation to Date

A written request was submitted to the USFWS on May 27, 2008; as required in 50 CFR 402.12(c), for a list of threatened, endangered, and proposed species known or likely to occur in the analysis area (See Attachment A). Correspondence provided by the USFWS on June 9, 2008 for the project identified no listed, proposed, or candidate species occur in the project area (File No. 2008-SL-0361). In addition, the Nevada Natural Heritage Program was conducted on May 29, 2008 for potential endangered, threatened, candidate, and/or risk plant and animal taxa in the project area (See Attachment B).

4.3 Biological Surveys

Extensive vegetation and sensitive plant species surveys have been performed every year between 2000 and 2007 by JBR Environmental Consultants, Inc. for several Mt. Rose resort improvement projects including the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* and a *2006 Biological Evaluation (BE)*.

Based on discussions with the USFS District Botanist, biological surveys focused mainly on the two sensitive species known to be present in the vicinity: the Tahoe draba (*Draba asterophera*

var. *asterophera*) and Galena Creek rockcress (*Arabis rigidissima* var. *demota*). Biological surveys were conducted in 2007 for the Slide side trail improvement projects and in 2008 for the Ponderosa/Galena upper lift terminal on the Mt. Rose side. All areas were surveyed on foot and a GPS receiver was used to identify survey limits and any sensitive plant species.

Regarding effects to Tahoe draba, the activities on the Slide side and Mt. Rose side of the resort are below the elevation for this species, and pre-construction surveys were performed to ensure no sensitive species would be affected by construction. The sections of the proposed Slide side trail improvements were designed to specifically avoid Tahoe draba plants. Although the Galena Creek rockcress has been observed in The Chutes area, none were observed in the proposed project areas. Although no Tahoe draba is located within the project area, adjacent habitat and individuals were identified outside of the project area on one Slide side trail and the Ponderosa and Galena lift area. Prior to commencing ground disturbing activities in these areas surveys will be conducted to identify the individuals/aggregations and this area will be avoided using construction fencing to avoid unintentional disturbance.

Biological surveys were conducted on August 29, 2007 for the Slide Side Trail Improvement Projects (JBR, 2007). A total of ten individual Tahoe draba plants were observed near the upper boundary of the Washoe Zephyr trail spot grading area. Based on this finding the project area boundary was lowered to avoid any potential impacts to the individual plants or the surrounding habitat. Pre-construction surveys will take place to identify these plants and to install protective fencing to avoid disturbance. Additional mitigation measures described below will be implemented to avoid any potential impacts to this sensitive species. No other sensitive species were identified in any other of the trail improvement projects.

Biological surveys were also conducted on June 17, 2008 for the Ponderosa and Galena Lift Upgrade Project (Attachment D). No Tahoe draba plants were observed within the project area.

Wildlife surveys were performed in 2000, 2001, 2002, and 2006 by JBR for several Mt. Rose resort improvement projects including the 2003 *Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* and a 2006 *Biological Evaluation (BE)*. The results of the wildlife surveys and associated reports are contained in the Mt. Rose project file at the Carson Ranger District and incorporated by reference into this BE. These documents contain detailed analysis of wildlife resources on NFS lands within the Mt. Rose SUP. These documents were also used as reference in assessing the potential impacts to sensitive species in the area. Additional wildlife surveys were not conducted for the specific projects addressed in this BE due to the low potential for any sensitive species to occur in the area.

4.4 SPECIES ACCOUNTS

Species Evaluated for the Biological Evaluation

The below list includes the United States Department of Agriculture Forest Service Regional Forester's (R4) sensitive species (November 1995 list, updated in 1999 and 2003).

MAMMALS

- Pygmy Rabbit (*Brachylagus idahoensis*)**
- Townsend's big-eared bat (*Corynorhinus townsendii*)**
- Spotted bat (*Euderma maculatum*)**
- Wolverine (*Gulo gulo luteus*)**
- Pacific Fisher (*Martes pennanti*)**

BIRDS

- Northern goshawk (*Accipiter gentilis*)**
- Sage grouse (*Centrocercus urophasianus*)**
- Bald eagle (*Haliaeetus leucocephalus*)**
- Mountain quail (*Oreotyx pictus*)**
- Flammulated owl (*Otus flammeolus*)**
- White-headed woodpecker (*Picoides albolarvatus*)**
- *Three-toed woodpecker (*Picoides tridactylus*)
- Great gray owl (*Strix nebulosa*)**
- California spotted owl (*Strix occidentalis occidentalis*)**

AMPHIBIANS AND REPTILES

- * Spotted frog (*Rana pretiosa*)

* *These species do not occur on the Carson Ranger District (Sibley 2000, Spahr et al 1991). Therefore there will be no impact to the species from the proposed project activities and no further analysis will be conducted.*

PLANTS

- *Charleston angelica (*Angelica scabrida*)
- *Charleston pussytoes (*Antennaria soliceps*)
- *Bodies Hills rockcress (*Arabis bodiensis*)
- *Ophir rockcress (*Arabis ophira*)
- Galena Creek rockcress (*Arabis rigidissima* var. *demota*)**
- *White bear desert-poppy (*Arctomecon merriamii*)
- *Rosy King's sandwort (*Arenaria kingii* spp. *rosea*)
- *Eastwood milkweed (*Asclepias eastwoodiana*)
- *Clokey milkvetch (*Astragalus aequalis*)
- *Funeral milkvetch (*Astragalus funereus*)
- *Scorpion milkvetch (*Astragalus lentiginosus* var. *scorpionis*)
- *Half-ring pod milkvetch (*Astragalus mohavensis* var. *hemigyris*)
- *Lee Canyon milkvetch (*Astragalus oophorus* var. *clokeyanus*)
- *Lavin's eggvetch (*Astragalus oophorus* var. *lavinii*)
- *Spring Mountain milkvetch (*Astragalus remotus*)
- *Toquima milkvetch (*Astragalus toquimanus*)
- Upswept moonwort (*Botrychium ascendens*)**
- Dainty moonwort (*Botrychium crenulatum*)**
- Slender moonwort (*Botrychium lineare*)**
- *Seaside sedge (*Carex incurviformis* var. *danaensis*)
- *Mohave cryptantha (*Cryptantha tumulosa*)

- *Bodie Hills draba (*Cusickiella quadricosta*)
- *Goodrich biscuitroot (*Cymopterus goodrichii*)
- *Snowy spring parsley (*Cymopterus nivalis*)
- *Arid draba (*Draba arida*)
- Tahoe draba (*Draba asterophora* var. *asterophora*)**
- *Jaeger draba (*Draba jaegeri*)
- *Serpentine draba (*Draba oreibata* var. *serpentina*)
- *Charleston draba (*Draba paucifructa*)
- *Nevada willowherb (*Epilobium nevadense*)
- *Spring Mountain goldenweed (*Ericameria compactus*)
- *Mono buckwheat (*Eriogonum ampullaceum*)
- *Toiyabe buckwheat (*Eriogonum esmeraldense* var. *toiyabense*)
- *Clokey buckwheat (*Eriogonum hermannii* var. *clokeyi*)
- *Barrel cactus (*Ferocactus cylindraceus* var. *lecountei*)
- *Clokey greasebrush (*Glossopetalon clokeyi*)
- *Smooth dwarf greasebrush (*Glossopetalon pungens* var. *glabra*)
- Sierra Valley ivesia (*Ivesia aperta* var. *aperta*)**
- *Dog Valley ivesia (*Ivesia aperta* var. *canina*)
- *Charleston ivesia (*Ivesia cryptocaulis*)
- *Jaeger ivesia (*Ivesia jaegeri*)
- *Plumas ivesia (*Ivesia sericoleuca*)
- Webber ivesia (*Ivesia webberi*)**
- *Slickspot peppergrass (*Lepidium papilliferum*)
- *Dune penstemon (*Penstemon arenarius*)
- *Bicolored beardtongue (*Penstemon bicolor* ssp. *bicolor*)
- *Rose-colored beardtongue (*Penstemon bicolor* ssp. *roseus*)
- *Death Valley beardtongue (*Penstemon fructiciformis* spp. *amargosae*)
- *Mono phacelia (*Phacelia monoensis*)
- *Marsh's bluegrass (*Poa abbreviata* var. *marshii*)
- *Williams combleaf (*Polycytenium williamsii*)
- *Tahoe yellowcress (*Rorippa subumbellata*)
- *Clokey Mountain sage (*Salvia dorrii* var. *clokeyi*)
- *Clokey silene (*Silene clokeyi*)
- *Low sphaeromeria (*Sphaeromeria compacta*)
- *Few-flowered streptanthus (*Streptanthus oliganthus*)
- *Charleston kittentails (*Synthyris ranunculina*)
- *Alpine goldenweed (*Tonetus alpinus*)
- *Charleston ground daisy (*Towsendia jonesii* var. *tumulosa*)
- *Rollins clover (*Trifolium rollinsii*)

**It has been determined after reviewing the Toiyabe National Forest Sensitive Plants Field Guide (Weixelman 1991), California plant databases (Cal Flora 2008, CNPS 2008), and the Nevada Natural Heritage Database (Morefield 2001) that the habitat type is not present within the project area and/or that these plant species do not occur nor have the probability of occurring in Washoe County, Nevada, where the project is located. Species with known distribution in relative proximity of the project area (but in a different county) were considered for analysis. Level of survey effort and quantity and quality of existing information were factored*

into determining the probability of the species occurring in the project area. Therefore, species which have no probability of occurring in the area, will not be impacted and no further analysis will be conducted.

Table 1. lists the Intermountain Region sensitive species that are known or suspected to be found on the Carson Ranger District. Species with known distribution in relative proximity of the project area and also adjacent counties were considered for analysis. Level of survey effort and quantity and quality of existing information were factored into determining the probability of the species occurring in the project area. Therefore, species which have no probability of occurring in the area, will not be impacted and no further analysis was conducted. The sensitive species in

4.4.1 US Forest Service Sensitive Mammal Species

Pygmy rabbit

The pygmy rabbit has a discontinuous distribution occurring in Montana, Wyoming, Idaho, Utah, Nevada, California, Oregon, and Washington (USDA, 2001). The Washington state population is considered genetically distinct from the remainder of the species and has been listed as endangered by the USFWS. Potential habitat for pygmy rabbits has been identified on four National Forests in California including the Humboldt-Toiyabe (USDA, 2001). The Pygmy rabbit is dependent upon dense stands of big sagebrush (*Artemisia tridentata*) for foraging and breeding habitat. In Idaho and Oregon pygmy rabbits are found in shrub densities ranging from 30 to 46 percent shrub cover (Green and Flinders, 1980). The project area lacks sagebrush communities suitable for pygmy rabbits and no occurrences were reported in the 2008 NNHP database report for the project (See Attachment B) and the species is therefore unlikely to be found in the project area.

The Western (Pale Townsend's) big-eared bat

The presence of Townsend's big-eared bats is strongly correlated with the availability of caves and cave-like roosting habitat (Sherwin, 1998). This bat also has been reported to utilize buildings, bridges, and rock crevices for roosting (Burt, 1976). Foraging habitat is typically found at the edge of stream zones and areas adjacent to, and within, a variety of forested habitats. Although this species occurs in a variety of habitats and appears to be an adaptable forager, it is generally thought to be a moth specialist (Kunz and Martin, 1982). Townsend's bats are known to travel more than 10 miles from a roosting site for foraging (Sherwin, 1998). The bats do not migrate but remain at hibernacula from October to February. In summer, females roost with their young in nursery roosts (a group of small clusters, seldom exceeding 100 adults) in warm parts of a cave. Maternity colonies break up in August. Males and non-breeding females roost alone (Kunz and Martin, 1982). On the Carson Ranger District, the most suitable habitat for Townsend's bats occurs on Peavine Mountain approximately 18 miles north of the project area, and Colorado Hill, approximately 30 miles south of the project area. Historic mining activity in these areas has left numerous mine shafts and adits suitable for bat roosting, hibernacula, and breeding. Townsend's big-eared bats have recently been detected at Peavine Mountain and Colorado Hill (Brown and Brown, 2002a, b). The primary threat to Townsend's big-eared bats is the destruction of roost sites (Sherwin, 1998).

Big-eared bats are unlikely to occur in the project area due to the lack of suitable roosting locations such as caves or mines. No big-eared bat sightings were reported from the 2008 NNHP database (See Attachment B) and the species is therefore unlikely to be found in the project area.

Spotted bat

The spotted bat has a fairly broad but patchy distribution, which is strongly correlated with the presence of limestone and/or sandstone cliffs and rock outcrops (Luce, 1998; USDA, 1991). The dependency on cliff roosting habitat limits the spotted bat to very small geographic areas with specific geological features (Luce, 1998). For example, critical roosting sites are cracks and crevices from 0.8 to 2.2 inches in width in limestone or sandstone cliffs (USDA, 1991). The spotted bat feeds primarily on moths in a variety of habitats including open ponderosa pine forests, desert scrub, pinyon-juniper, and open pasture and hay fields (Leonard and Fenton, 1983). Most often, they are found in dry, rough desert terrain (Watkins, 1977). Generally, spotted bats are found in relatively remote, undisturbed areas, suggesting that they may be sensitive to human disturbance (USDA, 1991). Bat surveys conducted on Peavine Mountain 18 miles north of the project area and Colorado Hill, approximately 30 miles south of the project area resulted in no detections of spotted bats (Brown and Brown, 2002a, b). Threats to the spotted bat have historically been minimized by the remoteness of their roost sites. However, impoundment of reservoirs and increased recreational rock climbing activity may impact the species in local situations (Luce, 1998).

Spotted bats are unlikely to be present in the project area due to the lack of suitable roosting habitat in the area. No limestone or sandstone cliffs are present and the project area is frequently disturbed by vehicles and recreational activity. No bats are known to be using buildings in the project area or vicinity. No spotted bat sightings were reported from the 2008 NNHP database (See Attachment B) and the species is therefore unlikely to be found in the project area.

California wolverine

The wolverine is typically found in very remote areas of the North and high elevations in the Sierra Nevada and Rocky Mountains, where it ranges widely in search of food (Burt, 1976). Wolverines generally live in high elevation, roadless areas and do not inhabit grassland-chaparral or sagebrush scrublands (Spahr et al., 1991). Den sites are characterized by a large snag or downed log component. Wolverines have a home range of 38 to 347 square miles and may move great distances on a daily basis (Ruggiero et al., 1994). Wolverines prefer to hunt around small meadows and riparian areas and feed primarily upon small mammals and large mammal carrion (Hornocker et al., 1981).

Because the project area is near a heavily-used highway and recreational use is heavy in both winter and summer, it is probably not remote enough to represent suitable habitat for wolverines, and none are known to utilize the general area. JBR's wildlife surveys in the project area (JBR, 2001; JBR, 2002; 2006) found no evidence of the presence of wolverines and no occurrences were reported in the 2008 NNHP database report for the project (See Attachment B) and the species is therefore unlikely to be found in the project area.

Pacific fisher

The Pacific fisher is a rare species that is normally found in remote forests. Fishers are active both at night and during the day, feeding mainly on porcupines and small mammals, birds,

carrion, and fruits (Burt, 1976). In the Sierra Nevada, fishers most often occur at elevations between 4,000 and 8,000 feet (Freel, 1991). Preferred habitat is characterized by dense (60 to 100% canopy cover), multi-storied, multi-species, late seral stage coniferous forests with a high number of large (> 30 inch dbh) snags and downed logs. In Trinity County, California, Buck et al. (1983) noted that fishers generally avoided areas without overhead cover and preferred old growth forests. Preferred habitat is in close proximity to dense riparian corridors and saddles between major drainages or other landscape linkage patterns used as adult and juvenile dispersal corridors (JBR, 2002).

The project area lacks old growth stands preferred by fishers for denning and foraging. Winter surveys for forest carnivores, including fishers, have been conducted on the south end of the Carson Ranger District since 1999. Approximately 45 camera stations were monitored during that time period with no detections of fishers. JBR's wildlife surveys in the project area (JBR, 2001; JBR, 2002) found no evidence of the presence of fishers and no occurrences were reported in the 2008 NNHP database report for the project (See Attachment B). The project area lacks adequate forested stands and structure, including down woody debris and large snags suitable to support fishers. There are no known sightings of fisher on the Carson Ranger District and the species is therefore unlikely to be found in the project area.

4.4.3. US Forest Service Sensitive Bird Species

Northern goshawk

In most areas, the northern goshawk occupies montane forests in spring and summer, with some altitudinal migration into foothills and valleys in the winter (Terres, 1980). Northern goshawks are typically associated with late seral stage or old growth forests, characterized by contiguous stands of large trees and large snags with closed canopies (>40 percent) and relatively open understory (Reynolds et al., 1992). Stick nests are typically built in trees on north or northwest facing slopes of less than 30 percent and near water. Nest trees of this species are commonly located on benches or basins surrounded by much steeper slopes (Call, 1978).

Northern goshawks have been documented throughout the Carson Ranger District. Herron, in Alcorn (1988), estimates that 87 percent of goshawk nests in Nevada are found in aspen trees. Nest trees are typically located within 100 feet of water (Herron et al., 1985). Shuster (1980) noted that nests in aspens were always located directly below the canopy. Goshawks are very sensitive to human disturbance and have abandoned nests and young due to human activities that take place too close to their nest site (Kennedy and Stahlecker, 1989; Hennessey, 1978).

The proposed project area lacks suitable canopy cover and forest structure to support northern goshawks. Previous surveys conducted have resulted in no detections of goshawks (JBR, 2001; JBR, 2002b) and the species is therefore unlikely to be found in the project area.

Sage grouse

Core populations of sage grouse occur in Colorado, Idaho, Montana, Nevada, Oregon, and Wyoming. In California, sage grouse occur from the Oregon border, south along the east side of the Cascade Range and the Sierra Nevada Range to Inyo County (USDA, 2001). Sage grouse are largely dependent upon sagebrush ecosystems for both foraging and breeding. Nesting habitat for sage grouse is characterized primarily by Wyoming big sagebrush communities that

have 15 to 38 percent canopy cover and a grass and forb understory (Terres, 1980). Dense sagebrush cover is important to nesting success of sage grouse. The project area lacks adequate stands of sagebrush to support sage grouse (Mt. Rose, 2006) and the species is therefore unlikely to be found in the project area.

Bald eagle

On June 28th, 2007 the bald eagle was removed from the Federal list of threatened and endangered species. The final rule delisting the bald eagle was published on July 9, 2007 and became effective on August 8, 2007. After delisting, bald eagles continue to be protected under the Bald and Golden Eagle Protection Act (BGEPA). Both of these laws prohibit killing, selling or otherwise harming eagles, their nests or their eggs. After delisting, bald eagles are now managed as a Forest Sensitive species.

The Bald eagles' breeding range in the west extends along the western coast from southern Alaska through the Pacific Northwest to Northern California. Within California, bald eagles are permanent residents in the north and uncommon winter migrants, particularly in the south. Northern California has a large breeding population and approximately half of the winter population is found in the Klamath Basin along the Oregon border. In the Sierra Nevada, it is estimated that between 100-300 bald eagles winter on Sierra Nevada Forests, and at least 151-180 pairs remain year-round to breed. Populations in California are considered to have remained stable or increased over the past ten years.

In California, trees selected for nesting by bald eagles are characteristically one of the largest in the stand with tree heights usually over 100 feet tall with an average diameter of 43 inches and are in stands where the canopy cover is less than 40% (Jackman and Jenkins 2004). The majority of bald eagle nests are within two miles of water and almost always have an unobstructed view of a waterbody.

There is no suitable habitat for bald eagles in the project area. The area lacks large diameter trees suitable for nesting and roosting and is not within two miles of a water body. Bald eagles are known to winter in Washoe Valley area approximately 10 miles east of the project area.

Mountain quail

Mountain quail prefer dense brush of mountains, and the edges of coniferous forests and meadows. The species is found up to 10,000 feet in elevation during nesting season, moving to lower elevations in fall (Terres, 1980). Mountain quail nests are usually within a few hundred yards of water to provide chicks with required water supply after hatching. Nesting occurs between April and mid-July with family groups remaining together throughout fall and winter. During the winter months mountain quail move down in elevation to find adequate food resources (Erlich et al., 1998). Mountain quail primarily eat seeds, fruit, some green vegetation and insects. Threats to mountain quail include disturbance from livestock grazing and humans during breeding season (USDA, 1991). Stands of brush which occur in patches on the Slide side and on the Mt. Rose side of the ski area may provide some habitat for dispersing or foraging mountain quail. However, overall the project area lacks adequate density and abundance of cover vegetation to support mountain quail populations.

Flammulated owl

This diminutive owl, approximately six inches in length, inhabits the montane coniferous forests of North and Central America, ranging from southern British Columbia to Guatemala (Ryser, 1985). In most areas, this owl occurs in close association with ponderosa pine and Jeffery pine. Flammulated owls are also known to utilize successional aspen communities in some locations. This small and secretive owl is a cavity nester, and thus requires natural or woodpecker-excavated cavities as a component of its habitat. In Nevada, this owl is generally found in yellow pine communities with old snags and dying trees that contain cavities (usually excavated by woodpeckers). Winter (1974) found that records of flammulated owl occurrence in California closely parallel the distribution of ponderosa and Jeffery pine.

Flammulated owls nest in a variety of conifer forest types between 6,000 and 10,000 feet elevation. Flammulated owls prefer older forests and are often found in association with old growth yellow pine forests mixed with red fir, white fir, and incense cedar. Older forests tend to have a higher abundance of snags and live trees with suitable nesting cavities. Preferred roosting and nesting habitat appears to be stands with dense understory vegetation with multi-layered stands. Foraging habitat however is generally more open understory (Heron et al., 1985). Flammulated owls feed almost exclusively on insects but will also occasionally prey on small mammals (Reynolds et al., 1987). Flammulated owls are migratory moving to the south to central Mexico and Central America in the fall where adequate insect populations can be found (Johnsgard, 1988).

The presence of flammulated owls in the project area is considered unlikely because the area contains few ponderosa and Jeffrey pines, the owl's preferred habitat. JBR surveyed for flammulated owls in the Chutes area in 2001 but no responses to broadcast calls were recorded (JBR, 2001). No flammulated owl sightings were reported in the 2008 NNHP database report for the project (See Attachment B) and the species is therefore unlikely to be found in the project area.

White-Headed woodpecker

White-headed woodpeckers are year round residents and generally occur between 4,000 and 9,000 feet elevation in ponderosa pine forests but also occur in sugar pine, Jeffrey pine, and red and white fir forests (Ehrich et al., 1988). Preferred habitat appears to be stands with large diameter trees, soft snags averaging 23 inches dbh, and 40 to 70 percent canopy cover. However, white-headed woodpeckers are also found in open-canopied conifer stands with nest sites often occurring in relatively open habitat or along forest edges (Cornell, 2003). More than 50 percent of the white-headed woodpecker's diet is composed of pine seeds during some parts of the year. They also feed on insects found on the bark of live and dead tree trunks. White-headed woodpeckers are often observed alongside streams, drinking water (Cornell, 2003). White headed woodpeckers typically excavate nest sites in snags and stumps approximately 8 feet from the ground (USDA, 1991). The primary threat to white-headed woodpeckers is over-harvesting of large diameter trees, especially ponderosa pine (USDA, 1991). The species was not observed during previous surveys (JBR, 2002) and the 2008 NNHP database report listed no sightings (See Attachment B). White-headed woodpeckers may forage in the project area but this activity is expected to be limited due to the lack of a significant pine tree component which provides pine seeds for foraging white-headed woodpeckers. White headed woodpeckers are not expected to nest in the project area due to the lack of large diameter snags.

Great gray owl

In the Sierra Nevada, great gray owls are found in mixed coniferous forests, where such forests occur in combination with meadows or other vegetated openings. Nesting usually occurs within 600 feet of the forest edge and adjacent open foraging habitat. Most nests are made in broken top snags (generally firs), but platforms such as old hawk nests, mistletoe infected limbs, etc. are also used. Nest trees or snags are generally greater than 21 inches dbh and 20 feet tall. Nest trees on the Stanislaus National Forest averaged 32 inches dbh and 32 feet tall, while those in Yosemite National Park averaged 44 inches dbh and 45 feet tall (Greene, 1995). Conservation guidelines are provided for great grays in the Sierra Nevada Forest Plan Amendment (USDA, 2001). The project area lacks meadows, large diameter snags, and adequate canopy cover, and therefore does not contain suitable habitat for nesting or foraging great gray owls. Unverified sightings of great gray owls have been reported in the Carson Ranger District near Little Valley, approximately four miles south of the project area and in the Carson Iceberg Wilderness, more than 70 miles south of the project area (Easton, 2003). The project area lacks large meadow systems adjacent to larger diameter firs. Furthermore, no great gray owl sightings were reported in the NNHP database report for the project (See Attachment B) and the species is therefore unlikely to be found in the project area.

California spotted owl

Spotted owls are residents of deep, old-growth coniferous forest (Terres, 1980). Conservation guidelines for the California spotted owl are provided in the Sierra Nevada Forest Plan Amendment (USDA, 2001). A petition was filed with U.S. Fish & Wildlife Service in 2000 to list the California Spotted Owl. Management direction for this species on the Carson Ranger District is to manage protected activity centers (PAC) and home range core areas (HRCA) as described in the Record of Decision for the Sierra Nevada Forest Plan Amendment (USDA, 2001). Protection guidelines include establishing PACs of 300 acres around all known activity sites and 700 additional acres of suitable habitat round the PAC to protect the HRCA Area. Spotted owls utilize mixed conifer, ponderosa pine, red fir, and montane hardwood vegetation types. Nesting habitat is characterized by dense canopy closure (>70 percent) with medium to large trees and multi-storied structure stands. Foraging habitat can include all medium to large tree stands (>50 percent canopy closure) (Verner et al., 1992). California spotted owls tend to avoid stands with less than 40 percent canopy cover (USDA, 2001).

Suitable habitat for spotted owls does not exist within the project area. Canopy cover is less than 40 percent and suitable snags and old growth forest structure for nesting are not present. Surveys for spotted owls were performed in the Chutes in 2001 by broadcasting calls but no responses were elicited (JBR, 2001). Additional spotted owl surveys were scheduled for 2002 but the USFS biologist determined that the habitat in the project area was not suitable and that no further surveys were required (Easton, 2002a). No spotted owl sightings were reported in the NNHP (2008) database report for the project (See Attachment B) and the species is therefore unlikely to be found in the project area.

4.4.2 US Forest Service Sensitive Plant Species

The following species with a potential of occurring in the area are described below.

Galena Creek rockcress

Galena Creek rockcress is a geographically restricted regional endemic, which is known only from the Carson Range of the Sierra Nevada in southern Washoe County, Nevada, and just recently reported in southern Placer County, California. Habitat for Galena Creek rockcress includes open, rocky areas along forest edges of conifer and/or aspen stands and brushy slopes above 7,000 feet (JBR, 2006). It is generally found on moderate to steep northerly aspects in moisture accumulating microsites such as drainage ways and near meadow edges. The threats to the species listed in the Sierra Nevada Forest Plan Amendment are ski area development, timber harvest, recreation trail construction, maintenance and use, and any activities that degrade air quality, cause erosion, or aid in illegal plant collection (USDA Forest Service, 2001). Plant surveys conducted for this BE resulted in no detections of Galena Creek rockcress (JBR, 2006).

Slender Moonwort

Slender moonwort is a small perennial fern that is difficult to locate and identify in the field. This moonwort is found in widely separated disjunct populations that are very small in size from California, Colorado, Idaho, Montana, Oregon, Utah, and Washington (NatureServe, 2003). Suspected populations occur in the Spring Mountains, Nevada, however, genetic analysis are pending (Farrar, 2002). In 2001, *Botrychium lineare* was added to the candidate species list and in 2003, added to the R4 Sensitive Species list.

Slender moonwort is found usually at higher elevations in montane forest or meadow habitats, however the typical habitat is difficult to describe (USDI, 2001, Wagner and Wagner, 1994). The plant occurs from sea level up to 9,840 feet elevation (USDI, 2001). The described habitats range from roadside in open habitat dominated by low-growing forbs; meadow dominated by knee-high grass; shaded woods, and woodlands; grass-to-forb-dominated openings in forest pine, spruce, and fir forests; grassy horizontal ledges on a north-facing limestone cliff; and a flat upland section of a river valley (USDI, 2001). Populations are threatened by habitat destruction and fragmentation from road construction and maintenance, including herbicide spraying, recreational activities, grazing and trampling by wildlife and livestock, development, timber harvest, and competition from non-native plant species (USDI, 2001). Habitat components associated with slender moonwort (as described above) are not present within the project area.

Upswept moonwort

The upswept moonwort is reported in Nevada only from the Spring Mountains in Clark County (NNHP, 2002a) and two records are reported from El Dorado County, California (CalFlora, 2002). Its probable habitat is moist, shaded spring head areas on north facing slopes with scented shooting star (*Dodecatheon redolens*), starry Solomon seal (*Smilacina stellata*), singleleaf pinyon pine (*Pinus monophylla*), ponderosa pine (*Pinus ponderosa*), limber pine (*Pinus flexilis*), northwest crimson columbine (*Aquilegia formosa*), and bristlecone pine (*Pinus longaeva*) (NNHP, 2002a). Upswept moonwort is typically found at elevations between 4500 and 5400 feet elevation. The CalFlora (2002) Taxon Report lists Yellow Pine Forest as the plant community where the species is found. These habitat descriptions do not match the plant communities in the project area and the upswept moonwort is therefore unlikely to be present (JBR, 2006).

Dainty moonwort

The dainty moonwort may occur in suitable habitat throughout Nevada although Clark County is the only location in Nevada with a confirmed record (NNHP, 2002b). Occurrences of this species are not well documented at present. Preferred habitat consists of marshes, meadows, and swamps (Hickman, 1993). No meadows are found in USFS lands in the project area and wet areas, which are typically dominated by willow and alder, would not be described as marshes or swamps. Therefore, the dainty moonwort is unlikely to be found in the project area (JBR, 2006).

Tahoe draba

Several groupings of Tahoe draba populations occur within a discontinuous distribution on the mountains around the Lake Tahoe Basin including Mt. Rose/Slide Mountain, Monument Peak (Heavenly Valley), Mt. Gibbs and Mt. Ralston. These small plants grow in rock crevices and granite talus slopes at high elevations between 8,000 and 10,000 feet. Slopes are typically north facing and frequently hold patches of snow throughout the summer months. It is found in areas with little to no canopy cover, sparse or no surface litter, and areas that accumulate deep snow during the winter months. It is associated with the elevational range of mountain hemlock, whitebark pine, western white pine, and red fir (Mozingo and Williams, 1980; Kartesz, 1988), although it is also known to occur above timberline (USDA, 1991). Tahoe draba is listed as a sensitive species in both the Intermountain and Pacific Southwest Regions of the Forest Service which manages most of the populations. In Nevada, this species is on the Nevada Heritage Program's Sensitive List, Nevada Native Plant Society's watch list, and is ranked a S1 species (Critically imperiled due to extreme rarity, imminent threats, and/or biological factors). In California, Tahoe draba is on the California Native Plant Society's List 1B (Rare, threatened, or endangered in California and elsewhere). Threats listed in the Sierra Nevada Forest Plan Amendment (USFS, 2001) include ski area development, hikers, and utility line construction. Plant surveys conducted for this BE resulted in no detections of Tahoe draba in the immediate project vicinities (JBR, 2006).

Sierra Valley ivesia

Sierra Valley ivesia is found in shallow, vernaly saturated, slowly draining sandy to rocky clay soils derived mostly from andesitic volcanic rock or alluvium. Its reported elevation range is from 6,460 to 7,300 feet. The reported elevation range is below the lowest elevations in the project area and volcanic rocks are lacking. No known suitable habitat exists and the species is therefore unlikely to be found in the project area (JBR, 2006).

Webber ivesia

Webber's ivesia is found in shrink-swell soils with a gravelly surface layer over volcanic rock. It is usually on benches and flats between 4,000 and 5,950 feet in elevation. The reported elevation range is below the lowest elevations in the project area and project area soils are derived from granitic, not volcanic rock. The species is therefore unlikely to be present (JBR, 2006).

5.0 EFFECTS ANALYSIS AND DETERMINATIONS

5.1 US Forest Sensitive Mammal Species

Pygmy rabbit

The project area lacks sagebrush communities and is therefore considered unsuitable for pygmy rabbits. Therefore, there will be **no impact** to pygmy rabbits from project activities and no further analysis for this species will be conducted.

The Western (Pale Townsend's) big-eared bat

The lack of caves or mine shafts within or adjacent to the project area, make it unlikely that Townsend's big-eared bats would roost or breed there. Although Townsend's bats are known to travel long distances for foraging opportunities, it is expected the majority of this species' foraging efforts would occur in closer proximity to roost sites (i.e., caves and mines). Therefore, it is unlikely the reduction in vegetation from project activities would impact big-eared bats or their populations. It is expected that there will be **no impact** to Townsend's bats from project activities and no further analysis for this species will be conducted.

Spotted bat

The lack of limestone or sandstone cliffs used for roosting or breeding make it unlikely the spotted bat would be present within the project area. The existing level of human disturbance associated with the ski resort and highway activities further minimize the habitat potential for the sensitive spotted bat. Therefore, it is expected there will be **no impact** to the spotted bat from project activities and no further analysis for this species will be conducted.

California wolverine

No wolverines are known to be present in the project area or vicinity and the habitat is unsuitable because of existing disturbance from traffic and recreational activity. Therefore, there will be **no impact** to wolverines from project activities and no further analysis for this species will be conducted.

Pacific Fisher

No fishers are known to be present in the project area or vicinity and the area lacks suitable wooded riparian corridors and old growth structure preferred by fishers. Therefore, there will be **no impact** to fishers from project activities and no further analysis for this species will be conducted.

5.3. US Forest Sensitive Bird Species

Northern goshawk

The project area lacks adequate cover and forest structure to support northern goshawks. Therefore, there will be **no impact** to goshawks from project activities and no further analysis for this species will be conducted.

Bald eagle

There is no suitable habitat for bald eagles in the project area. The area lacks large diameter trees suitable for nesting and roosting and is not within two miles of a water body. Therefore, it is my

determination there will be **no impacts** to bald eagles from project activities and no further analysis for this species will be conducted.

Sage grouse

The project area lacks adequate stands of sagebrush to support sage grouse. Therefore, there will be **no impact** to sage grouse from project activities and no further analysis for this species will be conducted.

Mountain quail

The majority of the project area lacks adequate vegetative cover to support mountain quail. Therefore, there will be **no impact** to mountain quail from project activities and no further analysis for this species will be conducted.

Flammulated owl

The project area lacks the large tree diameters, snags, down logs and multi-vegetation layering components preferred by flammulated owls. While some of these features are present in small quantities, the area is likely not sufficient to support nesting territories of flammulated owls. Therefore, there will be **no impact** to flammulated owls from project activities and no further analysis for this species will be conducted.

White-headed woodpecker

Direct and Indirect Impacts: White-headed woodpeckers are potential residents of the project area, although none have been reported. Under the Selected Alternative, approximately 1.5 acres of conifer forest will be thinned and cleared for construction of new Ponderosa/Galena upper lift terminal. This area provides suitable foraging habitat for white-headed woodpeckers but lacks nesting habitat due to the absence of large diameter snags. Direct impacts to white-headed woodpeckers include flushing birds from foraging sites. These impacts are expected to be temporary and would only disrupt foraging opportunities for a short period of time as birds move to adjacent habitat for foraging. Furthermore, because of the lack of a significant pine tree component, it is unlikely that white-headed woodpeckers would be present in large numbers. Indirectly, white-headed woodpeckers may be impacted by a reduction in foraging habitat. However, the project would remove very few large diameter trees which are preferred by white-headed woodpeckers.

Cumulative Impacts: The primary threat to white-headed woodpeckers is over-harvesting of large diameter trees, especially ponderosa pine (USDA, 1991). Development of both commercial and private residences has increased significantly in the last 10 to 20 years with most of the Galena Creek and Joy Lake area densely packed with homes. Such development has likely impacted white-headed woodpeckers by eliminating habitat and fragmenting the habitat that remains between the urban lots. The development and expansion of the Mt. Rose Ski resort has also likely directly and indirectly impacted white-headed woodpeckers from human disturbance and development associated with the Resort. However because of the predominance of trees in the project area includes small diameter fir and not pine trees, large numbers of white-headed woodpeckers are not expected to occupy the area.

Determination: Therefore, white-headed woodpeckers could be displaced temporarily during construction activities but permanent impacts to habitat would be minimal and would not cause a trend toward federal listing or a loss of viability.

Great gray owls

There is no suitable habitat in the project area for great gray owls due to the lack of meadows, large diameter snags, and adequate canopy cover. Therefore, there will be **no impact** to great gray owls from project activities and no further analysis for this species will be conducted

California spotted owl

There is no suitable habitat in the project area for spotted owls due to the lack of suitable snags and old growth forest structure for nesting. Therefore, there will be **no impact** to the California spotted owl from project activities and no further analysis for this species will be conducted.

5.2. US Forest Service Sensitive Plant Species

Galena Creek Rockcress

Galena Creek rockcress is known to occur in portions of the Mt. Rose area. However, surveys conducted in the project area resulted in no detections of the plant or potential habitat. No ground disturbance is proposed in areas where this species has been previously found. Therefore, there will be **no impact** to Galena Creek rockcress from project activities and no further analysis for this species will be conducted.

Slender Moonwort, upswept moonwort, and dainty moonwort

Habitat components associated with moonworts (as described above) are not present within the project area. Therefore, there will be **no impact** on slender, upswept, or dainty moonworts from project activities and no further analysis for these species will be conducted.

Tahoe Draba

A total of ten individual Tahoe draba plants were observed near the upper boundary of the Washoe Zephyr trail spot grading area. Based on this finding the project area boundary was lowered to avoid any potential impacts to the individual plants or the surrounding habitat. All other proposed trail improvement actions at the Slide side are located below the elevation habitat for Tahoe draba.

A survey for Tahoe draba and other sensitive plant species was also conducted for the placement of the Ponderosa/Galena upper lift terminal on June 17, 2008. No plants were found in the area proposed for the project footprint. Mitigation measures identified in the Master Development Plan EA dated 4-3-2003 (and described below) will be followed to prevent any potential inadvertent impacts to Tahoe draba. Therefore, there will be **no impact** to Tahoe draba from project activities and no further analysis for this species will be conducted.

Sierra Valley ivesia

The reported elevation range for this species is below the lowest elevations in the project area and volcanic rocks are lacking. No known suitable habitat exists and the species is therefore unlikely to be found in the project area (JBR, 2006). Therefore, there will be **no impact** to Sierra

Valley ivesia from project activities and no further analysis for this species will be conducted.

Webber ivesia

The reported elevation range for this species is below the lowest elevations in the project area and project area soils are derived from granitic, not volcanic rock. The species is therefore unlikely to be present (JBR, 2006). Therefore, there will be **no impact** to Webber ivesia from project activities and no further analysis for this species will be conducted.

6.0 MITIGATION AND MONITORING

The mitigation and monitoring measures described below will reduce or avoid any potential impacts to special status species associated with construction activity.

Mitigation measures for Tahoe draba are currently underway and will assist with future design and management of proposed projects occurring at Mt. Rose within this species habitat. The following additional mitigation measures will be implemented during project construction:

- Mt. Rose shall follow the required mitigation as set forth in the Master Development Plan EA dated 4-3-2003 and Appendix G contained in the Plan.
- Orange construction fencing will be used to restrict identified areas of Tahoe draba and its habitat prior to construction on the Washoe Zephyr trail. Pre-construction surveys will be held by Mt. Rose with the contractor to identify these areas and the importance of avoiding potential impacts. Sites for vehicle/equipment staging and material delivery will be designated.
- During excavation activities a biologist approved by both Mt. Rose and the USFS will be present to assure compliance with the defined secure zones for the rare plants. Any observed impacts to the plant or its habitat will be immediately corrected and reported to the USFS so that if needed further measures can be implemented. Following excavation bi-weekly visits to the construction site will be conducted to further insure the integrity of the “secure zones.” Any observed impacts to the plant or its habitat will be immediately corrected and reported to the USFS so that if needed, further measures can be implemented.
- For consistency with the 1986 Forest Plan, a noxious weed risk assessment would be conducted prior to any construction. Mt. Rose will survey the project area at least three times during the growing season to detect noxious weeds.
- Mt. Rose will only use certified weed free material such as straw bales, mulch, fill material, etc. on the project area.
- Construction equipment brought to the project area from off-site will be thoroughly cleaned by the contractor to prevent weed contamination.
- When implementing ground disturbing construction projects, Mt. Rose will ensure that only the minimum area is disturbed and the area susceptible to infestation is therefore limited.
- Mt. Rose will ensure that any noxious weeds that are identified on the project area will be removed or cut before seed can be dispersed.
- Where appropriate, Mt. Rose will promptly revegetate disturbed areas in order to provide competition for weeds and reduce the likelihood that they will become established.

7.0 CONSULTATION AND COORDINATION

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Attachment A

USFWS ESA Correspondence

June 9, 2008



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6301

June 9, 2008

File No. 2008-SL-0361

Mr. Clifford Wilson
Mount Rose Ski Tahoe
22222 Mount Rose Highway
Reno, Nevada 89511

Dear Mr. Wilson:

Subject: Species List Request for Mount Rose Ski Resort Project,
Washoe County, Nevada

This responds to your letter received on May 27, 2008, requesting a species list for the Mount Rose Ski Resort Project in Washoe County, Nevada. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project area. This response fulfills the requirements of the Fish and Wildlife Service (Service) to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your

TAKE PRIDE
IN AMERICA 

Clifford Wilson

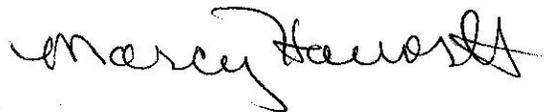
File No. 2008-SL-0361

request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit <http://www.ndow.org> or call 775-688-1500).

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Given these concerns, we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (*i.e.*, mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Please reference File No. 2008-SL-0361 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or James Harter at (775) 861-6300.

Sincerely,




Robert D. Williams
Field Supervisor

Attachment B

Nevada Natural Heritage Program Correspondence

June 2, 2008

Department of Conservation
and Natural Resources

JENNIFER E. NEWMARK
Administrator



901 S. Stewart Street, suite 5002
Carson City, Nevada 89701-5245
U.S.A.

tel: (775) 684-2900
fax: (775) 684-2909

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
Nevada Natural Heritage Program
<http://heritage.nv.gov>

02 June 2008

Clifford B. Wilson
Mt. Rose Ski Tahoe and USFS Carson Ranger District
22222 Mt. Rose Hwy
Reno, NV 89511

RE: Data request received 29 May 2008

Dear Mr. Wilson:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or at risk plant and animal taxa recorded within or near the Mt. Rose Ski Tahoe Trail and Lift Improvements project area. We searched our database and maps for the following, a three kilometer radius around:

Township 17N Range 19E Sections 19, 20, 29 and 30

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for, the Washoe tall rockcress, *Arabis rectissima* var. *simulans*, a Taxon determined to be Critically Imperiled by the Nevada Natural Heritage Program. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Please note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including species not tracked by this office.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,



Eric S. Miskow
Biologist III/Data Manager

Compiled by the Nevada Natural Heritage Program for Mt. Rose Ski Tahoe and USFS Carson Ranger Dist.
02 June 2008

Scientific name	Common name	Usfws	Blm	Usfs	State	Srank	Grank	Lat	Long	Prec
Plants										
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	392005N	1195404W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391759N	1195407W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391950N	1195353W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391960N	1195356W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391934N	1195317W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391759N	1195407W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391927N	1195219W	M
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391938N	1195237W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391949N	1195320W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391933N	1195342W	S
<i>Arabis rigidissima</i> var. <i>demota</i>	Galena Creek rockcress			S;L		S2	G3T2Q	391954N	1195338W	S
<i>Draba asterophora</i> var. <i>asterophora</i>	Tahoe draba			S;L		S1	G4T2	392007N	1195310W	M
<i>Draba asterophora</i> var. <i>asterophora</i>	Tahoe draba			S;L		S1	G4T2	391853N	1195342W	S
<i>Draba asterophora</i> var. <i>asterophora</i>	Tahoe draba			S;L		S1	G4T2	391853N	1195400W	S
<i>Draba asterophora</i> var. <i>asterophora</i>	Tahoe draba			S;L		S1	G4T2	391840N	1195338W	S
<i>Draba asterophora</i> var. <i>asterophora</i>	Tahoe draba			S;L		S1	G4T2	391841N	1195302W	S
<i>Draba asterophora</i> var. <i>asterophora</i>	Tahoe draba			S;L		S1	G4T2	391917N	1195259W	M
<i>Ivesia aperta</i> var. <i>aperta</i>	Sierra Valley mouse-tails	xC2	N;C	S;C		S1	G2T2	391704N	1195208W	G
<i>Pinus ponderosa</i> ssp. <i>washoensis</i>	Washoe pine		N		CY	S1	G5T3Q	391951N	1195201W	M
<i>Pinus ponderosa</i> ssp. <i>washoensis</i>	Washoe pine		N		CY	S1	G5T3Q	391956N	1195219W	S
Invertebrates										
<i>Euphydryas editha monoensis</i>	Mono checkerspot	xC2	N			S1	G5T3?	391537N	1195226W	G
<i>Formica microphthalma</i>	northern Sierra endemic ant					S1	G2?	391855N	1195404W	S
<i>Speyeria nokomis carsonensis</i>	Carson Valley silverspot	xC2	N			S1	G3T1	392346N	1195248W	G
<i>Stenamma wheelerorum</i>	endemic ant					S1	G1?	391915N	1195310W	M
Mammals										
<i>Myotis thysanodes</i>	fringed myotis	xC2	N;C		YES	S2	G4G5	392343N	1194944W	G
<i>Sorex trowbridgii</i>	Trowbridge's shrew					S2	G5	391800N	1195508W	M
<i>Thomomys monticola</i>	mountain pocket gopher					S3	G5	391800N	1195508W	M
Birds										
<i>Accipiter gentilis</i>	Northern Goshawk	xC2	N	S;L	YES	S2	G5	391755N	1195443W	M

U. S. Fish and Wildlife Service (Usfws) Categories for Listing under the Endangered Species Act:

x C2 Former Category 2 Candidate, now species of concern

Bureau of Land Management (Blm) Species Classification:

N Nevada Special Status Species - designated Sensitive by State Office
C California Special Status Species (see definition S and N)

United States Forest Service (Usfs) Species Classification:

S Region 4 (Humboldt-Toiyabe NF) sensitive species
I Region 5 (Inyo NF) sensitive species
L Region 5 (Lake Tahoe Basin Management Unit) sensitive species
C Region 5 sensitive species, not yet known from Inyo NF or LTBMU

Nevada State Protected (State) Species Classification:

Fauna: YES Species protected under NRS 501.

Flora: CY Protected as a cactus, yucca, or Christmas tree (NRS 527.060-.120)

Precision (Prec) of Mapped Occurrence:

Precision, or radius of uncertainty around latitude/longitude coordinates:

S Seconds: within a three-second radius
M Minutes: within a one-minute radius, approximately 2 km or 1.5 miles
G General: within about 8 km or 5 miles, or to map quadrangle or place name

Nevada Natural Heritage Program Global (Grank) and State (Srank) Ranks for Th Vulnerability:

G Global rank indicator, based on worldwide distribution at the species level
T Global trinomial rank indicator, based on worldwide distribution at the i level
S State rank indicator, based on distribution within Nevada at the lowest level

1 Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
2 Imperiled due to rarity or other demonstrable factors
3 Vulnerable to decline because rare and local throughout its range, or restricted range
4 Long-term concern, though now apparently secure; usually rare in range, especially at its periphery
5 Demonstrably secure, widespread, and abundant

A Accidental within Nevada
B Breeding status within Nevada (excludes resident taxa)
H Historical; could be rediscovered
N Non-breeding status within Nevada (excludes resident taxa)
Q Taxonomic status uncertain
U Unrankable
Z Enduring occurrences cannot be defined (usually given to 1 accidental birds)
? Assigned rank uncertain

Attachment C

**Sensitive Plant Species Survey Report
JBR Environmental Consultants**



environmental consultants, inc.

www.jbrenv.com

5355 Kietzke Lane • Suite 100 • Reno, Nevada 89511 • [P] 775.747.5777 • [F] 775.747.2177

03.00279.01
TASK 260

August 29, 2007

Mr. Cliff Wilson
Mt. Rose Ski Tahoe
22222 Mt. Rose Highway
Reno, Nevada 89511

**Re: Sensitive Plant Species Survey Report
JBR Project No. 03.00279.01 Task 260**

Dear Mr. Wilson:

At your request, JBR Environmental Consultants, Inc. (JBR) completed a survey for U.S. Forest Service (USFS) sensitive plant species at six locations where ski area improvements are proposed. The surveys focused mainly on the two sensitive species known to be present in the vicinity: the Tahoe draba (*Draba asterophera* var. *asterophera*) and Galena Creek rockcress (*Arabis rigidissima* var. *demota*). The survey areas included the Northwest Return, Outlaw Trail, Sunrise Bowl, Slide Bowl, Lower Bruce's Trail, and Washoe Zephyr Trail (Figure 1, attached).

Survey methods.

The survey was conducted on August 28, 2007 by Arnold (Jerry) Tiehm, a JBR botanist. Prior to beginning field work, Mr. Tiehm met with you to confirm the survey area boundaries. All six areas were surveyed on foot and a Trimble Geo-XT GPS receiver was used to navigate in the field and record locations of interest.

Results.

No sensitive species were found in the Outlaw Trail, Sunrise Bowl, Slide Bowl, and Lower Bruce's Trail survey areas. A total of 263 Tahoe draba plants were observed in or in close proximity to the Northwest Return survey area (Figure 2, attached). On the Washoe Zephyr Trail, 10 Tahoe draba plants were observed near the upper boundary of the survey area (Figure 3, attached).

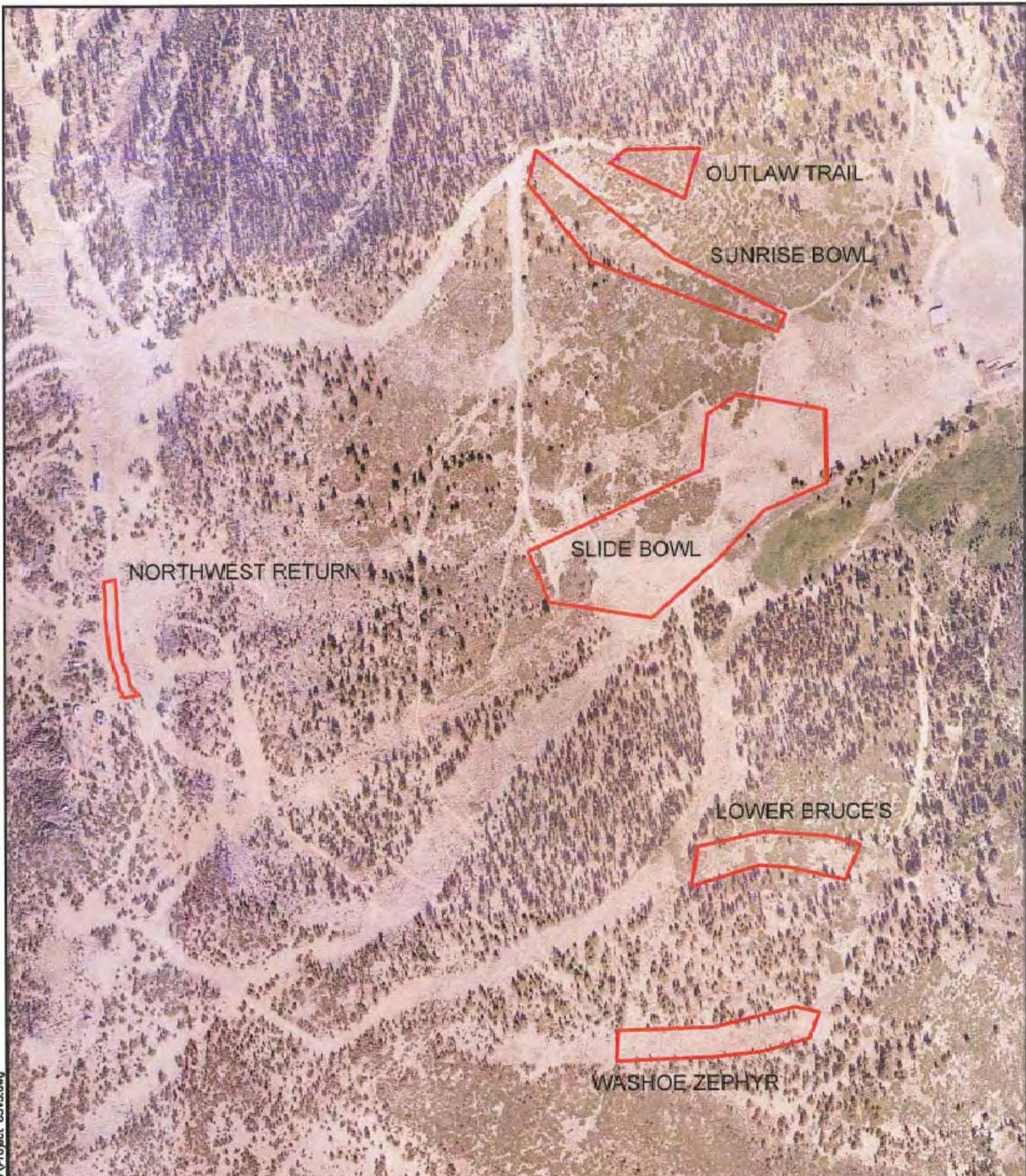
Please contact me if you have any questions, or if JBR can be of any further assistance.

Sincerely,

JBR ENVIRONMENTAL CONSULTANTS, INC.

Richard Duncan
Biologist

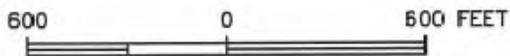
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BASE IMAGE PROVIDED BY SJMMIT ENGINEERING
 — SURVEY AREAS

MT. ROSE SKI TAHOE
 2007 PLANT SURVEY

FIGURE 1
 SURVEY AREAS

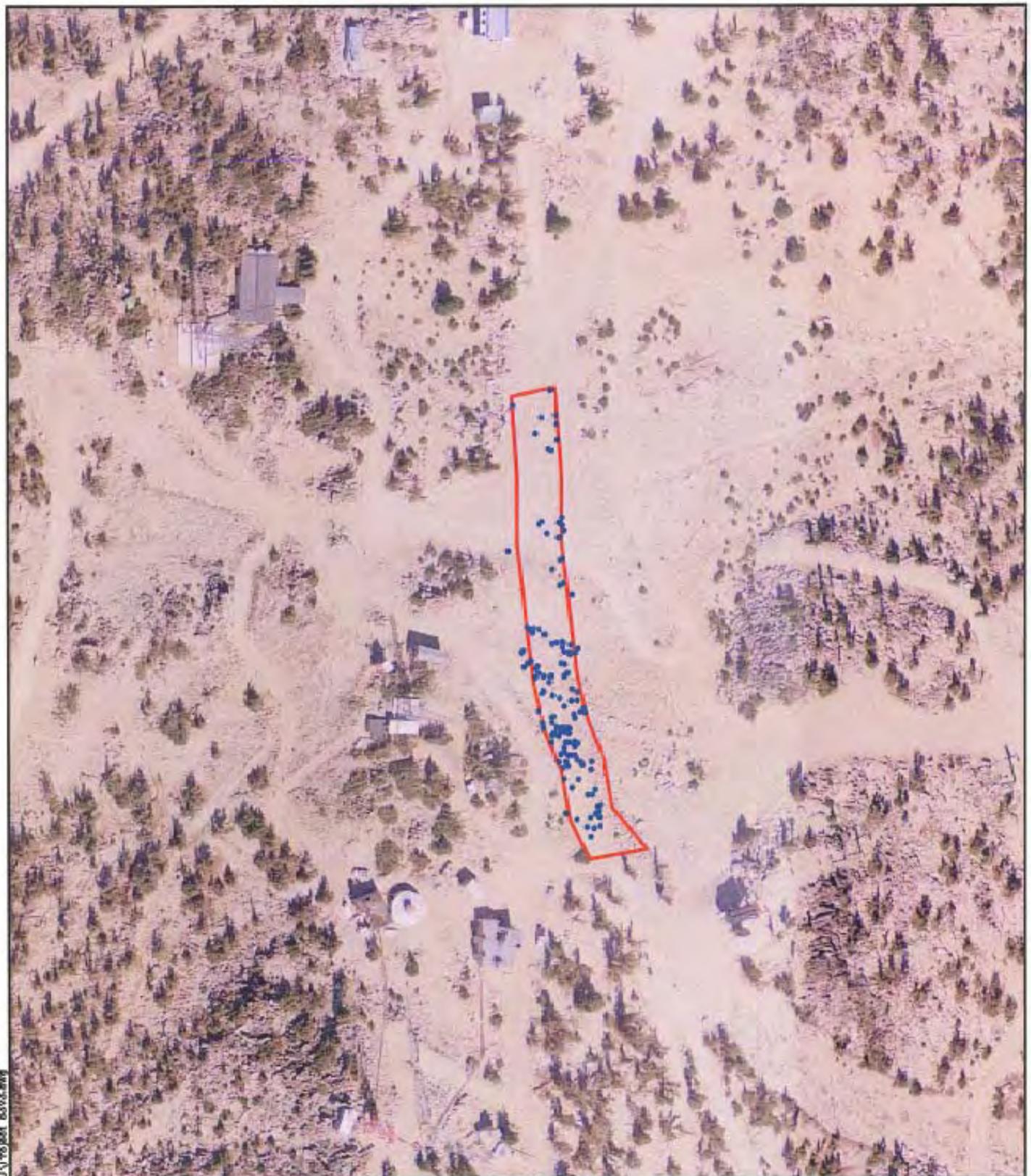


jbr
 environmental consultants, inc.

DESIGN BY RD DRAWN BY RD C/D BY SCALE 1:7,200

DATE DRAWN 08/29/07

REVISION	



FILE NAME: Client-2003\Mt. Rose\AutoCAD\Project_03103.dwg

BASE IMAGE PROVIDED BY SUMMIT ENGINEERING

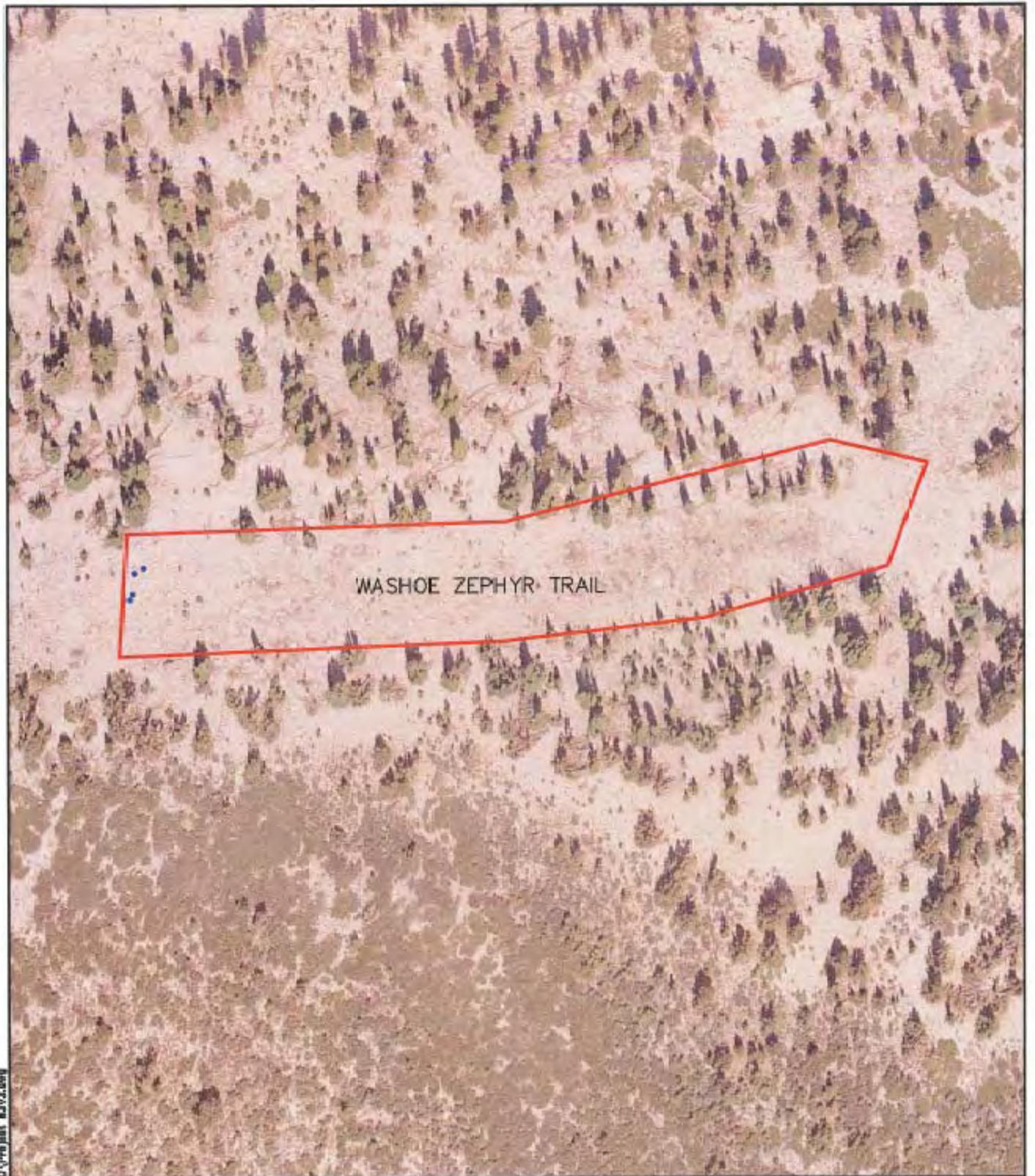
- SURVEY AREA BOUNDARY
- LOCATIONS OF ONE OR MORE TAHOE DRABA PLANTS



MT. ROSE SKI TAHOE 2007 PLANT SURVEY

FIGURE 2 NORTHWEST RETURN

			DATE DRAWN	08/29/07		
			REVISION			
DESIGN BY	RC	DRAWN BY	RD	CHK'D BY	SCALE	1:1,800



FILE NAME: Clients 2003\MT. Rose\AuriferCAD\Project 8273.dwg

BASE IMAGE PROVIDED BY SUMMIT ENGINEERING
 — SURVEY AREA BOUNDARY
 ● LOCATIONS OF ONE OR MORE TAHOE CRABA PLANTS



MT. ROSE SKI TAHOE
 2007 PLANT SURVEY

FIGURE 3
 WASHOE ZEPHYR TRAIL

jbr
 environmental consultants, inc.

DESIGN BY RC DRAWN BY RD QTY BY SCALE 1:1,800

DATE DRAWN	08/29/07
REVISION	

Attachment D

**Sensitive Plant Species Survey Report
Virginia Dains Botanical Consulting**

Virginia Dains
530 – 888-9180

Memo

To: **Cliff Wilson**

Director of Mountain Operations
Mt. Rose - Ski Tahoe
22222 Mt. Rose Highway
Reno, Nevada

From: **Virginia Dains**

3371 Ayres Holmes Road
Auburn, California
95602-9747

CC: Glenn Merron, Inland Ecosystems, Inc., Reno, Nevada

Date: August 4, 2008

Re: **Botanical Survey of the Ponderosa/Galena Upper Lift Terminal Project, Mt. Rose - Ski Tahoe, Reno, Washoe County, Nevada**

Background

New construction of a high speed lift replacing two linked shorter skis lifts at the Mt. Rose-Ski Tahoe resort requires the construction of a lift terminal placed adjacent to the resort property on US Forest Service land. The Mt. Rose area is known to support rare plant species. Two species of concern in the vicinity of the Mt. Rose-Ski Tahoe resort are Tahoe Draba (*Draba asterophora* var. *asterophora*) and the Galena rock cress (*Arabis rigidissima* var. *demota*). Since these species may have potential to be found in the new lift terminal work area, a botanical survey of the area was conducted.

Methods

A field visit to the site was conducted on June 17, 2008. Known populations of Tahoe draba were sought and found on an adjacent road embankment. Though it was still rather early in the flowering season, the majority of Tahoe Draba plants were found in bloom in loose decomposed granite. After observing plants and their habitat, all portions of the work areas were walked. A species list was compiled.

Vegetation

Vegetation in the Ponderosa/Galena lift terminal construction area is limited to Mountain hemlock, lodgepole pine, and scattered herbs including mountain phacelia (*Phacelia hastata*), spreading phlox (*Phlox diffusa*), and Parry's rush (*Juncus parryi*). The construction area is flat to gently sloping and lacks organized drainages or areas where water accumulates.

Wetlands, meadows, drainages and other habitats are present under the Ponderosa and Galena lift lines and were included in the general habitat surveys of the site. Detailed mapping and species surveys outside of the work areas were not conducted. A general list of plants observed in these communities as well as the upland habitats of the work areas is included.

Survey Results

No new populations of Tahoe Draba were located in the Ponderosa/Galena lift terminal construction area or immediately adjacent habitats or access roads. The site maybe too shady from cover of hemlock and lodgepole pine to be suitable for the plants.

Galena rockcress was sought during the mid-June survey, though plants are only readily identifiable when in fruit. Habitat for Galena rockcress includes north facing moderate to steep slopes, often near drainage ways, meadow edges, or other microsites where water accumulates¹. Though the work site is found within the elevational range of this species, no appropriate habitat occurs within any of the work areas. Flowering plants in the genus Arabis were found in nearby areas, though leaf and flower characteristics were insufficient to make a final species determination. The lack of potential habitat in the work areas makes it highly unlikely that Galena rockcress is present on the site.

¹ Nevada Natural Heritage Program Rare Plant Fact Sheet for *Arabis rigidissima* Rollins var. *demota* Rollins (1983) Galena Creek Rockcress, Compiled 25 June 2001

Plant List

General List of Plant Species Observed Along the Ponderosa/Galena ski lifts
June 17, 2008

Family	Scientific Name	Common Name
Asteraceae		
	Achillea millefolium	yarrow
Brassicaceae		
	Arabis sp.	rockcress
	Erysimum capitatum	western wallflower
	Sibara deserti	desert rock-cress
Caprifoliaceae		
	Lonicera involucrata	twinberry
	Sambucus racemosa	red elderberry
Cyperaceae		
	Carex heteroneura	vari-nerved sedge
	Carex nebrascensis	Nebraska sedge
	Carex rossii	Ross' sedge
	Eleocharis pauciflora	few-flowered spikerush
Ericaceae		
	Arctostaphylos nevadensis	pine-mat manzanita
Fabaceae		
	Lotus nevadensis	Sierra Nevada lotus
	Lupinus lepidus	tidy-lupine
Grossulariaceae		
	Ribes roezlii	Sierra gooseberry
Hydrophyllaceae		
	Phacelia hastata	mountain phacelia
Juncaceae		
	Juncus parryi	Parry's rush
	Juncus regelii	Regel's rush
Pinaceae		
	Pinus contorta	lodgepole pine
	Tsuga mertensiana	mountain hemlock
Poaceae		
	Dactylis glomerata	orchard-grass
Polemoniaceae		
	Phlox diffusa	spreading phlox
Primulaceae		
	Dodecatheon alpinum	alpine shooting star
Ranunculaceae		
	Caltha palustris	
Rosaceae		
	Potentilla glandulosa	gland cinquefoil
	Spiraea densiflora	mountain spirea
Salicaceae		
	Salix lemmonii	Lemmon's willow
Saxifragaceae		

Family	Scientific Name	Common Name
Scrophulariaceae	Saxifraga oregana	Oregon saxifrage
	Mimulus moschatus	musk monkeyflower
	Pedicularis groenlandica	elephant-head lousewort

APPENDIX B

CULTURAL RESOURCES ASSESSMENT

**Cultural Resources Survey Report
for
The Mount Rose-Ski Tahoe Lift Extension Project**



Prepared for:
Glenn Merron, Ph.D.
Inland Ecosystems
Reno, NV

Prepared by:
Daniel Hart, M.A., RPA
Archaeologist/Architectural Historian
and
Pamela Grace, M.A.
Archaeologist

August 2008

1.0 Introduction

A cultural resources records search and survey was conducted by Daniel Hart and Pamela Grace for a ski lift extension project at Mt. Rose-Ski Tahoe on behalf of Inland Ecosystems of Reno, NV. The proposed action represents new projects that were not described in the April 18, 2003 Decision Notice (DN) and Finding of No Significant Impact (FONSI) for the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* (2003 EA).

Completion of this cultural resource inventory will help Mt. Rose and the U.S. Forest Service meet their federal responsibility to consider how projects may impact cultural resources. This responsibility is mandated by various federal laws and regulations including Section 106 of the National Historic Preservation Act of 1966 as amended (16 United States Code [USC] 470).

2.0 Project Description

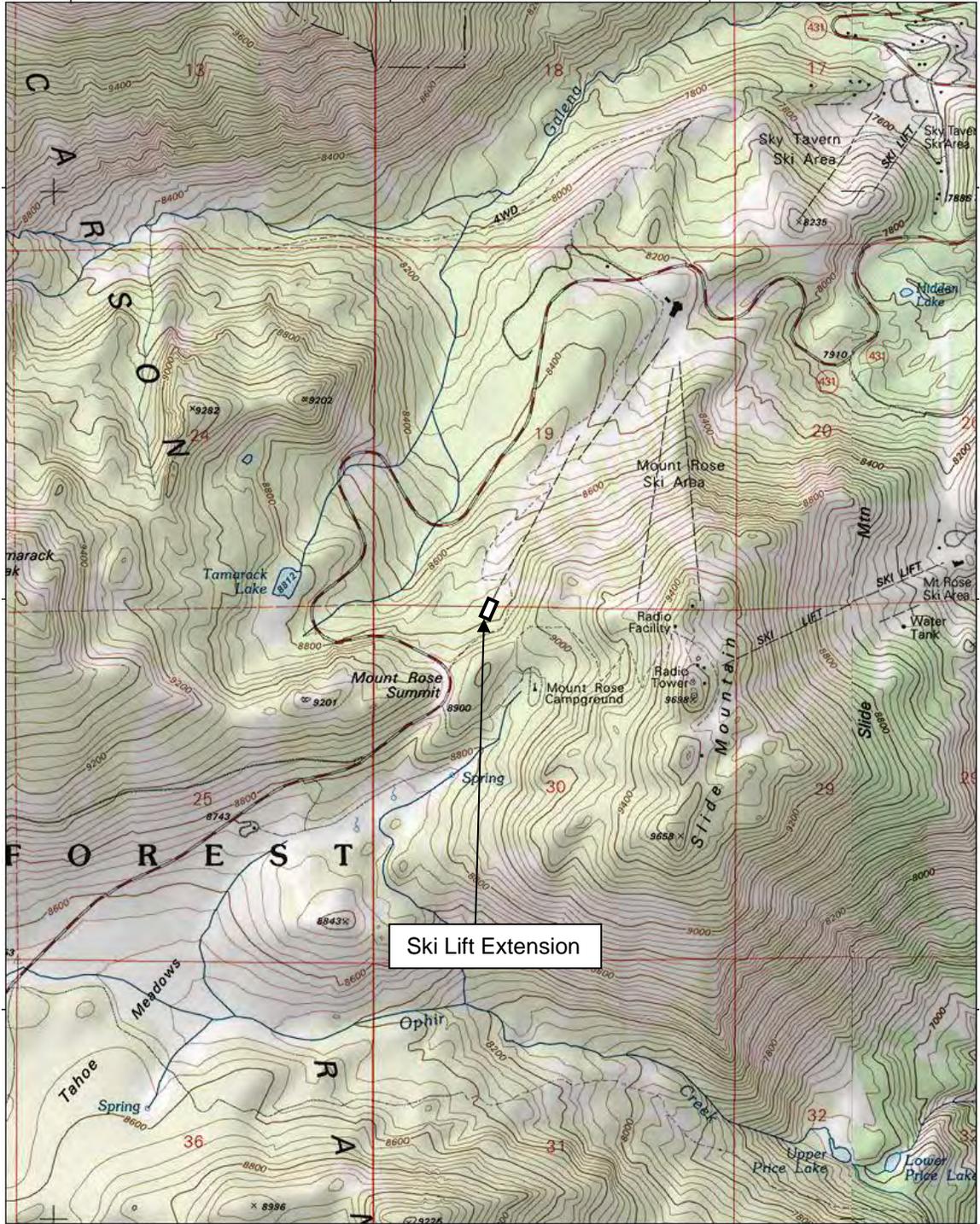
This proposed project entails replacing two existing ski lifts with one slightly longer lift which would encroach on U.S. Forest Service land. The Ponderosa and Galena chairlifts, which service Mt. Rose's teaching, beginner, and low-intermediate terrain, would be replaced with a single high-speed, detachable chairlift approximately 5,343 feet in length and servicing approximately 590 vertical feet (Figure 1). While both the Ponderosa and Galena lifts are currently located entirely on private land, the current proposal would extend the top terminal 300 feet uphill of the existing location onto Forest Service lands within Mt. Rose's SUP area. Shifting the location of the top terminal uphill provides adequate unloading and milling space for this higher capacity lift. The new lift alignment would essentially share the same corridor as the existing Ponderosa and Galena chairlifts and have already been previously surveyed as part of 2003 EA except for the portion at the top which is the subject of this study.

3.0 Methods

The following methods were used in conducting background research, Native American consultation, and field survey.

3.1 Research Methods

A records search was conducted by Ms. Pamela Grace on June 25th, 2008 at the Nevada State Historic Preservation Office (SHPO) in Carson City and at the U.S. Forest Service, Carson City Ranger District Office. SHPO and Forest Service files were searched for historic maps, survey reports, site records, and other technical documents related to the project area. A ¼ mile search radius was used to define records search limits around the project area. All pertinent information was photocopied for subsequent analysis. Additionally, technical documents such as the *2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements* were obtained from Mt. Rose staff to provide additional background.



**Figure 1: Ski Lift Extension Project Location Map
(Mount Rose, NV 7.5 minute USGS quadrangle)**

3.2 Native American Consultation Methods

Mr. Darrel Cruz, Tribal Historic Preservation Officer (THPO) of the Washoe Tribe of Nevada and California was contacted via letter and telephone for input from the tribe regarding the project. Correspondence is included in Appendix A.

3.3 Field Methods

Pamela Grace, M.A., conducted a systematic intensive pedestrian survey of the project area on June 25, 2008 using a 5 meter transect interval. The area was surveyed for any archaeological sites, traditional cultural properties, or historic era resources.

4.0 Results

4.1 Research Results

As a result of the records search, five studies were identified within ¼ mile of the project area (Table 4-1). The most extensive of these projects was the cultural resources survey to support the 2003 EA. This survey was conducted in close proximity to the current project area. The records search from the 2003 EA included the one-mile radius that the current project area rests within. No cultural resources were identified within the current project area at the time of that records search.

Table 4-1 Studies conducted in the vicinity

Survey #	Project	Sites Identified
TY-4-78	Unknown	0 sites
TY-85-405	Mount Rose Ski Run	0 sites
TY-95-1096	Nevada Bell Slide Mountain Fiber Optic Cable Corridor Project (1995) Vickie L. Clay, Archaeological Research Services, Inc.	0 sites
TY-97-1197	Nevada Bell Fiber Optic Cable Route from Galena Creek County Park to Incline Village (Phase 2) (1997) David W. Zeneah, Intermountain Research.	1 site (TY-4445)
n/a	<i>2003 Mt. Rose-Ski Tahoe Approved Master Development Plan and Environmental Assessment for Facilities Improvements</i>	n/a

One site, a historic portion of the Mount Rose Highway, was identified within ¼ mile of the project area. This site was previously determined not eligible for the NRHP. No other archaeological sites were found within ¼ mile of the project area, however, six sites are located within approximately a mile. These sites are all prehistoric sites of various sizes and functions (Table 4-2, Figure 2).

Table 4-2 Sites in the vicinity

Site #	Site Description	Comments
TY-4445	historic road, found ineligible for the NRHP	Part of survey TY-97-1197
26WA2090	Prehistoric hunting drive ambush site	NAS Report, October 1974
26WA 2091	Prehistoric hunting drive ambush site	NAS Report, October 1974
26WA 2092	Prehistoric hunting camp	NAS Report, October 1974
26WA 2093	Prehistoric hunting camp	NAS Report, October 1974
26WA2094	Prehistoric lithic scatter	NAS Report, October 1974
26WA7077	unknown	n/a

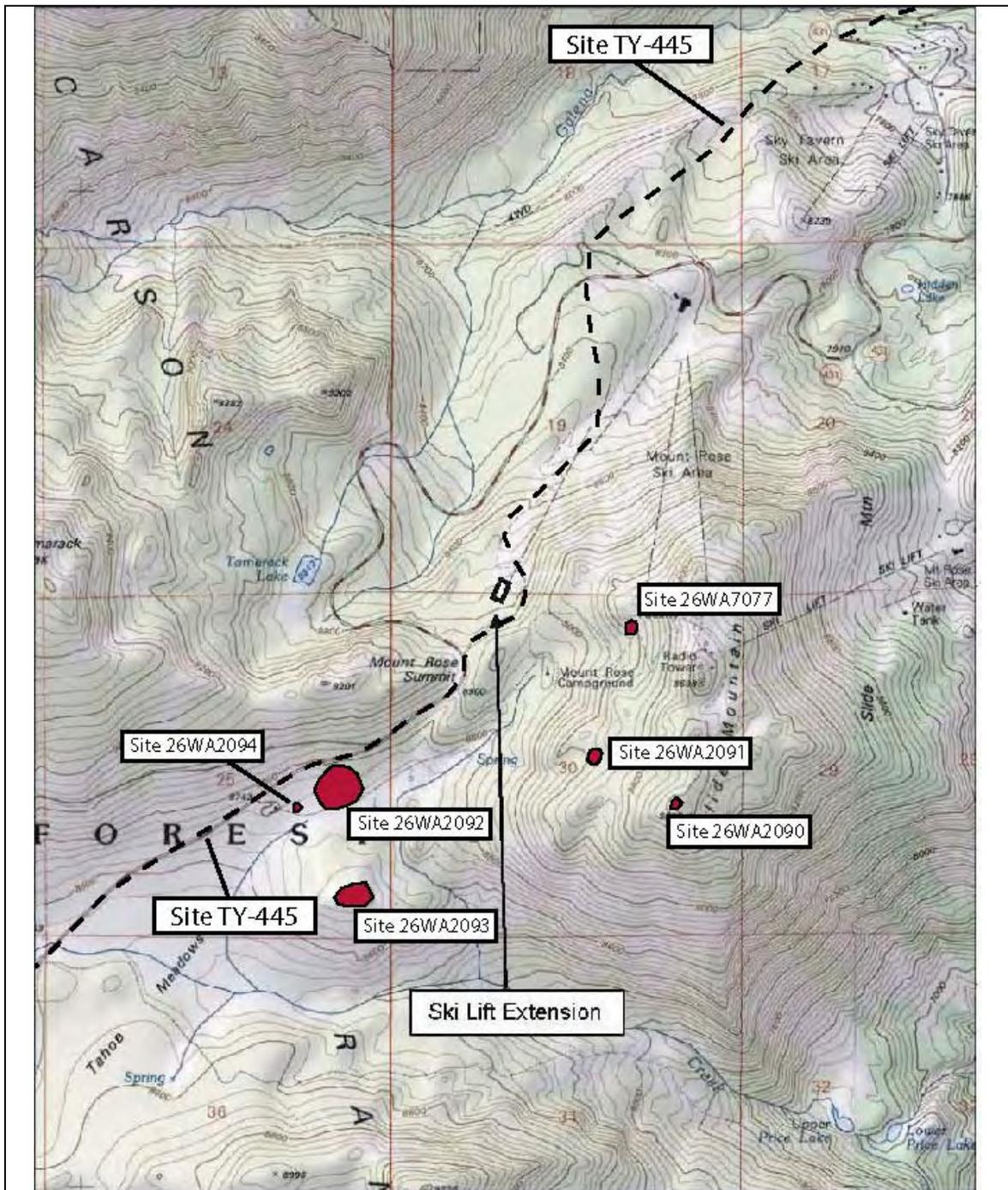


Figure 2: Location map of previously recorded sites near the project area

4.2 Native American Consultation Results

Mr. Darrell Cruz, Washoe Tribe THPO, requested information about nearby site types. Based on the information provided to him about surrounding sites, he did not think any cultural resources would be impacted by the proposed project despite the presence of sites in the vicinity.

4.3 Field Survey Results

No archaeological sites, traditional cultural properties, or other cultural resources were identified as a result of field survey.

5.0 Conclusions and Recommendations

The project area had not been previously studied prior to this study although studies had been done nearby. Five studies were conducted within ¼ mile of the project area. Previous research indicated only one cultural resource, historic road segments found ineligible for the NRHP, was located within ¼ mile of the project area. Six archaeological sites are located within approximately 1 mile of the project location but will not be impacted by the proposed project. No new cultural resources were identified as a result of field survey. As a result, no cultural resources will be impacted as a result of the ski lift extension project. No further work is recommended.

Appendix A: Correspondence



August 5, 2008

To: Mr. Darrel Cruz, Washoe THPO

From: Daniel Hart, Inland Ecosystems

Re: Mount Rose Ski Area Lift Extension

Dear Mr. Cruz:

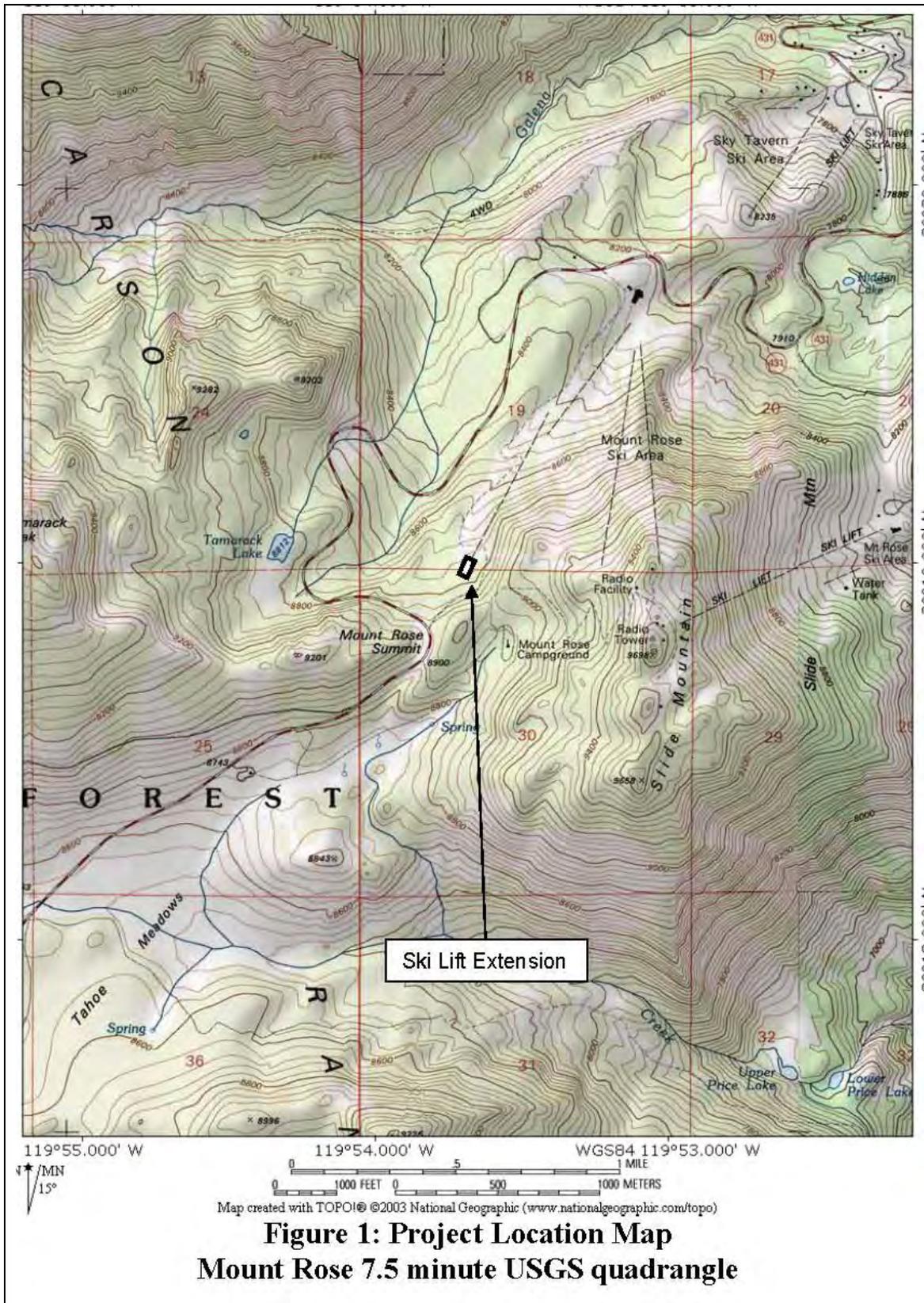
I am requesting information regarding any locally significant Sacred Lands you might be aware of that could be affected by the project proposed by the Mount Rose Ski Area. Mt. Rose Ski Area is currently going through the NEPA compliance process and this information will help me assist them in completing the cultural resources sections for the necessary documents.

The project will involve extending an existing chairlift. The Ponderosa and Galena chairlifts, which service Mt. Rose's teaching, beginner, and low-intermediate terrain, would be replaced with a single high-speed, detachable chairlift approximately 5,343 feet in length and servicing approximately 590 vertical feet. While both the Ponderosa and Galena lifts are currently located entirely on private land, the current proposal would extend the top terminal 300 feet uphill of the existing location onto NFS lands within Mt. Rose's SUP area. Shifting the location of the top terminal uphill provides adequate unloading and milling space for this higher capacity lift, which would also have a larger top terminal than the existing Galena fixed-grip lift. The new lift alignment would share the same corridor as the existing Ponderosa and Galena chairlifts. The extension area is shown on Figure 1.

The project is located on the Mount Rose 7.5 min USGS quadrangle (Figure 1). An archaeological records search and survey has already been conducted and did not identify any cultural resources, including archaeological sites or traditional cultural properties. Please see Figure 2, a map of the nearest sites, per your request. Please let me know if you have any comments or questions regarding the project. If you have any comments please respond within 30 days. Feel free to call, email, or fax your comments directly to me. Thank you for your time and cooperation.

Sincerely,

Daniel Hart
Archaeologist
Inland Ecosystems, Inc.
(303) 518-8570: phone
norseraider@msn.com: email



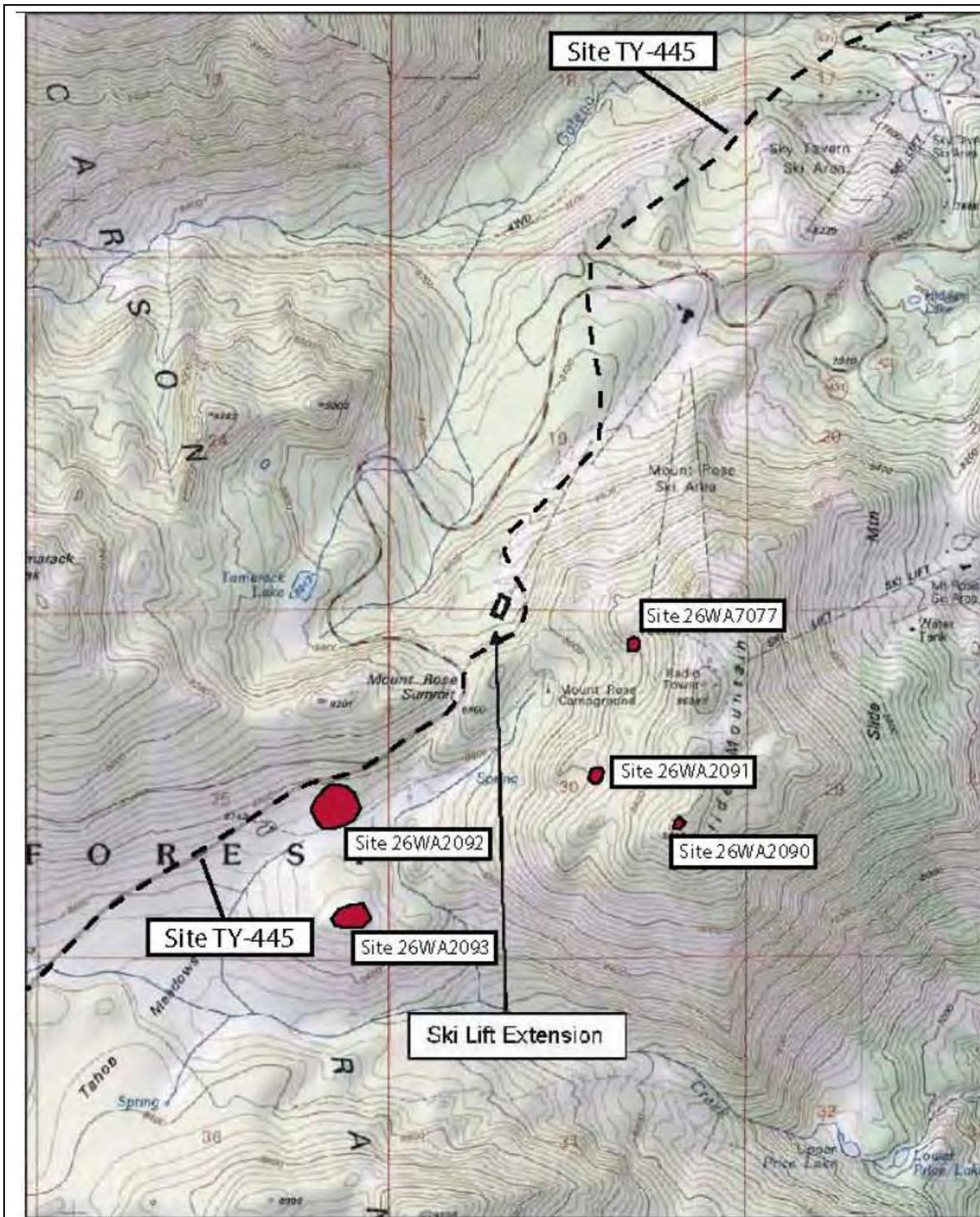


Figure 2: Map of Site Locations in the Vicinity of the Project Area

MT. ROSE SKI TAHOE

ENVIRONMENTAL ASSESSMENT

LIST OF PREPARERS

LIST OF PREPARERS

Forest Service Participants

The following Forest Service personnel were members of the Forest Service Interdisciplinary Team, participated in internal scoping for this project, and provided direction and assistance throughout the NEPA process.

Genny Wilson	District Ranger
Marnie Bonesteel	District RHELM Staff Officer
Ed DeCarlo	District Lands and Minerals Officer
Sally Champion	District Hydrologist
Maureen Easton	District Wildlife Biologist
Elizabeth Bergstrom	District Biologist

Contracted Sub-Consultants

Inland Ecosystems, Inc., Reno, Nevada (NEPA analysis and document production)

Glenn Merron	Project Manager, Senior Environmental Manager
Dan Hart	Archeologist
Virginia Dains	Consulting Botanist

Mt. Rose - Ski Tahoe

Paul Senft	General Manger
Cliff Wilson	Director of Mountain Operations

MT. ROSE SKI TAHOE

ENVIRONMENTAL ASSESSMENT

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