



United States
Department of
Agriculture

Forest
Service

June, 2006

Environmental Assessment
Peavine Mountain Travel Management Plan
Carson Ranger District,
Humboldt-Toiyabe National Forest
Washoe County, Nevada



For information Contact:
David Loomis
Carson Ranger District
1536 South Carson St.
Carson City, NV 89703
775-882-2766

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

TABLE OF CONTENTS

Summary	1
Background / Purpose and Need.....	2
The Proposed Action.....	3
Public Involvement	3
Alternatives, Including the Proposed Action	4
No Action.....	4
The Proposed Action.....	6
Heritage Resources	10
Affected Environment.....	10
Environmental Consequences	11
Motorized Recreation.....	12
Affected Environment.....	12
Environmental Consequences	13
Non-Motorized Recreation	14
Affected Environment.....	14
Environmental Consequences:.....	15
Administrative Use	15
Affected Environment.....	15
Environmental Consequences:.....	17
Watershed Condition	17
Affected Environment.....	17
Environmental Consequences:.....	18
Wildlife and Plant Habitat	18
Affected Environment.....	18
Consultation and Coordination	30
List of Preparers	31
References.....	32



Summary

The Forest Service proposes to update the Carson Ranger District Travel Management Plan for the Peavine Mountain area by designating a system of motorized and nonmotorized routes to better meet user needs and protect the environment. The project includes 46 miles of roads open to the public, 3 miles of administrative roads, 36 miles of motorized trails, 8 miles of motorcycle trails, 22 miles of nonmotorized trails. About 75 miles of roads and other routes would be closed to motor vehicle use and rehabilitated as needed. Cross country motor vehicle use off of designated motorized routes would continue to be prohibited.

Because the proposed motorized road and trail system will better meet people's needs, it is anticipated with proper signing and up to date maps they will more likely comply with rules and regulations and stay on designated routes.

The demand for quality non-motorized opportunities would be largely met in the most heavily used portion of the mountain.

Heritage and natural resources would be protected by limiting motor vehicle use to designated routes.



Background / Purpose and Need

Peavine Mountain is situated along the northwest flanks of the City of Reno; tucked within a triangle bordered between the California-Nevada State line to the west, Highway 80 to the south and Highway 395 to the northeast. The 42,000-acre analysis area is made up of National Forest System lands (18,000 acres) and includes other public lands and private lands within the City of Reno and Washoe County (24,000 acres). Peavine Mountain is a deeply valued component of the Reno and Washoe County landscape and a popular destination for locals. It's popularity comes with consequences to the environment, adjacent homeowners, and a wide variety of recreation uses. An editorial in the Reno Gazette Journal stated that the area is "*a classic example of the conflicts that arise as city butts up against country – as peace, quiet and safety meet freedom and open space*".

The Forest Service, in cooperation with the City of Reno and Washoe County, teamed up to analyze the issues on Peavine Mountain and to make a series of recommendations that helps set the stage for future management decisions. The recommendations are intended to provide quality recreation experiences for all types of recreation, motorized and nonmotorized. These recommendations were published in the Peavine Mountain Roads and Recreation Strategy developed by the Carson Ranger District in coordination with the City of Reno and Washoe County. Several of the recommendations dealt with travel management.

Most of the roads on Peavine are user created, stemming from mineral exploration, past grazing operations or

various recreation activities. Roads typically follow steep ridgelines or drainage bottoms. Many road segments are unsafe. Some are experiencing severe erosion and are readily visible from miles away. Some are causing damage to meadows, riparian areas and cultural sites. Sometimes multiple roads access the same location. Other roads, such as old mineral exploration roads, dead-end on mountainsides.

The Strategy recommended developing a road system that best meets people's needs and is safe, environmentally sound, and affordable. The proposed road system should include better strategic access for fires suppression vehicles, preserve jeep and OHV routes as well as provide for easier recreation travel routes while better protecting the environment. These roads should be signed and maintained. Some segments of the proposed road system should be partially relocated or reconstructed to meet use and maintenance standards.

The Strategy also discussed nonmotorized routes. Peavine Mountain is a favorite area for mountain bikers. Mountain bike use is heavy, yet there is no established trail system. Numerous social trails have been pioneered in over the years as a result. Many single-track trails have scarred the hillside with a maze of routes to the same locations. Some users have expressed concern over this unplanned approach to trail construction. In some cases, trails that were built a few years ago have become too rocky. The finer soils have since eroded away leaving only bedrock material. Individuals built these trails without approval from the Forest Service. Many mountain bikers have expressed an interest in developing well-designed bike routes and creating additional interconnecting



routes around the mountain. The Strategy recommended developing a non-motorized trail system. User groups, and city and county agencies should be included to ensure a well developed trail system that compliments county and city recreation plans.

These recommendations formed the basis for the proposed action. Other recommendations in the Strategy have already been implemented, including the closure of the 7th St. Pit, creation of the Keystone nonmotorized recreation area, and the development of new motorized and nonmotorized trailheads. The Strategy, as a whole, is intended to enhance recreation experiences for all types of users, protect the environment, and meet the needs of the neighborhoods surrounding Peavine Mountain.

The purpose of this initiative is to enhance travel management on Peavine Mountain. This action is needed because the existing road and trail system is causing damage to heritage resources, wildlife and sensitive plant habitat, scenery, public safety and watershed conditions. Its also needed to implement the recommendations in the Peavine Mountain Roads and Recreation Strategy.

The Proposed Action

The action proposed by the Forest Service to meet the purpose and need is to update the Carson Ranger District Travel Management Plan for the Peavine Mountain by designating a system of motorized and nonmotorized routes to better meet user needs and protect the environment. Designate 46 miles of roads open to the public, 36 miles of motorized trails, 8 miles of motorcycle trails, and 22 miles of nonmotorized trails (Map). About 75 miles of roads and other routes would be

closed to motor vehicle use and rehabilitated as needed. Cross country motor vehicle use off of designated motorized routes would continue to be prohibited.

Public Involvement

The proposal was listed in the July and October, 2005 Schedules of Proposed Actions. A Notice of Proposed Action was published in the Reno Gazette Journal on July 29, 2005 for a 30 day public comment period. Notices of the proposed action were also mailed to interested parties and posted on the Humboldt-Toiyabe National Forest web site. Public comments focused on concerns about vehelce use by adjacent home and land owners and the need to maintain motorized and nonmotorized recreation opportunities.

In addition, the proposal was part of the overall Peavine Mountain Roads and Recreation Strategy. That project was based on extensive public consultation. In the fall of 2001, several hundred people attended four public open houses hosted by the Forest Service, City of Reno, and Washoe County. Interested individuals, including local jeep and mountain bike club members, provided site-specific road and trail inventories.

Using the comments from the public and other agencies, the interdisciplinary team developed a list of issues to address.

Issues

No major issues that would require the development of additional alternatives were identified. The following is a summary of issues developed to guide the impact analysis for the environmental assessment:

- Heritage and Natural Resources:
By changing management of roads and trails, the proposed action could



result in effects to wildlife, cultural resources, sensitive plants, invasive weeds, visual resources, and watershed conditions.

- Recreation: The proposed action would affect recreation opportunities by changing the way roads and trails are managed. Alternatives, including the Proposed Action

Alternatives, Including the Proposed Action

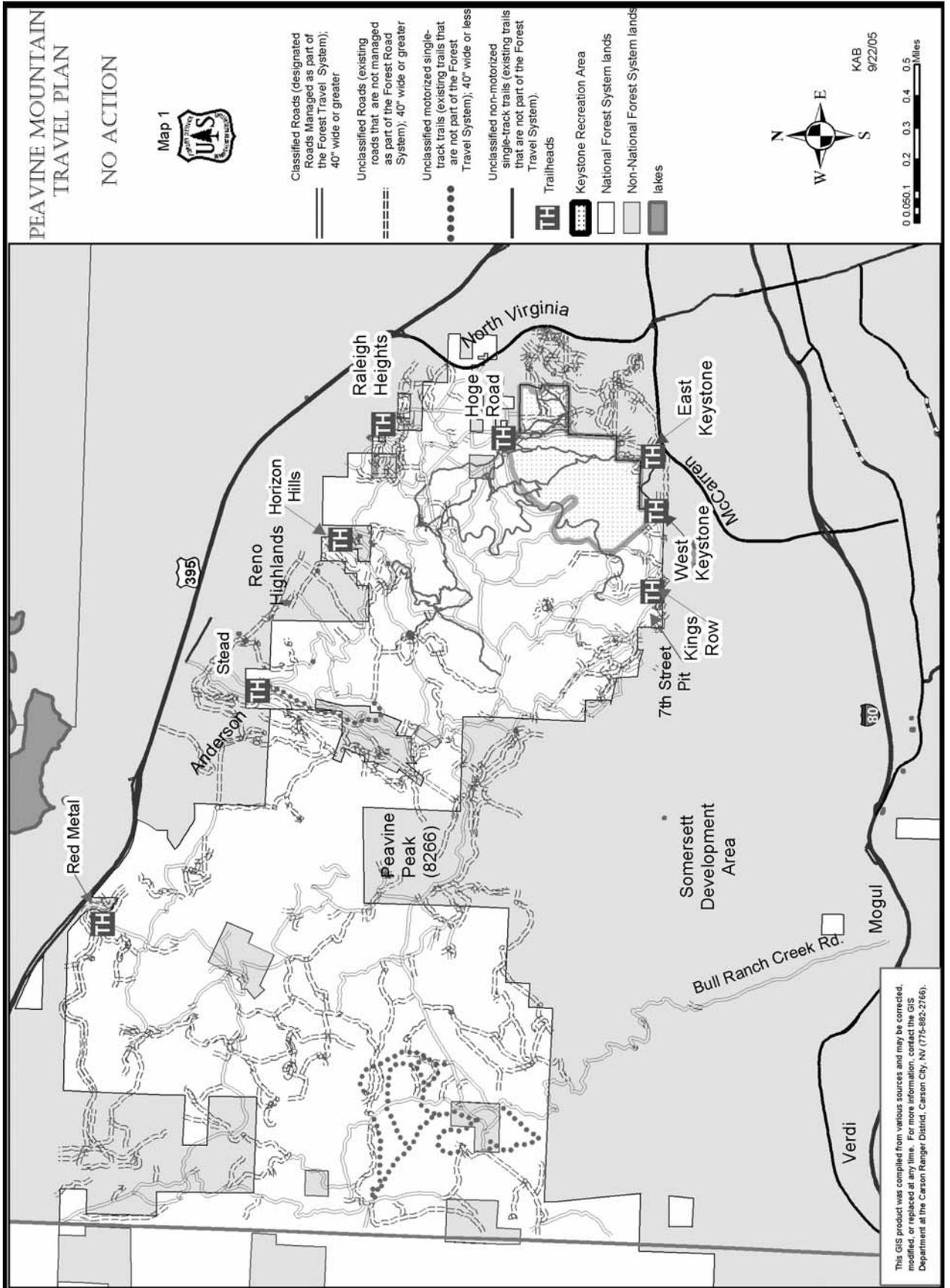
This chapter describes and compares the alternatives considered for the Peavine Travel Management project. It includes a description and map of each alternative considered.

No Action

Under the No Action alternative, current management would continue. No update to the travel management plan would be implemented to accomplish project goals.



Carson Ranger District Peavine Travel Management
Environmental Assessment June, 2006





The Proposed Action

The proposed action includes these provisions:

- **Road/Trail System**

Update the Carson Ranger District Travel Management Plan for Peavine Mountain by designating a system of motorized and nonmotorized routes to better meet user needs and protect the environment. Designate 46 miles of roads open to the public, 36 miles of motorized trails, 8 miles of motorcycle trails, and 22 miles of nonmotorized trails (Map). About 75 miles of roads and other routes would be closed to motor vehicle use and rehabilitated as needed. Appropriate biological and cultural resource surveys would be conducted prior to any ground disturbing activity for rehabilitation, such as ripping roads. Cross country motor vehicle use off of designated motorized routes would continue to be prohibited.

- **Motorized Travel**

Roads would be managed for use by high clearance vehicles. Motorized trails would be managed at a lower standard. They are generally steeper and rougher than roads and would be most suitable for off highway and all terrain vehicles. Motorized motorcycle trails would be open to motorcycles only.

- **Nonmotorized Travel**

Nonmotorized trails would be open to hikers, mountain bikers,

equestrians, and other nonmotorized users and closed to motorized use. Cross country travel by wheeled vehicles such as mountain bikes would be prohibited. Nonmotorized travel would be allowed on all designated routes.

- **Signing and Patrolling**

Designated routes would be mapped and signed. The area would be patrolled by Forest Service personnel to enforce closures. Volunteers would be solicited from both motorized and nonmotorized recreation communities to help with monitoring, enforcement, and public education efforts.

- **Exceptions for Off Road Use**

Motorized uses off designated routes that require a permit (such as fuelwood cutting) would be authorized on a case by case basis.

- **Access to administrative sites and private lands would continue to be provided. The Forest Service would pursue legal public access or reciprocal rights of way where needed, and pursue maintenance agreements with permittees and co-owners.**

- **Resource Protection Measures**

In order to protect several rare plant species, including Webber ivesia, Sierra Valley ivesia, and altered andesite buckwheat, several miles of roads would be closed or rerouted. A small section of road leading to an abandoned mine site would also be closed to protect



Carson Ranger District Peavine Travel Management
Environmental Assessment June, 2006

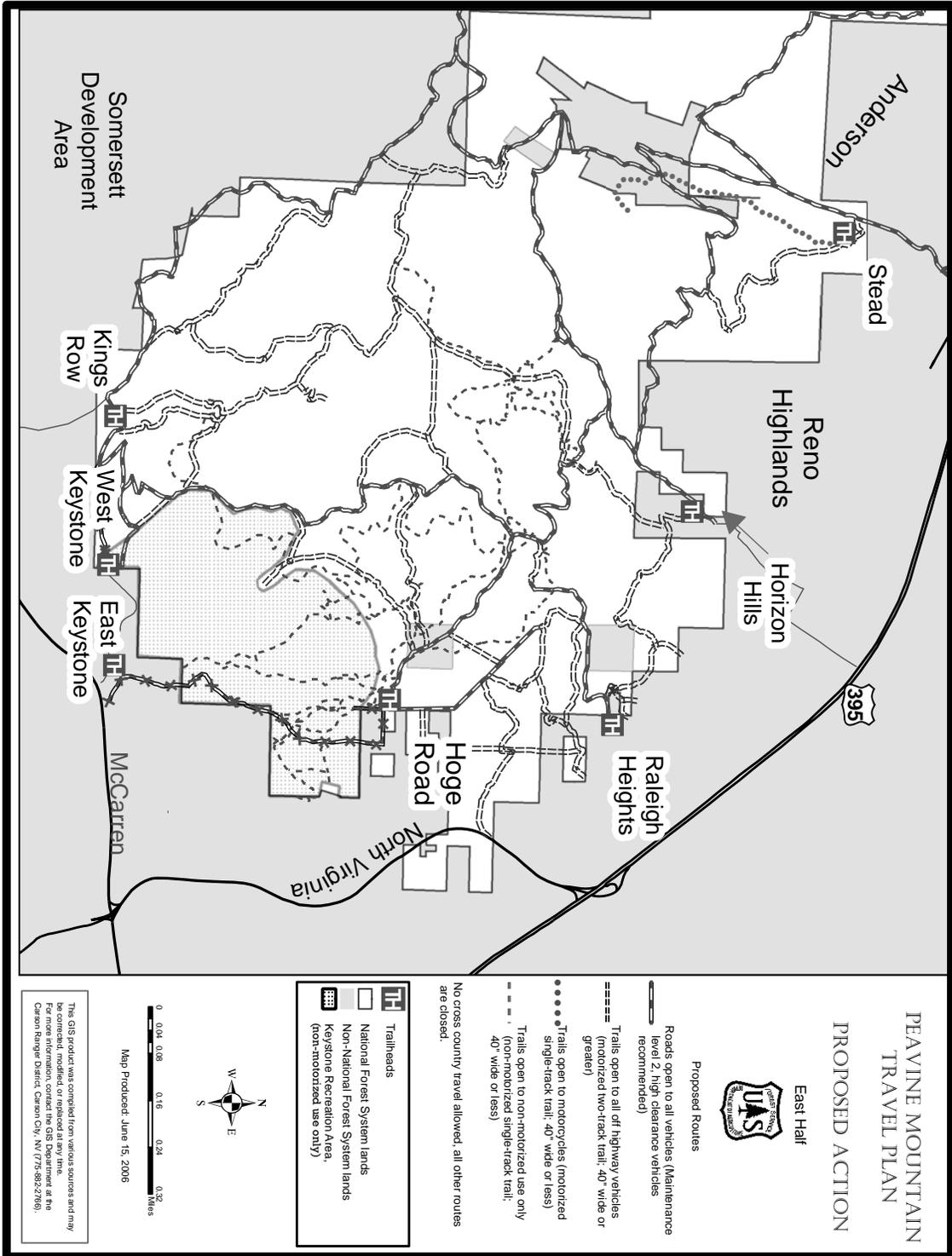


sensitive bat species. These areas have been previously surveyed.

Two spur roads would be closed to protect archaeological sites. A heritage resource data recovery project would be completed in the Bull Ranch area.

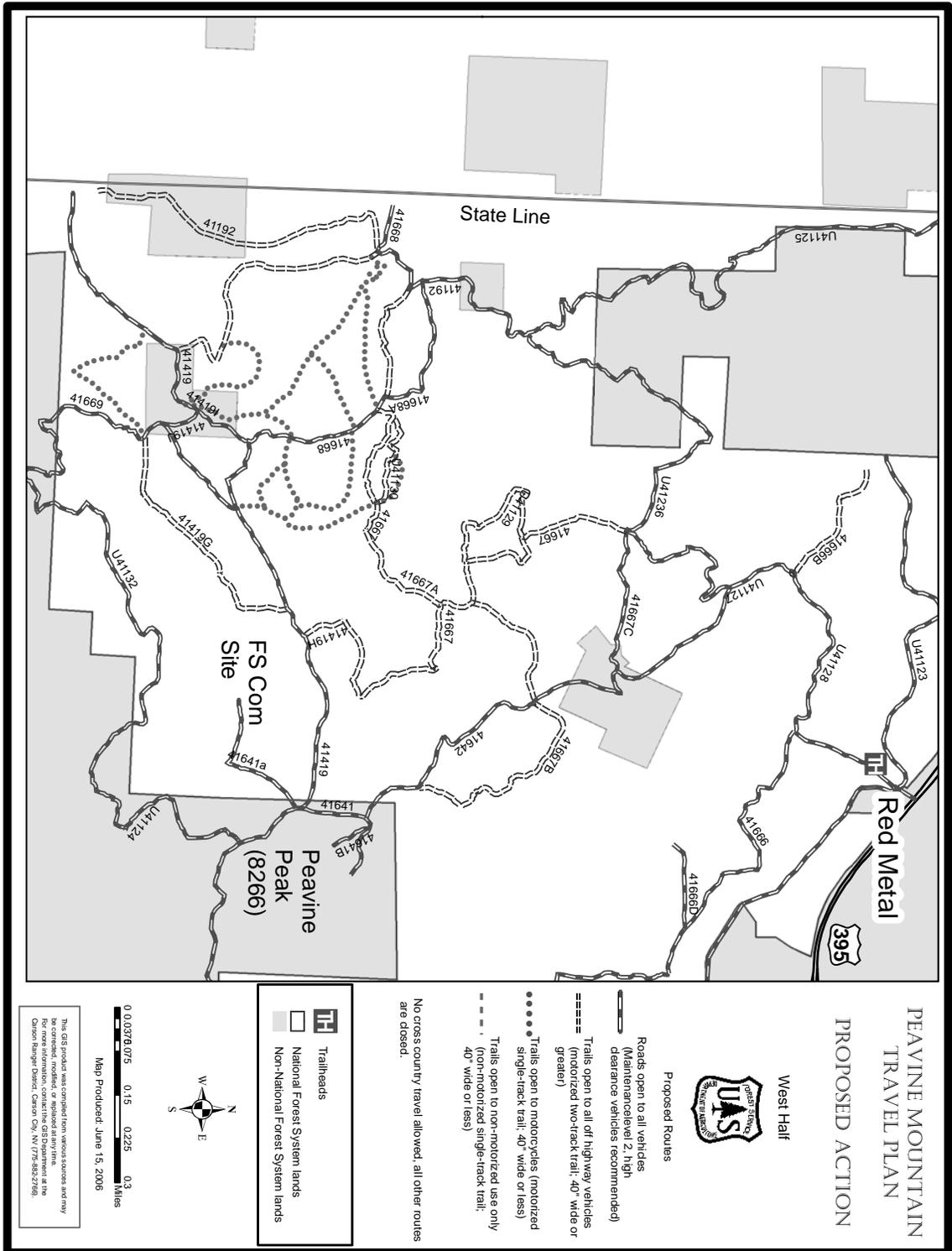


Carson Ranger District Peavine Travel Management
Environmental Assessment June, 2006





Carson Ranger District Peavine Travel Management
Environmental Assessment June, 2006





Environmental Consequences

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives.

Heritage Resources

Affected Environment

Prehistoric Amerindian use of Peavine Mountain dates back at least several thousand years. Archaeological sites scattered across the mountain document this presence and time sensitive artifacts are primarily limited to late Holocene style projectile points, ca. 4500 BP to present (Haynes 2003:2; Haynes and Birk 2005). Most sites likely represent the collection and processing of seasonally available plants and/or animals that supplied food, medicines and craft materials. A few sites, however, were used for other functions, such as toolstone quarries, limited-use camps and rituals. There is no evidence for extensive, residential occupations.

Both the Washoe and Northern Paiute had names for Peavine Mountain and it is likely that both groups used portions of the mountain year-round (d'Azevedo 1986:467; Fowler 1992:50-55).

Archaeological inventories conducted in support of this EA found a number of sites that indicated an historic Native American presence on Peavine (Haynes and Birk 2005). It is likely that sites located on the south and east sides of the mountain were closely linked to Washoe winter villages positioned on the floor of the Truckee Meadows. Conversely, sites on the north

and west sides of the mountain were likely used seasonally as water and plant foods became available.

As European settlement proliferated in western Nevada with the discovery of gold in California and silver in Nevada, the Peavine Mining District was formed in 1863 (Lincoln 1923:237). The town of Poeville was established in the 1870s and was linked to the Truckee Meadows by the Norton Toll Road that ran up Keystone Canyon (Townley 1983:5-6). Historic mining tests, waste rock piles, claim cairns and small historic artifact scatters are the primary material remains that document these activities. Relatively extensive late 19th century and early 20th century logging is known to have taken place in the Dog Valley-Long Valley area just west of Peavine (Birk 2004:5); archaeological reconnaissance associated with this EA confirms the presence of stump fields and small camp sites on this part of the mountain that likely date to this time period.

Archaeological field surveys were conducted along two-track roads and single-track trails proposed for inclusion into the National Forest road system. The total length of proposed roads and trails inventoried was approximately 50 linear miles. As a result, a total of 24 new sites, one previously recorded site and 30 isolated artifacts or features were documented. Overall, these data confirm past findings that show low-to-moderate site densities across Peavine Mountain and a relatively long human presence. The kinds of prehistoric sites identified include a toolstone quarry, several small-to-moderate size artifact scatters, as well as a prehistoric district that incorporates 11 sites and 13 isolated artifacts or features. Historic sites include a small Comstock-era habitation,



numerous historic trash dumps, sporadic remains of an early 20th century power-line, and mid-20th century mining events. Of these sites, the Comstock-era habitation, a prehistoric artifact scatter, along with the prehistoric district, are considered eligible to the National Register of Historic Places (NRHP). The other 11 sites, including all of the isolated finds not specifically associated with the prehistoric district, are considered ineligible to the NRHP.

Environmental Consequences

No Action

There are currently about 70 miles of non-system roads on the portion of Peavine Mountain overseen by the Forest Service (US Forest Service 2002:10). Many of these roads are user created, stemming from mineral exploration, past grazing operations or various recreation activities. Public activities taking place along these roads are, for the most part, unmanaged. Additionally, some of these routes are experiencing severe erosion. Continued uninhibited motorized and non-motorized vehicular use across all of Peavine Mountain, with the potential for pioneering even more new roads and trails, may constitute an adverse effect for historic and prehistoric archaeological resources. All of the sites identified above as eligible to the NRHP will continue to be affected by unmanaged motorized and non-motorized vehicular uses.

Evidence of adverse effects has been documented at cultural resources on the mountain. Since the publication of the Peavine Strategy in 2002, several boulders containing superbly pecked rock art were stolen from one site and positive evidence of casual collection has been documented at another. Other effects, including damage

caused by off-highway vehicle use and illegal excavation, have also been noted.

Proposed Action

The reduction in the density of roads by nearly half, the designation of specific travel routes across Peavine Mountain, coupled with travel prohibitions on all other routes, will substantially reduce the level of direct, indirect and cumulative impacts on cultural resources.

In order to minimize any adverse effects of OHV use on the NRHP eligible sites listed above, some roads will be closed to the general public, used for administrative purposes only, and/or fence-lines will be adjusted. In order to mitigate the adverse effects of OHV use on the NRHP eligible prehistoric district, a testing and data recovery program will be undertaken in order to retrieve much of the available information relevant to the interpretation of past prehistoric lifeways. This data recovery program will be conducted in consultation with the Nevada State Historic Preservation Office (NVSHPO), the Advisory Council on Historic Preservation, and other interested groups.

The potential for indirect effects on resources bisected by National Forest system roads may increase. This is because OHVs, including motorcycles and mountain bikes, will only be able to travel along specifically designated routes. Heritage resources located adjacent to or close by these corridors may be subject to increased visitation and other effects associated with recreational activities. However, by specifying public transportation routes, the opportunities to monitor and interpret cultural resources along these routes will be enhanced.



Motorized Recreation

Affected Environment

Peavine Mountain has played an important recreation role in Washoe County for a number of years. Historically, there was easy access from the City of Reno and neighboring communities. The area has provided a wide variety of motorized and non-motorized opportunities. While popular, it was a relatively uncrowded place to explore by four wheel drive and motorcycles and on foot. It was most popular for hiking, target shooting, hunting and wildlife viewing. As technology advanced and the population of Reno and Washoe County has grown, so has the popularity of Peavine Mountain. Traditional uses and new types of recreation use have increased greatly over the last ten years. On a nice day there are hundreds of walkers, hikers, runners, mountain bikers, four wheelers, motorcyclists, ATV riders and equestrians utilizing the mountain. This trend is likely to continue. The population of Washoe County grew by 33.3% from 1990 to 2000 (www.naco.org). The areas around Peavine are rapidly being developed. Large housing tracts adjacent to the forest boundary continue to be built. Several thousand additional homes will be developed around Peavine Mountain within the next 10 years.

Road System Characteristics

Interstate 80 is the major transportation route that provides an east-west link across northern Nevada. I-80 passes within two miles to the south of the Peavine analysis area. Highway 395 is the major route passing north-south through Nevada. Highway 395 largely skirts the northwestern boundaries of the Peavine analysis area. North McCarran and North

Virginia Street are major streets that provide access to Peavine. From the freeway, highway or major streets, essentially all access onto the mountain is gained by traveling through developed neighborhoods. The primary exception is the northwest portion of the analysis area where some access is gained directly via North Virginia Street or through ranch country.

On the mountain as a whole including lands under all jurisdictions, there are 322 miles of inventoried roads, 93 miles or 28% are classified roads under the jurisdiction of the Forest Service, County or are privately owned. On the 18,000 acres of National Forest System lands on the mountain there are 185 miles of roads. Of these, 74 miles (40%) are classified or system roads.

In addition to the inventoried roads, there are about 60 miles of single-track trails on the National Forest portions of Peavine Mountain. These trails are currently being utilized by motorized and non-motorized enthusiasts. No classified single-track motorized trails currently exist on the Forest.

The vast majority of the roads and trails network on Peavine are pioneered (non-engineered). They stem from mineral exploration, past grazing operations or recreation activities. The pioneered roads usually follow steep ridge tops and drainage bottoms and frequently cross one another. It is not uncommon to find numerous roads leading to the same place. Many roads are eroded and readily visible from many miles away; especially those in the low sage and grass communities. Ref Peavine Strategy, appx c. Roads Analysis

The existing maze of routes can be very confusing to users. While some routes are marked, most are not. Users are likely to unexpectedly encounter a wide variety of



road conditions on any given route which can be dangerous if the vehicles they are using are inadequate for conditions. Many of those wishing to travel around the mountain or to get to outstanding view areas may be disappointed as they maneuver through the maze.

Environmental Consequences

No Action

Under the No Action Alternative the 1994 Carson Ranger District Travel Plan would remain in effect. Approximately 74 miles of classified (or system) roads exist. There are currently no classified motorized 2-track or single track trails. At the time the travel Plan was updated numerous unclassified roads and trails remained. Over time some of those routes were closed, yet many others were continually used and numerous new unauthorized routes were created by users. At present there is an estimated 185 miles of inventoried roads and approximately 50 miles of trails on National Forest System lands.

User needs and expectations for quality recreation experiences would continue to be largely unmet. The continued use of unclassified routes and the proliferation of new routes reflect in many ways how the 1994 Travel plan no longer meets visitor needs. With the population growth in northern Nevada and growing popularity of off highway vehicles coupled with the advent of advanced motorized technology, the demand for quality riding opportunities is outstripping supply.

A maze of routes would continue to exist. Route conditions would continue to be highly variable and people would continue travel on routes that may inappropriate for their vehicles or their abilities.

Law enforcement patrols have had a limited affect in keeping users to designated routes. Increasing patrols is unlikely due to budget constraints. Better signing of the existing designated routes and focused law enforcement would help. Under the no action alternative it is anticipated that compliance would continue to be low and that most of the unclassified roads would continue to be used.

Proposed Action

Under the proposed action the Carson Ranger District Travel management Plan would be updated to reflect 46 miles of roads, 3 miles of administrative roads, 36 miles of motorized trails (suitable for off highway vehicles), 8 miles of motorcycle trails, and 22 miles of non-motorized trails. Some of the routes would be realigned is spots and minor reconstruction would take place on other road segments as needed to bring the routes to the proper standard. Cross country motor vehicle use off of designated motorized routes would be prohibited. Exceptions to motorized uses off of designated routes that require a permit (such as fuelwood cutting) would be authorized on a case by case basis. All existing routes not designated as part of the travel system (75-100 miles) would be closed to motor vehicle use and rehabilitated as needed.

The proposed routes meet most motorized enthusiasts needs by providing a wide range of motorized recreation activities across Peavine Mountain. The recreation opportunities provided would likely distinguish Peavine Mountain as a local off highway vehicle destination area.

The road network would connect the major portals on Peavine to one another. They would offer loop driving opportunities at



varying elevations around the mountain that include a variety of terrain, and outstanding scenery.

The motorized trails would provide numerous and varied opportunities throughout the mountain for off highway vehicles including jeeps and all terrain vehicles. These routes are typically steeper and rougher than roads.

The motorcycle trails are located primarily on the west side of Peavine, offering some separation from the majority of the non-motorized trails.

Because the proposed motorized road and trail system will better meet people's needs, it is anticipated with proper signing and up to date maps they will more likely comply with rules and regulations and stay on designated routes. The need for law enforcement patrols should be somewhat less than with the no action alternative. Under the proposed action alternative it is anticipated that compliance would still not be 100% and that some unauthorized use would continue to occur.

Hunting and dispersed camping are not major activities on Peavine. Traditional sites are scattered across the mountain, primarily on the west side, and would continue to be used occasionally for camping.

Non-Motorized Recreation

Affected Environment

According to the Peavine Strategy, the public-at-large and local residents place a high value on maintaining or increasing non-motorized opportunities closer to the Northwest Reno neighborhoods. Peavine Mountain is a favorite area for mountain bikers and day hikers and walkers. Use is heavy yet there is no established trail

system. Numerous social trails have been pioneered in over the years as a result. The Peavine Strategy recommended developing a quality non-motorized trail system that complements city and county agency plans in urban areas.

The Peavine Strategy also recommended establishing a 900 acre non-motorized area in Keystone Canyon, located on the south east portion of the mountain. This area was designated as a non motorized area in 2004. It is one of the most popular areas on Peavine Mountain for hiking, jogging, dog walking, and mountain biking.

Recreationists primarily utilize an existing trail that follows the Keystone Canyon drainage bottom. Single-track trails that originate from the Evans Canyon area in Rancho San Rafael Regional Park pass through Keystone and continue along the eastern portions of the mountain. These trails are mostly used for mountain biking. Access to this area was enhanced with the completion of Keystone trailhead in Keystone Canyon by Washoe County and the West Keystone trailhead by the Forest Service on the west side of the Keystone Community Corporation property. Currently there are no classified single track non-motorized trails outside of the Keystone Non-motorized recreation area.

Many of the existing roads and trails elsewhere on Peavine Mountain are utilized for non-motorized activities. For example, popular mountain bike rides are from the top of Peavine peak to Sunrise Hills or Hoge Road and on into Keystone Canyon or Evans Canyon. Others utilize existing roads from West Keystone and Kings Row portals for dog walking and jogging.



Environmental Consequences:

No Action

Under the no action alternative non-motorized single-track trails would not be designated. Existing single-track trails outside of the Keystone non-motorized recreation area would not be authorized and subject to closure. Non-motorized use of designated roads would continue to be allowed. As with the motorized routes the current situation does not meet visitor needs for additional quality non-motorized opportunities. Motorized and non-motorized use would be concentrated on designated roads and motorized two-track trails, especially in the south east portion of the mountain outside of the Keystone Canyon Recreation area.

As with motorized routes, unauthorized non-motorized routes and the proliferation of new routes would likely continue under the no action alternative. Law enforcement patrols would continue to have limited affect in keeping users to designated routes if these routes don't meet user needs. Better signing of the existing designated routes would help. Under the no action alternative it is anticipated that compliance would continue to be low and that most of the unclassified trails would continue to be used.

Proposed Action

Under the proposed action approximately 22 miles of existing and new single-track trails would be added to the non-motorized system. The trails are concentrated in the southeast portion of the mountain. They mostly extend outward from Keystone Canyon and Evans Canyon non-motorized area and provide numerous loop opportunities. Some trails connect to existing roads and two-track motorized

trails to provide even greater loop opportunities.

The demand for quality non-motorized opportunities would be largely met in the most heavily used portion of the mountain but not necessarily elsewhere. There is a demand for a larger, more comprehensive trails system. Opportunities for trails exist across the rest of the mountain that could tie into existing and newly developing communities located along all sides of the project boundary. The specific locations of these routes have not yet been identified and, therefore, are not part of the proposed action. Additional proposals that lead to a comprehensive trail system would be analyzed in future NEPA documents.

Administrative Use

Affected Environment

A wide variety of administrative activities occur on Peavine Mountain. Existing routes are used for fire suppression and fuels management, law enforcement patrols, forest products removal, and access to utility lines, communications sites, old minerals operations and private lands.

General Road and Trail Characteristics:

The vast majority of the roads and trails network on Peavine are pioneered or non-engineered stemming from mineral exploration, past grazing operations, and fire suppression or recreation activities. The pioneered roads usually follow steep ridge tops and drainage bottoms and frequently cross one another. It is not uncommon to find numerous roads leading to the same place. Road grades and surface conditions vary greatly from road to road and on different parts of a given road. The variable conditions make it difficult for users to determine the suitability of a road for their needs or capabilities. Numerous



routes are currently not passable in a safe manner.

Fire Suppression:

The road systems of Peavine affect the risk to firefighters and the public through three main categories: 1. quality of access from subdivisions, 2. condition of roads, and 3. accuracy of route designations and road restrictions.

The greatest risk to firefighters and the public is the plethora of unmarked roads that dead end and/or expose the traveler to extremely uneven terrain and erosive soils. They invite travel but can lead to the entrapment of emergency vehicles and unsuspecting recreational users during fast moving, erratic wildland urban interface fires.

A great fire safety concern associated with road access is at the interface of urban and forest lands. Homeowners along the Sierra Front and Peavine in particular have built homes adjacent to the forest boundary. Not all forest system roads will accommodate the large emergency vehicles used by the Forest Service and the local fire agencies. U.S. Forest Service and municipal firefighters must sometimes attempt fire suppression actions without reasonable access.

To a large extent, the existing Peavine Mountain Road System has determined the intensity and extent of fire suppression activities as well as suppression personnel's ability to fight fires in the area. The road system has been the foundation for delivering firefighters and suppression resources. The roads into the Peavine area have proved useful during actual fire suppression to help limit fire spread under low and moderate conditions. However, more intense rapidly spreading fires, or those accompanied by spotting i.e., (the

1980 Mitchell Canyon fire which burned over nine thousand acres and the 2000 Seneca fire that burned over one thousand acres) exceeded the road system's capacity for suppression forces.

From 1940 to 2002 there have been over 20 fires recorded in the Peavine area. Eleven fires burning 24,000 acres have been attributed to human causes. The other nine were caused by lightning and burned 5,000 acres. Fire records demonstrate that the road system into the Peavine area increases the probability of human caused fires on the Mountain. While roads offer fire suppression personnel access to fight fires, they also increase the probability that a human caused fire will occur.

Communication Sites, Utilities and access to private land:

There are several constructed roads that are important pieces of the transportation system in addition to facilitating firefighting. For example, Forest System Road # 41641 provides access to the communication sites at the top of the mountain. Most of the communication sites are located on private land. This road also provides access to owners of private in-holdings located further down the mountain. Communication site operators periodically maintain the road to various standards. Currently there is no maintenance agreement between the Forest Service and the communication site users or other private landowners.

Numerous other routes provide access to other private lands located within the National Forest boundaries on Peavine. Some of these routes are in shared ownership or with limited Forest Service jurisdiction. For many of these routes the jurisdiction status is undetermined. Some of the routes provide needed access through



private land to National Forest system lands.

Law Enforcement:

Federal, state and local agencies have law enforcement responsibilities requiring travel on Peavine Mountain. The Forest Service patrols all National Forest System lands on Peavine Mountain periodically. The Washoe County Sheriff's Department patrols portions of Peavine Mountain on a regular basis and responds to requests for assistance. The City of Reno Police Department also responds to requests for assistance in the areas that are within their jurisdiction and that are safe to travel.

Effective law enforcement patrols on Peavine can be quite challenging due to the massive size of the road and trail system on Peavine Mountain, lack of patrol personnel or proper vehicles, and extended response times. As with firefighting forces, law enforcement personnel are challenged with numerous unmarked routes, varying or unknown road conditions and multiple roads leading to the same place.

Environmental Consequences:

No Action

The current network of forest system roads do not meet all administrative needs, especially for emergency responses such as firefighting and law enforcement. Both system and non-system routes would likely continue to be utilized for administrative purposes and for access to private property. The most important forest system roads will continue to be maintained and signed. Important non-system roads needed for access would not be incorporated into the forest system, would not be signed, and would be subject to closure over time as funding allows.

The plethora of unmarked and sometimes dangerous routes that often dead-end will likely continue to exist for sometime although the number of these routes would be reduced over time as non-system routes are decommissioned.

Proposed Action

Fire Suppression: Under the proposed action key routes needed for fire suppression will be incorporated into the forest system. This will provide for a safer firefighter environment. It may also reduce the risk of human caused fires as the number of existing routes will be significantly reduced.

Communication Sites, Utilities and access to private lands:

Access to administrative sites and private lands would be provided. The proposal would also set the stage to obtain legal public access or reciprocal rights of way where needed, and to pursue maintenance agreements with permittees and co-owners.

Law Enforcement: Patrols and emergency responses should be facilitated under the proposed action as key roads are maintained to standard and properly signed.

Watershed Condition

Affected Environment

Peavine Mountain is drained by numerous seasonally flowing channels. These stream systems include Peavine Creek and Keystone Creek, both of which flow south into Reno, and Bull Ranch Creek, which flows south towards Verdi. The north and east side of the project area has many ephemeral channels which flow towards Lemon Valley and Panther Valley. Channels on the west side of the project area are tributary to the Long Valley Creek system.



There are over 100 miles of channel on Peavine Mountain. Most of these are ephemeral and flow only in response to precipitation. A USGS stream gage measured flow on Peavine Creek from 1963 to 1974. Flows were generally less than one cfs from January to April. However, there have been peak flows recorded of over 30 cfs. Streams on the west side, particularly Bull Ranch Creek, tend to be intermittent with flow lasting into mid-summer during wet years. In addition, there are several springs in the project area. These streams and springs support a variety of riparian and meadow vegetation, including willows, cottonwoods, and aspen.

Soils in the area have formed from both volcanic and granitic parent rock. In general the soils are medium to coarse textured and gravelly. Many of the soils are susceptible to erosion when vegetation is removed.

Within the project area, on National Forest System lands, there are about 183 miles of road and 60 miles of single-track trails. Roads typically follow steep ridgelines or drainage bottoms. Many of these roads are rutted and some are experiencing severe erosion. Some of the roads are causing damage, rutting and compaction, to meadows and riparian areas. There are over 100 road/stream crossings within the project area, most of which have no culverts or other type of protection such as rock armoring.

Environmental Consequences:

No Action

Under this alternative the miles of roads and trails on Peavine Mountain would remain about the same as now. Roads causing damage to soils, meadows, riparian

areas, and streams would not be closed or rerouted.

Proposed Action

The proposed action would result in about 75 miles of roads and other routes being closed to motor vehicle use and rehabilitated as needed. There would be a reduction in the number of road/stream crossings and roads crossing meadows and riparian areas. Cross country motor vehicle and mechanized vehicle use off of designated routes would be prohibited. Implementation of this alternative would be beneficial to watershed condition.

Closing and rehabilitating roads would reduce erosion and sediment delivery to the many stream channels on the mountain. Roads causing damage to meadows and riparian areas would be closed, rerouted or improved to lessen the impact. Some of the closed roads would be rehabilitated by tilling the roadbed and seeding with native grasses. There is a short-term risk of erosion after the roads are tilled and before vegetation is established. However, decompacting the soil and establishing a vegetative cover will increase infiltration and reduce run-off and erosion.

Wildlife and Plant Habitat

Affected Environment

Affected Environment

Peavine Mountain occurs at the north end of the Sierra Nevada’s Carson Range and at the western edge of the Great Basin Desert between 4,500 feet and 8,000 feet elevation.

Plant communities found within the Peavine area are considered common to both regions. For example, the lower slopes of Peavine, are dominated by big sagebrush steppe and Great Basin grassland



communities which include primarily sagebrush and bitterbrush as well as several grass and forb species. In recent years, many acres of mature sagebrush and bitterbrush have been lost to wildfire on Peavine Mountain. At low to mid-elevations, low sagebrush communities occur in small patches, particularly where shallow, stony soils are present. Mid to high elevation sites contain stands of mountain sagebrush and mountain mahogany which are often mixed other shrubs. Patches of streamside vegetation can be found along the upper reaches of Bull Ranch Creek, Peavine Creek, and several intermittent and perennial creeks located on the mountain. Such riparian communities typically include willow alder, cottonwoods, and wild rose). Small stands of aspen are present intermittently on Peavine typically in canyon bottoms and wetter slopes at middle to upper elevations. Large, well developed stands occur on top of the mountain west and north of Peavine Peak. Stands of Jeffrey pine occur at middle elevations on the west and northwest side of Peavine and were once continuous with neighboring stands in Dog Valley and the Verdi and Bald Mountain Ranges. However, the 1984 Mitchell Canyon fire was a stand replacing fire that burned over 10,000 acres of conifer and brush. The existing vegetation in the burned areas now consists primarily of tobacco brush and manzanita. Several small isolated stands of conifer also occur intermittently throughout the rest of the mountain and are typically associated with andesitic soils. Small stands of white fir and mountain hemlock also occur in the upper elevation sites on leeward slopes where deep snow tends to accumulate. Soil types on Peavine Mountain include metavolcanic, volcanic, and grandioritic

parent rock. Several abandon mine sites exist throughout the mountain.

Federally Listed Threatened or Endangered Species

No federally listed threatened, endangered, or proposed species occur within the project area.

Forest Sensitive Species

The combination of forested, shrub and riparian communities provides potential habitat for the following wildlife and plant species listed as sensitive in Region Four: Northern goshawk, mountain quail, white-headed woodpecker, Townsend's big-eared bat, Sierra Valley ivesia, Webber ivesia (also a candidate species for federal listing as threatened or endangered), and three moonworts: upswept, dainty and slender moonwort. Please refer to the Biological Evaluation for a more extensive discussion of Forest sensitive species.

Management Indicator Species

Management indicator species were selected for analysis for the Peavine Mountain Travel Management project due to the presence of suitable habitat that may be impacted by the project:

Mule Deer The Verdi sub unit of the Loyalton-Truckee Interstate deer herd occupies portions of Washoe County, including the proposed project area. The majority of Peavine Mountain contains critical winter 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. Important forage and cover species for mule deer in winter ranges include bitterbrush, sagebrush, mountain mahogany, and aspen. Although the area is primarily used by mule deer in the winter, they are also commonly present in the summer months as well. The Peavine area contains two hunting units managed by the Nevada Department of Wildlife. A 2003-2004 status report for this area stated that while populations appear static in the short term, the overall trend for this herd is declining (NDOW 2005). For example, the Verdi sub-unit of the Loyalton-Truckee herd has declined from approximately 4,200 hundred animals in 1980 to approximately 1400 deer currently (Lidberg 2004). The 2005 status report concluded that the decline is likely due to considerable loss of critical winter range in western Washoe County due to wildfires, urban development, and increased recreation use.

Yellow Warbler Yellow warblers breed in the Sierra Nevada) and are uncommon to common summer residents on the Toiyabe National Forest (Finch 1991). Yellow warblers are closely tied to riparian habitat that contain willow, alder, and elderberry components. The USGS Breeding Bird Survey reports that yellow warbler population trends in the Sierra Nevada have declined between 1966 and 2004 (Sauer et al. 2005). However, during the same time frame in the in the state of Nevada, yellow warbler population trends have been on the increase (Ibid). Habitat destruction and brown-headed cowbird parasitism are the biggest threats to yellow warblers (Erlich et al. 1988). Suitable habitat for yellow warblers is present along the perennial

creeks found on the Peavine Mountain area.

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). 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 2004 (Sauer 2005). In the Peavine area, yellow-rumped warblers are common during the spring, summer, and fall seasons (Nachlinger 1992).

Hairy Woodpecker Hairy woodpeckers are associated with deciduous and coniferous woodlands found throughout North America (Ryser 1985, Erlich et. al 1988). The USGS Breeding Bird survey reports a slight decline in population trends of hairy woodpeckers in the Sierra Nevada from 1966 to 2004 (Sauer et al., 2005). However a fairly large increase in population trends has occurred for hairy woodpeckers in the state of Nevada during the same time period. Decline in populations may be attributed to loss of habitat from activities such as logging that remove large diameter trees and snags (Siegel and DeSante 1999). Hairy woodpeckers are considered uncommon in the Peavine Mountain area (Nachlinger 1992). The aspens stands found near the top of Peavine would likely provide the best habitat for hairy woodpeckers.

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). In the Sierra Nevada, population trends were reported as slightly increasing between 1966 and 2004 (Sauer et al 2005). Williamson’s sapsuckers are considered rare in the Peavine Mountain area (Nachlinger 1992). The aspens stands provide the best habitat for Williamson’s sapsuckers within the project area.

Macroinvertebrates Freshwater benthic macroinvertebrates, or more simply “benthos” are animals without backbones that are larger than ½ millimeter (the size of a pencil dot). These animals live on rocks, logs, sediment, debris, and aquatic plants during some period in their life. Macroinvertebrates are likely present in the two perennial streams located within the project area.

Other Species Considered

Sierran plant Communities-Altered andesite buckwheat and altered andesite popcorn flower are plants endemic to Northern Nevada and are currently being considered for listing as Sensitive in Region Four. Both species belong to a unique plant community which are restricted to altered andesitic soils and occur in an “island” distribution along the southern and eastern slopes of Peavine Mountain. Habitat for these plants includes barren sections of ridges and hill tops commonly associated with stunted, relic patches of Jeffrey pine. Plant composition and cover of these altered volcanics is low in comparison to the surrounding vegetation, yet conspicuously unique. On

Peavine Mountain, the main threat to both of these plants is off-road motorized recreation and fire and fire suppression activities.

Altered Andesite Buckwheat

(*Eriogonum robustum*)-Altered andesite buckwheat is an endemic species to southern Washoe County and extreme western Storey County, Nevada in the Virginia and Carson ranges, and on Peavine Mountain and Red Hill area. This plant is known from 129 sites comprising 14 separate groups, totaling 1,615,000 plants covering an estimated 808 acres. The majority of the populations occur on private land (50.1%) with 17.4% occurring on the Humboldt-Toiyabe National Forest primarily in the Peavine Mountain area (NNHP 2002). Altered andesite buckwheat is currently considered a species of concern by the USFWS and is proposed for listing as a sensitive species in Region Four. Populations of *Eriogonum robustum* occur on all aspects of a variety of landforms including very steep and level slopes (Morefield 2001).

Altered Andesite Popcorn Flower

(*Plagiobothrys glomeratus*)-Altered andesite popcorn flower is a Nevada endemic occurring in Storey and Washoe Counties. Plants typically occur between 4,800 and 6,600 feet elevation on dry, shallow, mostly acidic, gravelly clay soils. The plant is known from approximately nine occurrences mapped at 0.6 miles apart and is considered to be declining (Morefield 2001)



Neotropical Migratory Birds-The migratory songbirds found in North America include roughly 350 species, of which about 250 are known as “neotropical migrants”. 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). The two largest threats to NTMB are habitat fragmentation on breeding grounds and deforestation of wintering habitat (Finch 1991). Compared to other birds, migratory species are the most negatively affected by fragmentation, and are usually absent from small or highly isolated forests (SERC 2003). Species such as brewer’s sparrow, mountain bluebird, Wilson’s warbler, and common yellowthroat are considered high priority species and require heavy shrub or herbaceous cover for nesting and foraging (Sedgwick and Knopf 1987, GBBO 2004). Human disturbance can also have an effect on songbirds. Birds may habituate to predictable disturbances such as driving, or hiking, but disturbance during certain times of the year may have an impact on bird behavior (Marzluff 1997). For example, repeated intrusions during the nesting season may cause birds to minimize or stop singing, decrease defensive behavior at nests, and possibly cause birds to abandon nest sites leading to an overall decline in nesting productivity (Knight and Tempel 1986). Along the Eastern Sierra, the critical breeding season is generally between March 1st and August 30th (Heath and Ballard 1999).

Environmental Consequences

No Action

Under the no action alternative recommendations in the Peavine Travel Management Strategy would not be implemented. The existing user created roads and trails would remain open and would not be added to the route system or closed for rehabilitation. The lack of appropriate road signs and maps would likely allow the continued increase off road activity in the area to occur. Under the no action alternative, habitat for sensitive plants would not be protected and would remain vulnerable to impacts from off road use.

Proposed Action

Although some minor impacts to plants and wildlife may be associated with the proposed project, ultimately the Peavine Travel Management Plan will benefit a variety of species. The designation of routes, including well marked roads and accompanying maps, will help users stay on the roads and therefore minimize off-road impacts to plants and wildlife. Under the proposed action, several miles of roads will be closed or rerouted specifically to protect rare plants. The closure of these roads, along with the 75 miles of additional road closures, will reduce the negative effects of habitat fragmentation such as increased predation, increased human disturbance, and loss of foraging and breeding habitat. Furthermore, the reduction in roads will protect rare plant communities which are endemic to Nevada and unique to the altered andesite soils found in the Peavine area. In many areas, native plant communities will be restored benefiting both wildlife and rare plant populations. For example, the proposed road closures will occur primarily in shrub communities considered important to a number of migratory birds as well as for mule deer. These wildlife species rely on



contiguous stands of bitterbrush and sagebrush to provide forage and cover for both breeding and wintering habitats. Road closures will also minimize disturbance from motorized vehicles such as flushing birds and/or mule deer from breeding areas or inadvertent trampling of important habitat.

Forest Sensitive Species

Several species of Forest Sensitive plants either occur or have the potential to occur on Peavine Mountain including, Sierra Valley ivesia, Webber ivesia, and three moonworts: upswept, dainty, and slender moonwort. Implementation of the proposed project may impact these plant species if inadvertent or illegal trampling of rare plant populations occurs. However, the closure and rerouting of roads will ultimately benefit plant populations by reducing the threat of trampling and by allowing these native and rare plant communities to be restored. Limited habitat is available for the following Sensitive wildlife species: northern goshawk, mountain quail, white-headed woodpecker, and Townsend's big-eared bat. Occasional observations of each of these wildlife species have been recorded in the project area; however, no evidence of breeding has been recorded. The proposed action may impact these wildlife species from disturbance associated with recreation activities. However, these impacts are expected to be minor and will be offset by the overall reduction in roads. Furthermore, the development of a well signed road system and associated maps will help minimize off-road activity and reduce potential conflicts between wildlife and recreationists. Therefore it

is my determination the proposed action will impact individuals of the above listed plant and wildlife species, but is not likely to cause a trend toward federal listing or loss in viability. (See Biological Evaluation).

Management Indicator Species

Mule Deer- The majority of the project area is considered critical winter range for mule deer. Under the proposed action approximately 46 miles of level II roads will be administered as National Forest System Roads. In addition, 22 miles of non-motorized trails would be open to hikers, mountain bikers, equestrians, and other non-motorized users and closed to motorized use. Direct effects to mule deer from roads include deer being displaced during from motorized and non-motorized activity. The effects of disturbance to mule deer may be greater during the winter months when deer are often relying on energy reserves for survival. If disturbance levels are consistently high, deer may permanently avoid these areas. However, the majority of the use on Peavine occurs during the summer months when wintering herds are not in the area. Furthermore, under the proposed action, over 75 miles of roads will eventually be closed to motorized use thereby minimizing the potential for interactions between mule deer and recreationists.

Indirect effects to mule deer from the proposed action include fragmentation of habitat from the presence of roads and trails. Roads and trails can affect mule deer by reducing available forage and cover, and by creating migration barriers. However, under the proposed action, over 75 miles of



roads will be closed to motorized use. Closure of these roads will reduce the overall level of habitat fragmentation and allow these areas to be restored to native brush communities suitable for mule deer. In addition, the improvement of signed roads will enable users to more easily stay on designated routes and will therefore reduce the overall effects of cross-country trampling of vegetation.

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. A major residential development near Verdi is anticipated in the near future that would 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 including the Martis, Robb, Waterfall, Highway 50 and Voltaire Canyon fires that collectively burned over 20,000 acres of National Forest Land. Many burned areas have been replaced by invasive or non-native species that out-compete native vegetation and provide no or little 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. For example, locally collected sagebrush and bitterbrush seedlings were planted within the boundaries of the Robb fire in spring of 2006 restoring over 1500 acres of critical winter range for the Loyalton –Truckee herd. Reforestation efforts associated with the Waterfall fire project, including tree

and brush planting, will also improve winter range conditions for mule deer.

Based on the above assessment, it is expected that some disturbance to mule deer may occur from implementation of the proposed project. However, this disturbance is expected to be minor and will not affect seasonal habitat use patterns of mule deer. Furthermore the closure of over 75 miles of roads will improve habitat conditions for mule deer in the long term by reducing habitat fragmentation and allowing native brush communities to be restored. Therefore, the proposed action may affect individual mule deer, but will not affect habitat and will not contribute to a downward trend in the population of the Loyalton-Truckee deer herd.

Yellow Warbler- Habitat is present for yellow warblers within several of the riparian zones on Peavine Mountain. Under the proposed action, direct effects to yellow warblers include being flushed from foraging and breeding areas from motorized and non-motorized activity. If disturbance levels are consistently high, yellow warblers may permanently avoid these areas. However, under the proposed action, off road use in or near perennial streams would be prohibited due to the high potential for resource damage. Also, the improvements in designated, well marked routes and associated maps will help keep users on the roads and reduce off-road disturbance. Therefore, although noise from adjacent roads might cause some temporary disturbance, direct impacts from motorized and non-motorized users would be minimal.



Indirectly yellow warblers could be affected from habitat fragmentation caused by the presence of roads. Habitat fragmentation negatively affects warblers by reducing available habitat and an increasing the potential for nest parasitism from brown-headed cowbirds. However, under the proposed action over 75 miles of roads will be closed to motorized use. The closure of these roads will restore connectivity of important habitat types and reduce the overall effects of habitat fragmentation.

Population trends for the yellow warbler have been decreasing in the Sierra Nevada over the last forty years. Loss of habitat from local, large scale wildfires and increased development is likely the cause of the decline. For example, portions of perennial drainages such as Ash Canyon and Vicee Canyon, burned at high intensities during the Waterfall fire destroying large acres of riparian vegetation. Important habitat was also lost in the Martis fire where high intensity fire burned along riparian corridors. The increase in large scale subdivisions have likely increased the effects of habitat fragmentation, by clearing vegetation immediately adjacent to important habitat for yellow warblers. In addition to the seventy-five miles of road closures associated with the Peavine Travel Management Plan, the Carson Ranger District recently completed a travel management plan for the Clear Creek watershed south of Carson City which included several miles of road closures. These road closures will eventually improve habitat conditions for yellow warblers by allowing native plant communities to be restored and reducing the number of user/wildlife conflicts.

Based on the above assessment, it is expected that the proposed action may affect individual yellow warblers, but will not affect habitat and will not lead to a downward trend in the population.

Yellow-Rumped Warbler- Suitable habitat for yellow-rumped warblers occurs within the Jeffrey pine and aspen stands found on the north and western portions of Peavine Mountain. Under the proposed action, direct and indirect effects to yellow-rumped warblers include disturbance from motorized and non-motorized recreation. For example, warblers could be flushed from their perch or nest sites from noise disturbance associated with recreation use. If disturbance levels are consistently high, yellow-rumped warblers may permanently avoid these areas. However, it is assumed that the effects of noise disturbance would be greatest if it were to occur in very close proximity to the bird's location such as a vehicle or person disturbing a nest tree. Under the proposed action, over 75 miles of roads will be closed to motorized use. These closures will allow native plant communities to be restored and reduce the potential for user/wildlife conflict throughout Peavine Mountain. Furthermore, the improvements in designated, well marked routes and associated maps will help keep users on the roads and reduce off-road disturbance. Therefore, although noise from adjacent roads might cause some temporary disturbance, direct impacts from motorized and non-motorized users would be minimal.

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. Based on the above assessment, it is expected that the proposed action may affect individual yellow-rumped warblers, but will not affect habitat and will not lead to a downward trend in the population.

Hairy Woodpecker- The aspens stands found near the top of Peavine likely provides the best habitat for hairy woodpeckers in the Peavine area. Under the proposed action, direct and indirect effects to hairy woodpeckers include disturbance from motorized and non-motorized recreation. For example, hairy woodpeckers could be flushed from their perch or nest sites from noise disturbance associated with recreation use. If disturbance levels are consistently high, hairy woodpeckers may permanently avoid these areas. However, it is assumed that the effects of noise disturbance would be greatest if it were to occur in very close proximity to the bird's location such as a vehicle or person disturbing a nest tree. Under the proposed action, over 75 miles of roads will be closed to motorized use. These closures will allow native plant communities to be restored and reduce the potential for user/wildlife conflict throughout the Mountain. Furthermore, the improvements in designated, well marked routes and associated maps will help keep

users on the roads and reduce off-road disturbance. Therefore, although noise from adjacent roads might cause some temporary disturbance, direct impacts from motorized and non-motorized users would be minimal.

Local, large scale wildfires that have recently occurred in the area have likely had mixed effects on 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. Population trends of hairy woodpeckers 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 hairy woodpeckers. Based on the above assessment, it is expected that the proposed action may affect individual hairy woodpeckers, but will not affect habitat and will not lead to a downward trend in the population.

Williamson's Sapsucker- Similar to the hairy woodpecker, the aspen stands found on the north and western portions of Peavine likely provides the best habitat for the Williamson's sapsucker. Under the proposed action, direct and indirect effects to Williamson's sapsuckers include disturbance from motorized and non-motorized recreation. For example, Williamson's sapsuckers could be flushed from their perch or nest sites from noise disturbance associated with recreation use. If disturbance levels are consistently high, Williamson's sapsuckers may permanently avoid these areas. However, it is assumed that the effects of noise disturbance would be greatest if it were to occur in very close



proximity to the bird's location such as a vehicle or person disturbing a nest tree. Under the proposed action, over 75 miles of roads will be closed to motorized use. These closures will allow native plant communities to be restored and reduce the potential for user/wildlife conflict throughout the Mountain. Furthermore, the improvements in designated, well marked routes and associated maps will help keep users on the roads and reduce off-road disturbance. Therefore, although noise from adjacent roads might cause some temporary disturbance, direct impacts from motorized and non-motorized users would be minimal.

Local, large scale wildfires that have recently occurred in the area have likely had mixed effects 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. Population trends of Williamson's sapsuckers appear to be increasing in the Sierra Nevada, indicating suitable habitat conditions are available. Reforestation efforts associated with the burned areas will continue to improve habitat conditions for Williamson's sapsuckers. Based on the above assessment, it is expected that the proposed action may affect individuals, but will not affect habitat and will cause a downward trend in the population or loss of viability.

Macroinvertebrates- Little is known on how roads and associated recreation activities effect macroinvertebrates. It is assumed that any activity that may increase erosion, or streambank destabilization, or loss of shading would likely have some

negative effects on aquatic insects. Currently, erosion concerns have been identified along several roads in the Peavine area, causing damage, rutting, and severe erosion. Also causing erosion concern is over 100 road/stream crossings, most of which have no culverts or other types of protection such as rock armoring (See EA-Watershed Analysis). According to the District hydrologist, implementation of the proposed action would be beneficial to watershed condition (See EA-Watershed Analysis). Under the proposed action, 75 miles of roads and other routes will be closed to motor vehicle use and rehabilitated as needed. The closure of these roads would reduce the number of road/stream crossings thereby reducing erosion and sediment delivery to stream channels in the project area. It is expected that the reduction in erosion would improve habitat for macroinvertebrates by improving water clarity and overall water quality. Therefore, the proposed action will improve habitat for macroinvertebrates and will not effect the viability of the current populations.

Other Species Considered

Altered Andesite Buckwheat and Altered Andesite Popcorn Flower- Altered andesite buckwheat and altered andesite popcorn flower occur throughout the southern and eastern slopes of Peavine Mountain. The barren habitat of these species and their proximity to existing roads in the Peavine area make them vulnerable to impacts from off-road use as well as from fire suppression activities. Although these plants seem capable of sustaining some temporary disturbance, continuous disturbance would likely jeopardize their ability to survive (Morefield 2000). Direct and indirect effects to these plants include trampling from



motorized vehicles. Also the presence of roads may reduce available habitat and therefore limit the potential for populations to expand. However, under the proposed action, several miles of roads will be closed or rerouted specifically to protect populations of these rare altered andesite species. Plant populations will be flagged so crews can avoid them during road improvement operations. Also under the proposed action designated routes will be clearly signed and detailed maps will be provided to the public. A well defined road network will help motorists stay on roads and reduce the potential for off-road travel.

Although individual plants may be impacted, ultimately these road closures will benefit altered andesite buckwheat and altered andesite popcorn flower populations by reducing the potential for trampling from motorists and by allowing these native plant communities to be restored. The project will not cause a downward trend in populations or loss of viability of the altered andesite buckwheat or the altered andesite popcorn flower.

Neotropical Migratory Birds (NTMB)-

The variety of plant communities which occur on Peavine Mountain, including, Great Basin grasslands, sagebrush/scrub, willow riparian and montane meadows, as well as aspen and mixed conifer, host a large diversity of migratory songbirds. Meadow-riparian habitat is considered "highest priority" habitat for Neotropical migratory birds (NTMB) in the 1999 Draft Avian Conservation Plan for the Sierra Nevada Bioregion (Siegel et al. 1999). Non-meadow-riparian communities found within the project area are ranked second and third in their importance to birds (Ibid). A priority Species table, including trend

information for the state of Nevada, is located in the project file.

Direct effects to migratory birds can occur from inadvertent trampling or flushing birds from perches and nest sites. Riparian and wet meadow vegetation is particularly critical to a number of migratory birds. However, off-road travel is not permitted in any area where resource damage may occur such as stream zones and wet meadows. Furthermore, the improvement of designated, well signed roads and associated maps will help keep users on the roads and reduce the potential for user/wildlife conflict. The reduction in over 75 miles of roads will also minimize the overall potential for disturbance to birds.

The presence of roads may indirectly affect migratory birds by increasing habitat fragmentation. Habitat fragmentation is considered the major factor for population declines in migratory bird species, particularly when the fragmentation occurs within riparian zones (Hutto 1995). Habitat fragmentation can lead to an increase in predation and nest parasitism from the increase in edge habitat (Haaman et al 1999). Roads can also act as movement barriers for foraging birds if disturbance levels are consistently high. In the Peavine area, it is not clear what effect the road system has had on migratory birds. It is assumed that the number of user created roads has reduced available habitat and likely limited the distribution of some birds. Under the proposed action, over 75 miles of roads will be closed to motorized use. These road closures will ultimately benefit migratory birds by allowing native plant communities to regenerate thereby restoring the connectivity of important habitat.



Carson Ranger District Peavine Travel Management
Environmental Assessment June, 2006



On the Carson front, recent wildfires have burned over 20,000 acres of trees and shrubbed 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 or loss of viability.



Consultation and Coordination

The analysis in this document relied heavily on the 2003 Peavine Roads and Recreation Strategy. In the fall of 2001, several hundred people attended four public open houses hosted by the Forest Service, Reno, and Washoe County. Consultation and coordination for the Peavine Mountain Travel Management Plan has included:

Washoe Tribe

Reno Sparks Indian Colony

Washoe County

City of Reno

Nevada State Historic Preservation Office

U.S. Fish and Wildlife Service



List of Preparers

Preparers and qualifications for those who developed the environmental assessment were:

Name	Responsibility	Education: Degrees	Experience
Greg Haynes	Heritage Resources	PhD, Anthropology Master of Arts, Anthropology Bachelor of Arts, Anthropology	3 Years
Maureen Easton	Wildlife, Plants	Bachelor of Science, Wildlife Biology	9 Years
Kathy Branton	GIS	Associate of Arts, Forestry	29 Years
Sally Champion	Watershed	Master of Science, Watershed Science Bachelor of Science, Biology	16 Years
David Loomis	Project Manager	Master of Science, Land Use Planning Bachelor of Arts, Economics	27 Years
Larry Randall	Recreation	Bachelor of Science, Forestry	24 Years



References

- Birk, Terry, Gregory M. Haynes and Linsie Lafeyette. 2005. The Peavine Road Classification Survey: A 50-Mile Long Cultural Resources Inventory across Peavine Mountain, Washoe County, Nevada. Humboldt-Toiyabe Cultural Resources Narrative Report No. R2004-0417-01601. Carson Ranger District, Carson City, Nevada.
- Birk, Terry. 2004. Long Valley Aspen Enhancement Project. Humboldt-Toiyabe Cultural Resources Narrative Report No. R2004-0417-01511. Carson Ranger District, Nevada.
- Cornell University Laboratory of Ornithology. 2003. On-line at website <http://birds.cornell.edu/BOW>.
- d'Azevedo, Warren L. 1986. Washoe. In Handbook of North American Indians: Great Basin, Volume 11, pp.466-498, edited by Warren L. d'Azevedo. Smithsonian Institute, Washington, D.C.
- Erlich P.R., and D.S. Dobkin, and D. Wheye. 1988. The Birders Handbook: A field Guide to the Natural History of the North American Birds. The Essential Companion to your Identification Guide. Simon and Schuster Publishing. PP. 532
- Finch, D. M. 1991. Population Ecology, Habitat Requirements, and Conservation of Neotropical Migratory Birds. USDA Forest Service Gen. Tech., Rep. RM-205, Rocky Mountain Forest and Range Experiment Station, Fort Collins, CO.
- Fowler, Catherine S, 1992. Native Americans and Peavine Mountain. *Mentzelia* 6(1):50-63.
- Freel, M. 1991. A Literature Review for Management of Fisher and Marten in California. Unpublished Document, United States Department of Agriculture Forest Service, Pacific Southwest Region. 18pp.
- GBBO (Great Basin Bird Observatory) 2005. Landbirds of Nevada and the Habitat they Need. A Resource Manager's Guide to Conservation Priority Species. Draft.
- Haynes, Gregory M. 2003. Keystone Recreation Road Closures. Humboldt-Toiyabe Cultural Resources Narrative Report No. TY-03-1481. Carson Ranger District, Carson City, Nevada.
- Heath, S.K., and G. Ballard, 1999. Eastern Sierra Riparian Songbird Conservation. Point Reyes Bird Observatory, Stinson Beach, CA
- J.B.R. Environmental Consultants and David Evasn and Associates, Inc. 2002. Special Status Species Vegetation Survey Clear Creek, Douglas County, Nevada.
- Knight, R.L., and S.A. Temple. 1986. Why does intensity of avian nest defense increase during the nesting cycle? *Auk* 103:318-327
- MacArthur, R.H. and J.W. MacArthur 1961. On bird species diversity. *Ecology* 42:594-598.
- Koehler, G.M., W.R. Moore, A.R. Taylor. 1975. Preserving the pine marten, management guidelines for western forests. *Western Wildlands Summer 1975: Montana Forest and Conservation Experiment Station, University of Montana, Missoula, MT.*



- Lacy, RC; Clark, TW. 1993. Simulation modeling of American marten (*Martes americana*) populations: Vulnerability to extinction. *Great Basin Naturalist*. Vol. 53, no. 3, pp. 282-292. 1993.
- Lidberg, J. 2004. California Department of Fish and Game Biologist. Personal conversation regarding status of the Loyalton-Truckee deer herd. August 24, 2004.
- Lincoln, Francis Church. 1923. *Mining Districts and Mineral Resources of Nevada*. Nevada Newsletter Publishing Company, Reno, Nevada.
- Marzluff, J.M. 1997. Effects of urbanization and recreation on songbirds. *In* *Songbird Ecology in Southwestern Ponderosa Pine Forests: A Literature Review*. W.M. Block and D.M. Finch, tech. editors. U.S. Forest Service, Gen. Tech. Rep. RM-GTR-292 pp.89-102.
- Minshall, G., C. Robinson, D. Lawrence, D. Andrews, and J. Brock. 2001b. Benthic macroinvertebrate assemblages in five central Idaho (USA) streams over a 10-year period following disturbance by wildfire. *International Journal of Wildland Fire* 10:201-213.
- Morefield, J. D. (ed.). 2001. *Nevada Rare Plant Atlas*. Carson City: Nevada Natural Heritage Program, compiled for the U.S. Department of Interior, Fish and Wildlife Service, Portland, Oregon and Reno, Nevada.
- Morefield, J.D. 2002. "Conservation Status Report for *Arabis rectissima* E. Greene var. *simulans* Rollins (Brassicaceae), the Washoe Tall Rockress." Nevada Natural Heritage Program, Carson City, NV.
- NDOW 2005. Nevada Department of Wildlife: 2004-2005 Big Game Status Report: Loyalton-Truckee Interstate Herd by Carl Lackey and Walter Mandeville. Pp 22.
- Robinson, S.K. 1997. The case of the missing songbirds. *In* *Consequences Volume 3, Number 1* Online at : <http://www.gcrio.org/CONSEQUENCES/vol3no1/songbirds.htm>
- Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, L.J. Lyon and W.J. Zielinski, (eds.). 1994. *The Scientific Basis for Conserving Forest Carnivores: American Marten, Fisher, Lynx, and Wolverine in the United States*. Gen Tech. Rep. RM-254. Ft. Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station.
- Ryser, F.A., Jr. 1985. *Birds of the Great Basin*. University of Nevada Press, Las Vegas and Reno, Nevada. Pp. 461-464.
- Sauer, J.R., J.E. Hines, and J. Fallon. 2005. *The North American Breeding Bird Survey, Results and Analysis 1966-2003, Version 2004.1*, USGS Patuxent Wildlife Research Center, Laurel, MD.
- Sedgwick J.A., and F.L. Knopf. 1987. Breeding bird response to cattle grazing of a cottonwood bottomland. *J. Wild. Manage.* 51:159-168.
- SERC, Smithsonian Environmental Research Center. 2003. *Avian Ecology: Effects of forest fragmentation on migratory songbirds: temporal and modeling perspectives*. Online at: http://www.serc.si.edu/migratorybirds/breed_forest_frag.htm
- Sibley, D.A. 2000. *National Audubon Society. The Sibley Guide to Birds*. Alfred A. Knopf, New York.
- Siegel, R.B. and D.F. DeSante. 1999. *Draft Avian Conservation Plan for the Sierra*



Carson Ranger District Peavine Travel Management
Environmental Assessment June, 2006



Nevada Bioregion: Report to California Partner in Flight: Conservation priorities and strategies for safeguarding Sierra bird populations. Point Reyes Bird Observatory, Point Reyes, CA.

Sousa, P.J. 1987. Habitat suitability index models: Hairy woodpecker. U.S. Fish & Wildlife Service Biol. Rep. 82 (10.146).19 pp.

Townley, John M. 1983. Little Town on the Truckee: Reno 1868-1900. Great Basin Studies Center, Reno, Nevada.

U.S. Forest Service. December 2002. Peavine Mountain Roads and Recreation Strategy. Carson Ranger District, Humboldt-Toiyabe National Forest in cooperation with The City of Reno and Washoe County, Nevada.

USDA Forest Service. 2001. Sierra Nevada Forest Plan Amendment, Pacific Southwest Region, Vallejo, CA.

USDA. 1986. Land and Resource Management Plan. Toiyabe National Forest, NV-CA. Chap. IV-pp 81.

Zielinski, W.J., and W.D. Spencer, and R.H. Barrett. 1983. Relationship between food habits and activity patterns of pine martens. *Journal of Mammology*, 64(3) 387-396.