Environmental Assessment

Martis Area Travel Management Plan

Carson Ranger District,

Humboldt-Toiyabe National Forest

Washoe County, Nevada

Nevada and Placer Counties, California

United States
Department of
Agriculture
Forest
Service

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Summary

The Forest Service proposes to update the Carson Ranger District Travel Management Plan for the Martis area by designating a system of motorized routes to better meet user needs and protect the environment. The proposed system would include approximately 35 miles of roads and trails open to public motorized use. Approximately ¾ miles of new motorized trail would be constructed. About 25 miles of roads and trails would be closed to motor vehicle use. In addition, a motorized trailhead would be established at the National Forest boundary on Garson Road. Cross country motor vehicle use off of designated motorized routes would be prohibited.

Although the proposal would result in fewer total miles available for motor vehicle recreation, it would improve signage, trailheads, and road maintenance and provide for motorized hunting access and motorized loop opportunities.

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

Background / Purpose and Need

This project was identified in the 2005 Martis/Interstate 80 Corridor Landscape Strategy prepared by the Carson Ranger District in cooperation with Washoe County and the City of Reno. The Strategy covers approximately 54,000 acres, of which 38,500 acres are National Forest System lands located west of Reno and south of Verdi. Most of the area is in Nevada with a portion in California. The area includes the Gray Creek, Bronco Creek and Deep Creek watersheds. The 2001 Martis Fire burned about 15,000 acres of the project, primarily in the Bronco Creek watershed.

The purpose of this project is to provide access and an efficient road system needed for both public and administrative motorized purposes. The Martis area currently has poor access and is lightly used in comparison to nearby forest areas, such as Peavine Mountain. Access from Garson road is gated on private land, and the Hunter Lake Road and the Bronco Creek Road are in poor condition and require 4WD.

Over the next ten years, thousands of new homes will be built in the Verdi and Martis Valley areas. The demand for use in the adjacent National Forest lands will increase dramatically. The Carson Ranger District needs to be proactive in planning for access and well-defined motorized recreation use.

The Forest Service worked cooperatively with the City of Reno and Washoe County to analyze the issues in the Martis area and to make a series of recommendations that helped set the stage for future management decisions. These recommendations were published in the Martis/Interstate 80 Corridor Landscape Assessment and Strategy developed by the Carson Ranger District. One of the primary recommendations from the strategy included developing a road system that is usable by a variety of motorized user groups, provides strategic access for firefighters and is designed to protect natural and cultural resources.

The Landscape Strategy was developed under the direction of the Toiyabe Forest Plan. The Plan calls for a diversity of recreational opportunities in this management area.

A separate plan will be developed for non-motorized travel, including a Reno-to-Rim trail in the Mt. Rose Wilderness connecting Reno with the Tahoe Rim Trail. This plan will include connector trails and trailheads.

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 Martis area by designating a system of motorized and nonmotorized routes to better meet user needs and protect the environment.

The proposed action includes these provisions:

- Access

  The proposed travel plan would allow access from Garson Road, the Hunter Lake Road, and Bronco Creek near Hirschdale. The Carson RD would work with the City of Reno to establish legal access from Garson Road. Currently, there is also access to

the area from Murphy Meadow, Fuller Lake/Quilici, Levintina Canyon and Hunter Creek. Most of these access points require travel through private land or have safety problems and aren't suitable for public use. Access from Levintina Canyon and Murphy Meadow would be designated for non-motorized use only.

- Motorized Trailhead

  Establish a motorized trailhead at the National Forest boundary on Garson Road. The site would be approximately two acres with room for horse and ATV trailers and 20-30 parking spaces. The trailhead would be surfaced and have toilet facilities and an information kiosk. A gate would be installed just past the trailhead to close the road during late fall, winter and early spring when the roads are wet and motorized travel would cause damage.

- Motorized Travel

  Under the proposed action the Carson Ranger District Travel Management Plan for the Martis area would be updated by authorizing a system of motorized routes. The primary road system would be Garson Road (Forest road 462) south to Bronco Creek and the Hunter Lake Road (Forest road 392), which connects with the Garson Road at Big Meadow. The road from Bronco Creek south to Gray Creek would remain open to provide view points for the public. A number of spur roads would remain open to provide loop opportunities. The Fuller Lake spur would also remain open to provide access to private property. In addition a short section of new trail, less than one mile in length, would be constructed to connect two existing spur roads and provide a loop opportunity.

  Approximately 35 miles of roads and trails within the project area would be authorized for motorized use. This mileage does not include most of the Hunter Lake Road, which is outside of the project area. Roads would be maintained for use by high clearance vehicles.

  Roads at the north end of the project area, accessed from Garson Road, Levintina Canyon and Hunter Creek, along with several spur roads would be closed to motorized use. The roads at Murphy Meadows would also be closed to motorized use. Approximately 25 miles of road would be closed.

- 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 recreation communities to help with monitoring, enforcement, and public education efforts.

- Rare Plants

  Rare plants endemic to the northern portions of the Carson Range, including the Martis area,

will be protected under this proposal. Protection measures include placing boulders along road sides to keep vehicles from traversing or parking in areas where rare plant populations exist. Prior to construction of the new section of road, surveys will be conducted to determine if rare plants are present. If rare plants are detected, they will be flagged and avoided. If the road cannot feasibly be constructed to avoid rare plants, no road construction will occur.

Public Involvement

The proposal was listed in the July, 2006 Schedule of Proposed Actions. A Notice of Proposed Action was published in the Reno Gazette Journal on September 5, 2006 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. A total of 15 comments were received during this period.

In addition, the Martis Area Travel Management Plan was part of the overall Martis/Interstate 80 Corridor Landscape Strategy. That project was based on extensive public consultation. A public meeting was held in April 2004, which was attended by about 20 local residents and agency representatives. An overview of the landscape strategy was presented to the Washoe County Planning Commission, Washoe County Board of Supervisors, and the Reno City Council. The U.S. Forest Service worked in close cooperation with the City of Reno and Washoe County Community Development Departments in developing the recreation issues and associated recommendations. Agencies consulted included the Nevada Division of Wildlife and Nevada County, California.

The Forest Service received 12 sets of comments, mostly in support of motorized travel and opposed to road closures. One comment recommended a new motorized trail loop. A few comments were in support of more non-motorized recreation.

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:

- Planned development on adjacent private lands will significantly increase both motorized and non-motorized use in the Martis area.
- Many of the roads in this area are in poor condition and not part of the designated Forest Service road system.
- The lower elevation sagebrush/bitterbrush community in north part of the project area is important winter deer range.
- The Gray Creek and Bronco Creek watersheds contribute a high amount of sediment to the Truckee River.

Alternatives, including the Proposed Action

This chapter describes and compares the alternatives considered for the MartisTravel Management project. It

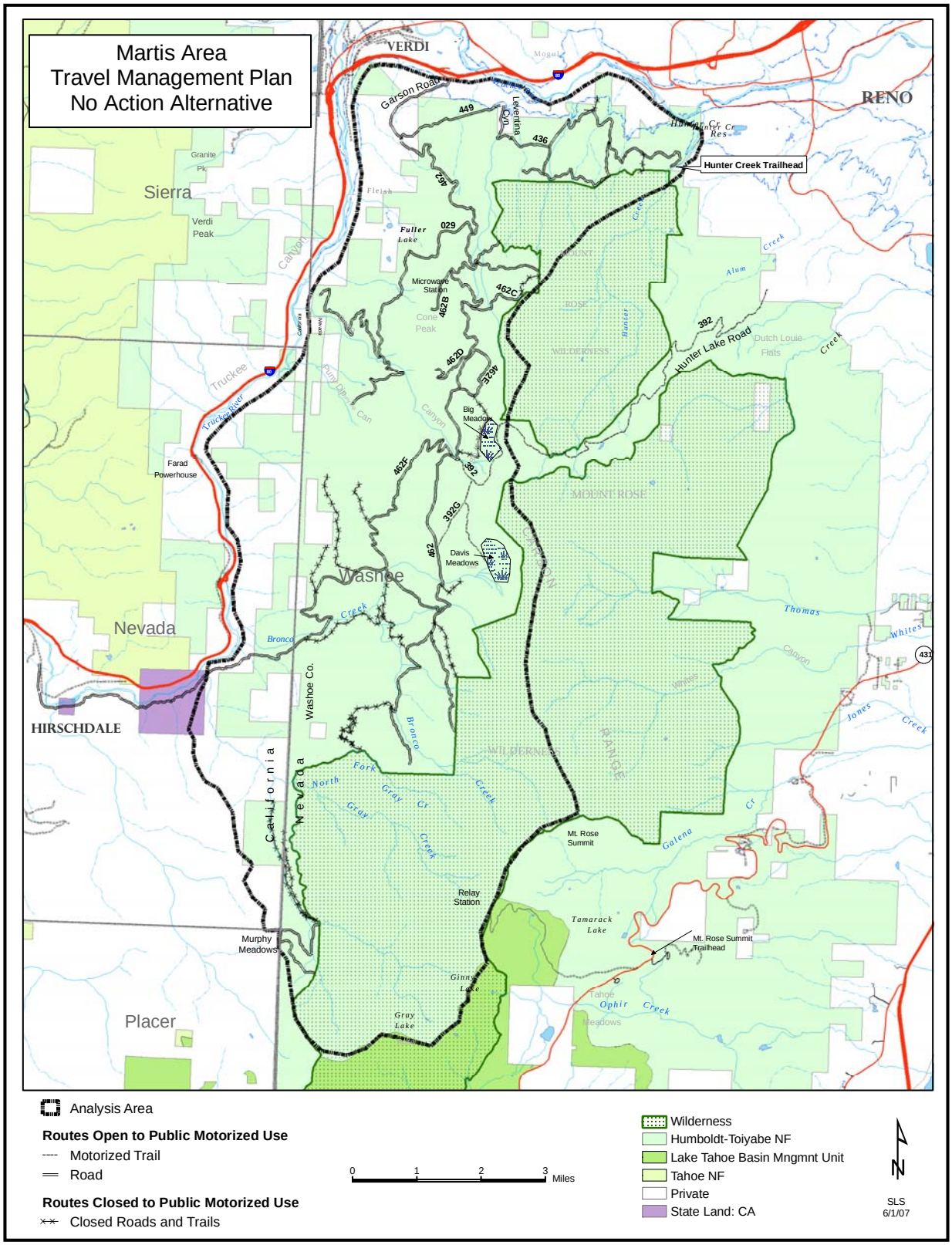
includes a description and map of each alternative considered.

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.

Approximately 47 miles of road and trails would be open to motorized use and 13 miles would be closed. Some of the existing roads in this area are currently not authorized for use.

Access to the area would continue through Garson Road, Hunter Lake Road, Bronco Creek Road, Levintina Canyon, Murphy Meadows and Quilici. Proposed development in the Verdi area would limit some motorized access to roads in the north end of the project area, as would construction of the trailhead near Hunter Creek. The Forest Service would work with the City of Reno to secure public access on Garson Road to National Forest Lands.


Martis Area
Travel Management Plan
No Action Alternative
VERDI
RENO
Garson Road
Hunter Creek Trailhead
Hunter Lake Road
Sierra
Verdi Peak
Granite Pk
Fuller Lake
Microwave Station
Cone Peak
Dutch Louie Flats
Truckee
Truckee River
Farad Powerhouse
Big Meadow
Davis Meadows
Washoe
Nevada
HIRSCHDALE
Washoe Co.
California
Nevada
Placer
Mt. Rose Summit
Relay Station
Tamarack Lake
Mt. Rose Summit Trailhead
Murphy Meadows
Gray Lake
Ginny Lake
Tahoe Meadows
Ophir Creek
Galena Creek
Thomas Creek
Whites Creek
Jones Creek
Alum Creek
Hunter Cr
Hunter Cr Res
Levenina Cyn
Fleish Canyon
Pump Dip Can
Canyon
Bronco Creek
North Fork Grey Cr Creek
MOUNT ROSE WILDERNESS
Analysis Area
Routes Open to Public Motorized Use
Motorized Trail
Road
Routes Closed to Public Motorized Use
Closed Roads and Trails
0 1 2 3 Miles
Wilderness
Humboldt-Toiyabe NF
Lake Tahoe Basin Mngmnt Unit
Tahoe NF
Private
State Land: CA
N
SLS
6/1/07

The Proposed Action

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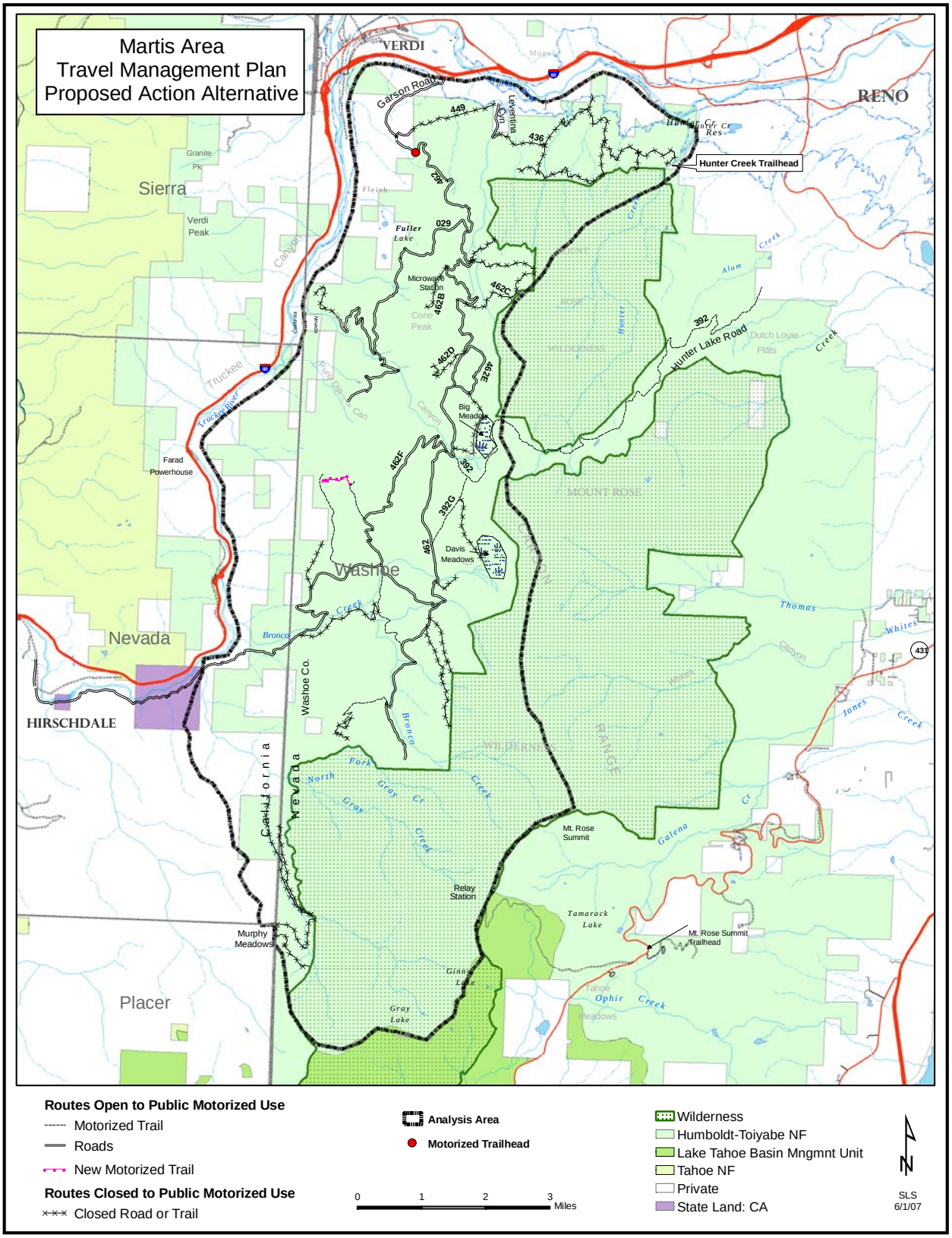
- Signing and Patrolling

  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 recreation communities to help with monitoring, enforcement, and public education efforts.

- Rare Plants

  Rare plants endemic to the northern portions of the Carson Range, including the Martis area, will be protected under this proposal. Protection measures include placing boulders along road sides to keep vehicles from traversing or parking in areas where rare plant populations exist. Prior to construction of the new section of road, surveys will be conducted to determine if rare plants are present. If rare plants are detected, they will be flagged and avoided. If the road cannot feasibly be constructed to avoid rare plants, no road construction will occur.


Martis Area
Travel Management Plan
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VERDI
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Hunter Creek Trailhead
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Sierra
Nevada
Placer
Washoe
Truckee
Truckee River
Farad Powerhouse
HIRSCHDALE
Washoe Co.
California
Nevada
Verdi Peak
Granite Pk
Fuller Lake
Microwave Station
Cone Peak
Big Meadow
Davis Meadows
Murphy Meadows
Relay Station
Mt. Rose Summit
Mt. Rose Summit Trailhead
Tamarack Lake
Gray Lake
Granite Lake
Dutch Louie Flats
MOUNT ROSE
WILDERNESS
Bronco Creek
North Fork Gray Creek
Galena Creek
Thomas Creek
Whites Creek
Jones Creek
Alum Creek
Tahoe Ophir Meadows
Routes Open to Public Motorized Use
Motorized Trail
Roads
New Motorized Trail
Routes Closed to Public Motorized Use
Closed Road or Trail
Analysis Area
Motorized Trailhead
0 1 2 3 Miles
Wilderness
Humboldt-Toiyabe NF
Lake Tahoe Basin Mngmnt Unit
Tahoe NF
Private
State Land: CA
N
SLS
6/1/07

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.

Motorized Recreation

Affected Environment

Roads: There are approximately 60 miles of road and trails in the Martis project area on National Forest Lands. Most of these roads and trails, approximately 47 miles, are open for the public to use. There are additional roads in the areas that are closed to use. All of these roads and trails are native surfaced, and most require 4WD.

Forest Road 462 (Garson Road) is the primary road through the project area. It enters the area both from Interstate 80 near Boomtown, Nevada, and at the mouth of Bronco Creek near Hirschdale, California. A segment of this road extends south to the wilderness boundary above Gray Creek. Parts of this road were improved during the Martis Fire in 2001, but the road through the Bronco Creek watershed is very rough.

Forest Road 392 (Hunter Lake Road) enters the project area from the east near Big Meadow. This road also is very rough and shows on the District travel map as a motorized trail. Forest Roads 436, from Levintina Canyon, and 449, which branches off of Garson Road, provide access through the north part of the project area. This road network extends east to Hunter Creek and then onto private land. In addition to these roads described above there are numerous spur roads, some leading to the wilderness boundary.

It is anticipated that as development proceeds near Boomtown and Martis Valley motorized use in this area will increase.

Part of the project area, approximately 12,600 acres, is inventoried roadless area.

Access: Motorized access into the area is from Garson Road, Hunter Lake Road, Bronco Creek Road, Levintina Canyon, Quilici Ranch, Murphy Meadows and Hunter Creek. The Garson Road and Murphy Meadows access both require travel across private property and around locked gates. Access through the Hunter Creek area and Quilici Ranch also across private land, and the Quilici access requires crossing the railroad tracks adjacent to the Truckee River.

The Forest Service is working with the City of Reno to secure public access to National Forest lands from Garson Road. Washoe County is developing a non-motorized trailhead at the end of Woodchuck Drive in Reno which will provide access to the Hunter Creek area on National Forest land.

Environmental Consequences

No Action

Under this alternative the miles of roads and trails in the Martis area would

remain about the same as now. Planned development in the Verdi and Martis areas could limit motorized access in the future. The Forest Service would continue to work with the City of Reno to secure public access to National Forest lands from Garson Road. The development of the Hunter Creek trailhead, along with continued building in the Juniper Ridge subdivision would curtail motorized access from this area.

Proposed Action

Although the total mileage of roads and trails open for public use would be reduced in this alternative from approximately 47 miles to about 35 miles, an extensive network of roads and trail would remain open. Both Forest Road 462 from Boomtown to Bronco Creek and the Hunter Lake Road would remain open. The road extending south from Bronco Creek to the Gray Creek overlooks would also remain open.

Two additional loop opportunities on motorized trail would be created in the area by authorizing use on a trail which is currently closed, and building a new section of motorized trail. In addition a motorized trailhead would be built on Garson Road at the forest boundary. This trailhead would allow the public to have a place to unload quads and dirt bikes.

The roads in the north end of the project area between Garson Road and Hunter Creek would be closed to motorized use. Access through Levintina Canyon would be restricted to non-motorized use. The roads from Murphy Meadow would also be closed, along with several spur roads within the project area. Closure of the spurs leading to the Mt. Rose Wilderness boundary would result in fewer motorized intrusions into the wilderness. Closure of spurs could also result in less access to dispersed camping sites.

Two segments of existing trail which would be authorized for use are in the inventoried roadless area. These trails are old logging roads in the Bronco Creek watershed. The proposed new motorized trail is also in the inventoried roadless area.

Access to the area would remain from Garson Road, Hunter Lake Road and Bronco Creek. The Forest Service will work with the City of Reno to secure public access from Garson Road.

Cumulative Effects: The cumulative effect of continued urban development in Reno, the Verdi area, and Martis Valley will be to increase recreational use in the National Forest and also could eliminate access. The proposed action would be proactive in designating a system of motorized routes and access to provide for current and future motorized recreation.

Non-Motorized Recreation

Affected Environment

The non-motorized use in this area is primarily hiking and mountain-biking, most of which occurs on the existing road network. There is not a developed system of non-motorized trails within the project area. The Hunter Creek Trail begins at the north end of the project area, but the trail itself is just east of the project area boundary in the Mt. Rose Wilderness. Non-motorized use occurs along the Steamboat Ditch, which crosses the north end of the project area. The Rim Trail crosses the south end of the project area; this trail is also in the Mt. Rose Wilderness. Hikers also use old logging roads in the wilderness.

Washoe County has acquired land in the Juniper Trail subdivision for development of a non-motorized trailhead. This trailhead will allow access to the Hunter Creek Trail and to the road network on National Forest lands in the north end of the project area. The Tahoe Rim Trail Association is proposing a Reno-to-Rim trail which would traverse from the Hunter Creek Trailhead south to the Mt. Rose trail. Most of this trail would pass through the Mt. Rose Wilderness east of the project boundary, and would cross the Hunter Lake Road near Big Meadows.

As land adjacent to the project area in Verdi and the Martis Valley is developed it is anticipated that the demand for non-motorized recreation will increase.

Environmental Consequences

No Action Alternative

Under this alternative the roads and trails available for non-motorized recreation would remain about the same as the current situation. The Forest Service would continue to work with the City of Reno to secure public access to NF lands on Garson Road for both motorized and non-motorized use.

Proposed Action

The proposed action would close roads and trails to motorized use, but these roads would continue to be open to non-motorized use. The development of a trailhead at the Forest boundary on Garson Road would be a benefit to non-motorized recreationists as a place to park and unload mountain bikes or horses. Roads in the north end of the project area, currently accessed from Garson Road, Levintina Canyon, and Hunter Creek, would become exclusively non-motorized use.

Cumulative Effects: The cumulative effect of closing roads to motorized use in the project area, construction of the Hunter Creek Trailhead, and development of the Reno-to-Rim trail would be to increase non-motorized recreation opportunities.

Roadless/Wilderness Character

Affected Environment

There are several inventoried roadless areas within the project boundaries. The total acreage of these areas is approximately 12,570 acres. In addition, approximately 12,000 acres of the project area lies within the Mt. Rose Wilderness (USDA 2005). This area includes the Gray Creek watershed. The roadless character of the area is limited. Numerous roads, user created trails and old logging spur roads are found in the project area. Many of these roads are within the roadless areas. The roadless character has been compromised by extensive disturbance in the area. Roadless characteristics include:

- Soil, water, air: The existing road network, along with historic logging and grazing, has likely accelerated erosion into Gray and Bronco Creeks, tributaries to the Truckee River. Air quality in the area is high, but may be affected by traffic on Interstate 80.
- Public drinking water: Gray Creek, Bronco Creek and Deep Creek all flow into the Truckee River, which supplies drinking water to Truckee Meadows. During large storm events Gray Creek ahs contributed a large amount of sediment to the river

causing problems with the water treatment facilities downstream.

- Diversity of plant and animal communities: Plant and animal communities are common in the area. Refer to the Wildlife and Plants section for further description.
- Habitat for threatened, endangered, proposed, candidate, and sensitive species: A Biological Assessment was prepared for the project record to analyze potential project effects to two threatened species, the bald eagle and the Lahontan cutthroat trout, and two candidate species, Webber ivesia and mountain yellow-legged frog. 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, flammulated owl, white-headed woodpecker, Galena Creek rockcress, upswept moonwort, dainty moonwort, and slender moonwort. The potential effects to these species have been analyzed in the Biological Evaluation.
- Primitive and semi-primitive recreation opportunities. The project area includes primitive recreational opportunities within the Mt. Rose Wilderness. Most of the project area includes semi-primitive motorized and non-motorized recreation opportunities.
- Reference landscapes: This area has been subject to substantial human uses since European settlement occurred in the 1860s. Logging, grazing, recreation and other activities over this period have compromised the ability of the project area to serve as a reference landscape.
- Landscape character and scenic integrity: The quality of the landscape character and scenic integrity ahs been compromised by the existing road network.
- Traditional cultural properties and sacred sites: Very little of the prehistory of the Martis assessment area has been documented. A number of large sites are known to exist along the Truckee River corridor.
- Other locally identified unique characteristics. A large log crib dam, part of the Bonanza Flume used to transport logs to Virginia City, NV during the Comstock era, remains in the project area. This feature is outside the roadless area.

Since portions of the area were identified in the roadless inventory, they have the potential for eventual designation as wilderness. These are areas where the "earth and community of life are untrammeled by man, where man himself is a visitor who does not remain." A portion of the project area, the Gray Creek watershed, is within the Mt. Rose Wilderness. The Mt. Rose Wilderness also abuts the eastern boundary of the project area. Wilderness values include:

- Remoteness. This quality is limited in the project area. It is adjacent to Interstate 80 and will be easily accessible from planned nearby housing developments in Verdi and Reno.
- Solitude. The area has limited opportunities for solitude because it is not isolated from the sights, sounds, presence and developments of man. Part of the project area is subject to traffic noise from Interstate 80. Reno, Verdi and Boomtown are visible from the north end of the project area.
- Naturalness. The area does not appear entirely natural to most people due to the presence of an extensive road network within the roadless areas. There are also old logging road within the Mt. Rose Wilderness.
- Natural integrity. While long term ecological processes are somewhat intact in the project area, overall integrity is compromised by the existing level of surface disturbance and effect fro historical logging and grazing.

Environmental Consequences

No Action

Under this alternative continuing disturbance from motorized use and other urban interface uses would further compromise the already limited roadless and wilderness character of the area. The planned housing developments in Verdi at the project boundary will likely increase visitor use in this area. The Mt. Rose Wilderness would be managed to preserve and protect wilderness characteristics.

Proposed Action

Under this alternative, roadless and wilderness characteristics would be affected as follows:

- Soil, Water Air: Road closures in the Gray Creek watershed may reduce sedimentation to the West Fork of Gray Creek. The impact to water quality from roads to Bronco Creek would remain about the same as now. Air quality would likely remain the same as now.
- Public drinking water: The periodic impacts to the Truckee River from sedimentation from Gray Creek during large storm events would remain.
- Diversity of plant and animal communities: Although some minor impacts to plants and wildlife may be associated with the proposed project, ultimately the Martis Travel Management Plan will benefit a variety of species. The affect of the project on plants and wildlife is described in detail in the Wildlife and Plants section of this Environmental Assessment. There would be minimal, if any effect on the diversity of plant and animal communities in the region.
- Habitat for threatened, endangered, proposed, candidate, and sensitive species: The Biological Assessment concluded that the project would have no

effect on bald eagle, Lahontan cutthroat trout, or the mountain yellow-legged frog. A Biological Evaluation was conducted to analyze effects of the project on Forest Sensitive species. Webber ivesia was determined to not have potential habitat or known to occur in the project area. The Biological Evaluation concluded the proposed action may 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).

- Primitive and semi primitive recreation opportunities. Closure of roads on the north end of the project area may increase the amount of semi-primitive non-motorized recreation opportunities. Most of these north end roads are not within a roadless area. Other parts of the project area would remain the same as now.
- Reference landscapes: Since the project area does not have the capability to serve as a reference landscape, the proposed action would not cause any impacts to reference landscapes.
- Landscape character and scenic integrity: Since the quality of the landscape character and scenic integrity has been compromised by the existing road network, the proposed action would not result in any degradation of the landscape character and scenic integrity.
- Traditional cultural properties and sacred sites: The proposed action would not result in impacts to any cultural properties or sacred sites. Sites are known to exist along the Truckee River where no actions are proposed.
- Other locally identified unique characteristics. The proposed action would not impact the log crib dam. There are no changes in road status proposed for roads near this feature.
- Remoteness. This quality would remain limited in the project area. It is adjacent to Interstate 80 and will be easily accessible from Verdi and Reno. The proposed motorized trailhead would improve access to the project area.
- Solitude. The opportunity for solitude would remain about the same. The area is not isolated from the sights, sounds, presence and developments of man. Part of the project area is subject to traffic noise from Interstate 80. Reno, Verdi and Boomtown are visible from the north end of the project area.
- Naturalness. The area would not appear entirely natural to most people due to the presence of the road network within the roadless areas. There are also old logging roads within the Mt. Rose Wilderness.
- Natural integrity. The overall integrity of the project area

would continue to be compromised by the proposed road system and the effect from historical logging and grazing.

Watershed Condition

Affected Environment

The entire Martis project area drains into the Truckee River. The largest tributary watersheds are Gray Creek, Bronco Creek and Deep Creek. The remaining area consists of relatively small drainages. Both the Gray Creek and Bronco Creek watersheds are erosive and are chronic sources of sediment to the Truckee River. Gray Creek in particular can contribute large amounts of sediment during storm events. The Lahontan Regional Water Quality Control Board placed the California reaches of both these streams on the Clean Water Act 303(d) list of impaired waterbodies for siltation/sedimentation (California State WRCB 2003).

Past human activities have contributed to historical erosion and sedimentation from the Gray and Bronco Creek watersheds. Despite the steep slopes, limited logging occurred in both watersheds during the Comstock era. However, surveys conducted during the 1970s indicate that the disturbed areas have recovered from the logging (USDA Forest Service 2005). Sheep grazing from the late 1800s to the 1960s caused trampled and removed vegetation in the headwaters of the Gray Creek watershed. More significantly, the Martis Fire in 2001 increased erosion and sedimentation risk in the Bronco Creek watershed. The current road network includes numerous stream crossings which also contribute to the sediment load.

The Truckee River Watershed Council recently completed an assessment of the Gray Creek to identify sediment sources and potential watershed restoration projects. The study was prepared by Northwest Hydraulic Consultants using the best available science. Results of the study show that the dominant erosion processes in Gray Creek are natural mass wasting, surface erosion and fluvial erosion. Erosion from roads and trails are important along the North Fork, Main Stem, and West Fork. Treatment of these sources, particularly in the West Fork, could reduce local sediment contributions. These treatments would be unlikely to greatly reduce the overall volume of sediment delivered to the Truckee River from Gray Creek. (Truckee River WS Council 2006)

Environmental Consequences

No Action

The network of motorized roads would remain the same. Increased use could result in degradation of stream crossings and increased sedimentation. However, based on the study by the Truckee River Watershed Council it is unlikely the overall delivery of sediment to the Truckee River would increase substantially.

Proposed Action

The proposed action includes closing roads in the West Fork of Gray Creek. This stream provides the best opportunity for habitat restoration and it was recommended in the Gray Creek Assessment that these roads be closed. Their closure is not expected to greatly

reduce the overall volume of sediment carried to the Truckee River.

The closure of roads on the north end of the project area includes several road/stream crossings. These closures could also reduce local sediment contributions.

Cumulative Effects: The Truckee River Watershed Council has identified parts of Gray Creek as suitable for restoration. These efforts, along with proposed road closures, could reduce sedimentation to Gray Creek.

Heritage Resources

Affected Environment

Very little of the prehistory of the Martis assessment area has been documented. A number of large sites are known to exist along the Truckee River corridor. The Washoe people have traditionally used the general area for the collection of plant materials for food and medicine (USDA 2005).

During the 1870s this area became one of the primary sources of wood supplying the Comstock era mines of Virginia City, Nevada. The Bonanza Flume carried lumber and cord wood from the upper reaches of Hunter and Evans Creeks to Huffaker Station. This flume was 15 miles long and required two million board feet of lumber to construct. A large log crib dam is the most visible remains of this transport system.

Environmental Consequences

No Action

Motorized use would continue on the existing road system. As use in the area increases with the development of the adjacent private land the potential for threats to historic and prehistoric archaeological sites will increase. Impacts include the compaction of subsurface cultural deposits, fragmentation of artifact assemblages, and destruction of surface features.

Proposed Action

Motorized use would continue on the designated road system. Although fewer miles of road would be open as compared to the existing system, increased use in the area would increase the potential for threats to historic and prehistoric archaeological sites.

Cumulative Effects: Housing subdivisions planned for Verdi could substantially increase recreational use of this area. The proposed Reno-to-Rim trail could also increase use. More visitors to the area could increase the potential for threats to historic and prehistoric archaeological sites.

Wildlife and Plants

Affected Environment

The proposed project area occurs within the Martis area between 5,600 feet and 9,000 feet elevation. Because of its location within a transition zone between the Sierra Nevada and Great Basin, vegetation found within the Martis area is considered common to both regions. Generally the landscape is a mosaic of mixed conifer and aspen with a component of high elevation sagebrush/bitterbrush habitat types. Vegetation zones in the assessment area include subalpine forest, montane forest, sagebrush, and saltbush (or shadscale). Forest types within the Martis Travel Management area include Jeffrey pine,

ponderosa pine, mixed conifer (pine and/or fir-dominated), lodgepole pine, white fir, red fir, whitebark pine, and quaking aspen. The majority of the forested stands along the main road corridor are considered closed canopy (equal to or greater than 40% canopy cover) with little understory vegetation or vertical structure. The stands over all lack an abundance of large diameter trees and/or snags and appear fairly uniform in age classes. These stands however vary in density and structure depending on aspect, slope and other related features. In addition, dense stands of snags of mixed age classes are found within the western edges of the project boundary where the 2001 Martis fire occurred. Adjacent to the road network and through much of the project area shrublands existed as small (less than 1 acre) open patches between aspen and/or mixed conifer stands. Two large meadow systems, Davis Meadow and Big Meadow, occur at the higher elevations of the project area. Perennial streams bisect both meadows and are bordered by dense aquatic vegetation in Davis Meadow and sparse vegetation in Big Meadow. Portions of the riparian along both streams contain wet, seepy areas. Upland from the streams, the meadows are dry with sparse vegetation. The lower elevations of the project area near the Garson Road access site contain more expansive areas of low sagebrush and dwarfed bitterbrush plant communities with a rocky substrate. Topography in the project area ranges from moderately sloping hillsides to very steep mountain pitches (>30%). A number of perennial and seasonal streams bisect the project area, most of which drain into the Truckee River. Bronco and Gray Creeks are the largest perennial streams and consist of steep incised corridors with some stretches flattening into wide sandy banks with little vegetation component. Large boulders and a generally rocky substrate are present throughout the project area. Soils consist of sandy loams derived from andesite and basalt in the lower elevations of the project area and sandy stony loams formed in volcanic material at the higher elevations (Baumer 1983).

Past natural and land use/management-related disturbances influenced the landscape vegetation patterns and ecosystem dynamics in the Martis Landscape Assessment area. For example, the area was extensively logged during the Comstock era and portions of the area were again logged from the early 1900s through the mid-1940s to support a paper mill at Floriston. More recently the area was logged in the 1980's and 1990's by the Fiberboard Timber Company. With most of these logging operations, the large, high-value trees of desirable species were favored smaller undesirable tree species were left behind. After the large diameter trees were removed, the post-harvest stands are denser and dominated by smaller diameter trees. In addition to logging, portions of the area were heavily disturbed during the 2001 Martis fire which burned approximately 14,500 acres. The Martis fire burned fairly consistently throughout the project area leaving little ground vegetation or conifer presence immediately following the fire. Currently, regeneration of grasses and forbs, as well as some pine and aspen is occurring from natural processes and restoration treatment efforts.

Federally Listed Threatened or Endangered Species

Informal consultation to date includes a written request to USFWS, 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 list was requested on March 19, 2007, and received on March 27, 2007 (File No. 1-5-07-SP-101). Based on this list, a Biological Assessment was prepared, using the best available science, for the project record to analyze potential project effects to two threatened species, the bald eagle and the Lahontan cutthroat trout and two candidate species, Webber ivesia and mountain yellow-legged frog.

Forest Sensitive Species

A Biological Evaluation was prepared for the project record to evaluate the impacts of project activities to Forest Sensitive species (USDA 1995, updated 1999 and 2003). 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, flammulated owl, white-headed woodpecker, Galena Creek rockcress, upswept moonwort, dainty moonwort, and slender moonwort.

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 Martis Travel Management project: Mule Deer, American Marten, Yellow Warbler, Yellow-rumped Warbler, Hairy Woodpecker, Williamson' Sapsucker, Northern Goshawk, Sage Grouse, Lahontan Cutthroat Trout, and macroinvertebrates.

(*These species are also listed as Forest Sensitive and/or Threatened and are discussed in detail in the Biological Evaluation/Assessment)

Palmer's Chipmunk and Paiute Cutthroat Trout were not selected for further analysis due to absence of habitat or because the project will not directly or indirectly affect the habitat.

Mule Deer– The Loyalton-Truckee mule deer herd is a bi-state herd which migrate between the California and Nevada portions of the Martis area annually. Mule deer have summer range in mid-elevation and high elevation habitat types of mostly montane forests, interspersed with aspen stands and montane shrub. Critical summer range is located along the mid-eastern portion (along Deep Canyon) of the project area and continues east into the Mount Rose Wilderness Area. Winter range and critical winter range for mule deer are

found primarily in the lower elevation habitat types. They are dominated by sagebrush shrublands, with some pinyon-juniper woodlands and Jeffrey pine/ponderosa pine in the lower montane zone. The majority of the critical winter range has been burned in the past, mostly by the Belli Ranch Fire in 1996. There are no known fawning areas with the assessment area; however, a fawning area encircles Dry Lake, located outside the assessment area just to the southwest on the Tahoe National Forest.

The lower portions of the project area, particularly east and west of Garson Road and including the the Leventina Canyon area also contain 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. A 2003-2004 status report prepared by the Nevada Department of Wildlife (NDOW) 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). Recent discussion with NDOW big game biologist Mike Cox, indicate the populations may currently be as low as 800 deer (Cox, personal communication 2007). The 2005 status report concluded that the decline in the herd is likely due to considerable loss of critical winter range in western Washoe County due to urban development and wildfires, and increased recreation.

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). 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). Martens will also occasionally feed on birds, insects (primarily yellow jackets), amphibians, nuts, fruit, and occasionally carrion (Ibid). Alterations to marten habitat are their greatest threat and may even promote local extinctions (Lacy and Clark 1993). Martens can generally tolerate human disturbance provided the disturbance is temporary and the martens habitat is not impacted (Koehler et al 1975). Habitat conditions are the primary influence on current local American marten populations (Ruggiero et al., 1994). The project area is

considered marginal habitat for marten. The wide scale logging that occurred in the 1980s and the early part of the century in the Martis area removed most of the larger mature trees and vertical structure that may have provided quality habitat for the marten. Dense pockets of remnant mature stands may be present in portions of the project area but are likely very small and limited in their ability to support marten populations.

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. Characteristics of yellow warbler habitat include adequate cover for nesting, tall singing posts, and feeding areas in trees. Diet of the yellow warbler consists primarily of insects and arthropods (spiders) (Ryser 1985). 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 in the Martis area.

Yellow Rumped Warbler (*Dendroica coronata*)- The yellow-rumped warbler is considered to be highly adapatable 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 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 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).

Hairy Woodpecker (*Picoides villosus*)- 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 a slight decline in population trends of hairy woodpeckers in the Sierra Nevada from 1966 to 2004 (Sauer et al., 2005). However a farily 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). The aspens stands found throughout the Martis area would likely provide the best habitat for hairy woodpeckers.

Williamson's Sapsucker (*Sphyrapicus varius*) - 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, the best available science indicates that population trends were slightly increasing between 1966 and 2004 (Sauer et al 2005). The aspens stands provide the best habitat for 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 milimeter, or about the size of a pencil dot. These animals live on rocks, logs, sediment, debris, and aquatic plants during some period in their life. The benthos include crustaceans such as crayfish, clams and snails, aquatic worms and the immature forms of aquatic insects such as stonefly and mayfly nymphs. Macroinvertebrates are an important part of the food chain, especially for fish. Many feed on algae and bacteria, which are on the lower end of the food chain. Some shred and eat leaves and other organic matter that enters the water. Because of their abundance and position as "middleman" in the aquatic food chain, macroinvertebrates play a critical role in the natural flow of energy and nutrients. As macroinvertebrates die, they decay, leaving behind nutrients that are reused by aquatic plants and other animals in the food chain. Macroinvertebrates are likely present in the perennial streams located within 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". 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). The Nevada Bird Conservation Plan (Neel 1999) identifies habitat concerns and specific monitoring strategies related to High Priority migratory birds. Species were designated as High Priority by the Nevada Partners in Flight Working Group based on several criteria including local and regional population declines, habitat loss, current Federal and/or State listing and other factors. High Priority species listed that may occur in the Martis area include species such as Lewis's woodpecker, MacGillivary's warbler, and calliope hummingbird in the aspen stands; western bluebird, red-naped sapsucker and cooper's hawk in conifer zones; and sage sparrows and sage thrashers in the lower elevation brush areas. These high priority species 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 no changes to the existing road network in theMartis area would occur. The existing user created roads and unathorized routes would remain open and would not be added to the road 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 Martis 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, barriers will be placed in specific locations to protect rare plants. In addition, with the closure of approximately 25 miles of roads to motorized use, the negative effects of habitat fragmentation such as increased predation, increased human disturbance, and loss of foraging and breeding habitat will be reduced. Furthermore, the reduction in roads will protect rare plant communities which are endemic to Nevada and unique to the Carson Range of the Sierra Nevada. 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.

Federally Listed Threatened and Candidate Species

According to the FWS (File No. 1-5-07-SP-101) Bald eagle, Lahontan cutthroat trout, and the mountain yellow legged frog have the potential to occur in the Martis area. Webber ivesia, a candidate species and a Forest Sensitive species, was also identified by the FWS as having potential to occur in the area. This species was analyzed in the Biological Evaluation and determined to not have potential habitat or known to occur in the project area. Habitat features associated with mountain yellow-legged frogs are found in the project area; however, mountain yellow-legged frogs are considered extirpated in Nevada and project activities are not expected to have any negative effects on habitat potential. Lahontan cutthroat trout (LCT) historically occupied watersheds within the Martis area due to stocking efforts conducted in the 1980's. However, habitat conditions were not suitable to sustain the populations and LCT are no longer present in the area. Therefore it is my determination the project will have no effect on bald eagle, Lahontan cutthroat trout, or the mountain yellow-legged frog (See Biological Assessment).

Forest Sensitive Species

Forest Sensitive plants which are known to occur or have the potential to occur in the Martis area include Galena Creek rockcress 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. Furthermore, barrier placement between roads and populations of Galena Creek rockcress will protect these rare plants and their habitat. Limited habitat is available for the following Sensitive wildlife species: northern goshawk, mountain quail, flammulated owl, and white-headed woodpecker. 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 habitat for mule deer. Under the proposed action approximately 35 miles of the existing 60 miles of roads will be authorized as National Forest System Roads. In addition, 25 miles of existing routes 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. Under the proposed action, the eight miles of roads which occur in Leventina Canyon will be closed for motorized use. This area occurs immediately adjacent to the I-80 corridor and is within critical winter range for mule deer. Closing this area to motorized use will minimize disturbance to mule deer during the winter months. Disturbance from non-motorized users will continue in this area. However, it is expected that with the lack of motorized use, there will be an overall reduction in disturbance to mule deer. The Deep Canyon drainage within the upper elevations of project area is considered critical summer habitat for mule deer. Under the proposed action, approximately one mile of spur roads along the drainage will be closed to motorized use. This closure, in addition to the 16 miles of additional road closures in the upper elevations of the project area will reduce disturbance to mule deer summering in the area. Construction of the connector route is not expected to impact mule deer as it occurs immediately adjacent to a steep drainage where mule typically do not occur.

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 25 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. 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. For example, locally collected sagebrush and bitterbrush seedlings were planted within the boundaries of the Peavine area 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 in Carson City, 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, the overall disturbance to mule deer is expected to be reduced following project implementation. Furthermore the closure of over 25 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.

American Marten- The project area is considered marginal habitat for marten. The wide scale logging that occurred in the 1980s and the early part of the century in the Martis area removed most of the larger mature trees and vertical structure that may have provided quality habitat for the marten. Dense pockets of remnant mature stands may be present in portions of the project area but are likely very small and limited in their ability to support marten populations.

Direct effects to marten may include being flushed from foraging areas from motorized and non-motorized activity. Under the proposed action, approximately 25 miles of roads will be closed to motorized use and no motorized use will not be allowed off authorized routes. Martens can generally tolerate human disturbance provided the disturbance is temporary and the martens habitat is not impacted (Koehler et al 1975). Under the proposed action it is expected a reduction in overall disturbance would occur due to the reduction in motorized routes and off-road travel.

The best available science indicates that alterations to habitat are considered the greatest threats to marten (Lacy and Clark 1993). Under the proposed action, indirect effects to marten habitat include the removal of trees to develop the new segment of road north of Bronco Creek drainage. However, the new road will follow natural, open terrain features to minimize the removal of vegetation including the possible removal of less than 10 trees. The reduction in forested vegetation may limit the martens foraging ability in this 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.

Historic logging and other disturbances in the Martis area, including the 2001 Martis fire which consumed over 30,000 acres of

forested stands, have greatly reduced habitat potential for marten in the Martis area. Some pockets of habitat, particularly in the denser aspen stands, may still provide some nesting potential for small numbers of marten. Recreation, including motorized and non-motorized use in the Martis area is expected to increase significantly in the future due to the large residential areas currently being proposed and constructed immediately adjacent to project area. Cumulatively, vehicle traffic noise and other human recreation may cause increased disturbance to martens during this time period. For example, an increase in hiking activity is expected to occur following construction of the Reno to Rim Trail which will span the north east portions of the project area. However, although an increase in visitors is expected, the length and the difficulty of trail will likely keep visitor numbers relatively low (Hale, Pers. Comm. 2007). Furthermore, as mentioned above, martens are somewhat tolerant of human disturbance. 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 Warbler- Habitat is present for yellow warblers within several of the riparian zones in the Martis area. 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, traveling off existing roads is not permitted. 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. Some minor loss of habitat may also occur following construction of the connector road near Bronco Creek. However, under the proposed action over 25 miles of roads will be closed to motorized use. The closure of these roads will offset any minor reductions in habitat availability from road construction and 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, on the Carson Ranger District, 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 25 miles of road closures associated with the Martis Travel Management Plan, the Carson Ranger District recently completed a travel management plan for the Clear Creek watershed south of Carson City and for the Peavine area 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. As recreational use increases in the Martis area, an increase in disturbance to yellow warblers may also occur. For example, the proposed construction of the Reno to Rim trail will allow hikers to traverse through the project area beginning in the urban neighborhoods near Hunter Creek and ending at Mount Rose Summit. However, although an increase in visitors is expected, the length and the difficulty of trail will likely keep visitor numbers relatively low (Hale, Pers. Comm. 2007). 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 in portions of the Martis Travel area. 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. Some minor loss of habitat may occur following construction of the connector road near Bronco Creek. However, under the proposed action over 25 miles of roads will be closed to motorized use. The closure of these roads will offset any minor reductions in habitat availability from road construction and will restore connectivity of important habitat types and reduce the overall effects of habitat fragmentation.

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. The Martis fire burned approximately 15,000 acres of mixed conifer on National Forest Lands. Regionally, other fires such as Waterfall, 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 throughout the Martis area provides the best habitat for hairy woodpeckers. 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 25 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 area. 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. Hairy woodpeckers may be indirectly affected by loss of habitat following construction of the connector road near Bronco Creek. However, the connector route does not occur in an aspen area where hairy woodpeckers are most likely to occur. Furthermore less than 10 trees may have to be removed and therefore impacts on foraging and nesting habitat will be minimal and offset by the overall reduction in habitat fragmentation following project implementation.

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 the Martis area 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 25 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 area. 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. Williamson's sapsuckers may be indirectly affected by loss of habitat following construction of the connector road near Bronco Creek. However, the connector route does not occur in an aspen area where Williamson's sapsuckers are most likely to occur. Furthermore less than 10 trees may have to be removed and therefore impacts on foraging and nesting habitat will be minimal and offset by the overall reduction in habitat fragmentation following project implementation.

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 Martis area, causing rutting and erosion. Under the proposed action, 25 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 at specific sites, particularly along streams in the north end of the project area and the road/stream crossings on Gray Creek. Therefore, the proposed action will improve habitat for macroinvertebrates and will not affect the viability of the current populations.

Other Species Considered

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 sties. Riparian and wet meadow vegetation is particularly critical to a number of migratory birds. However, off-road travel is not permitted in the Martis area. 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 25 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 Martis 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 25 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.

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 mirgatory birds. However, habitat conditions are gradually improving in these burned areas from natural regeneration and Forest Service tree and brush planting efforts. As recreational use increases in the Martis area, an increase in disturbance to migratory birds may also occur. For example, the proposed construction of the Reno to Rim trail will allow hikers to traverse through the project area beginning in the urban neighborhoods near Hunter Creek and ending at Mount Rose Summit. However, although an increase in visitors is expected, the length and the difficulty of trail will likely keep visitor numbers relatively low (Hale, Pers. Comm. 2007). Based on the above assessment, although some migratory birds may be temporaraily displaced, the proposed project will not cause a downward trend in migratory bird populations or loss of viability.

Consultation and Coordination

Agencies, Organizations Contacted

USDI Fish and Wildlife Service

Nevada State Division of Wildlife

City of Reno

Washoe County

Nevada County

Truckee River Watershed Council

List of Preparers

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

Name	Responsibility	Education: Degrees	Experience
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Greg Haynes	**Heritage Resources**	**PhD Anthropology** **Bachelor of Arts, Anthropology**	**3 Years**
David Loomis	**Planner**	**Master of Science, Land Use Planning** **Bachelor of Arts, Economics**	**27 Years**
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References

Baumer, O.W. 1983. Soil Survey of Washoe County, Nevada, South Part, U.S. Dept. Agric., Soil Conserv. Serv. 608 pp., 33 map sheets.

California State Water Resources Control Board. 2003. 2002 CWA 303(d) List of Water Quality Limited Segment. On-line at website http://www.waterboards.ca.gov/tmdl/docs/2002reg6303dlist.pdf

Cornell University Laboratory of Ornithology. 2003. On-line at website http://birds.cornell.edu/BOW.

Cox, M. Big Game Biologist, Nevada Department of Wildlife. Personal conversation regarding the population status of the Loyalton Truckee deer herd. February 14, 2007.

Erlich P.R., and D.S. Dobkim, 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.

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.

Hale, Steve, Recreation Specialist, Humboldt-Toiyabe National Forest, Carson Ranger District. Personal conversation regarding the proposed Reno to Rim Trail; April 25, 2007.

Heath, S.K., and G. Ballard, 1999. Eastern Sierra Riparian Songbird Conservation. PointReyes Bird Observatory, Stinson Beach, CA

J.B.R.Environemental Consultants and David Evasn and Assoicates, 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.

Martin S.K., and R.H. Barrett. 1991. Resting site selection by marten at Sagehen Creek, California. Northwestern Naturalist. 72: pp.37-42.

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.

NDOW 2005. Nevada Department of Wildlife: 2004-2005 Big Game Status Report: Loyalton-Truckee Interstate Herd by Carl Lackey and Walter Mandeville. Pp 22.

Northwest Hydraulic Consultants. 2006. Gray Creek Watershed Assessment. Prepared for the Truckee River Watershed Council. Truckee, CA.

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 Nevada Bioregion: Report to California Partner in Flight: Conservation priorities and strategies for safeguarding Sierra bird populations. Point Reys 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.

Summit Engineering Corporation. 2003. Mortensen et al. Development Standards Handbook. Prepared for Irene Mortensen and Estate of S. Ross Mortensen; Boomtown Hotel & Casino; Santerra, LLC; Ricorose Ranch Properties; Robert and Marjorie Quilici; Ronald and Diana Anderson. Reno, NV.

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

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

USDA Forest Service. 2002. Bronco Creek Stream Habitat Survey Report. Humboldt-Toiyabe National Forest, Carson Ranger District.

USDA Forest Service. 2004. Roadless Area Conservation at http://roadless.fs.fed.us/.

USDA Forest Service. 2005. Martis/Interstate 80 Corridor Landscape Assessment and Strategy. Humboldt-Toiyabe National Forest, Carson Ranger District.

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