



**Environmental Assessment**  
**UPPER KYLE TRAILHEAD IMPROVEMENT PROJECT**

**USDA Forest Service**  
**Spring Mountains National Recreation Area**  
**Humboldt-Toiyabe National Forest**  
**Clark County, Nevada**

**June 2004**

**INTRODUCTION**

This document discloses the effects of the proposed Upper Kyle Trailhead Improvement Project on the resources in the project area. The proposed project site is located in Kyle Canyon and is within the Spring Mountains National Recreation Area (NRA). It is approximately 44 miles from central Las Vegas, Nevada, on Echo Road, off Nevada State Highway 157. The legal description is Township 19 South, Range 56 East, Section 26 (Map 1).

The proposed site sits at approximately 7,850 feet above sea level, and provides year-round recreation opportunities. The project area is approximately fourteen acres in size (Map 1) and is located in a mixed conifer forest comprised of ponderosa pine and white fir.

**PROPOSED ACTION**

The Humboldt-Toiyabe National Forest Supervisor proposes to improve parking areas and restrooms as well as add/improve information kiosks at the Mary Jane Trailhead, the Trail Canyon Trailhead and the Old Ski Tow parking area. Proposed facilities would be contained within an area of approximately four acres that have been previously disturbed within the fourteen acre project area (Map 2). An existing user-created trail between the three sites would be improved and designated for use, and other user-created trails would be rehabilitated. Table 1 briefly describes each element of the Proposed Action.

**Table 1: Elements of the Proposed Action**

Proposed Action Item	Quantity	Description	Related Disturbance
2 unit vault toilets at the Mary Jane parking area and at the Trail Canyon area.	2 at 30 feet x 30 feet	Americans with Disabilities Act accessible with electricity.	Grading, excavating excess dirt to be spread at site; placement at previously disturbed site; small amount of vegetation removal



Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment

Date: 6/04



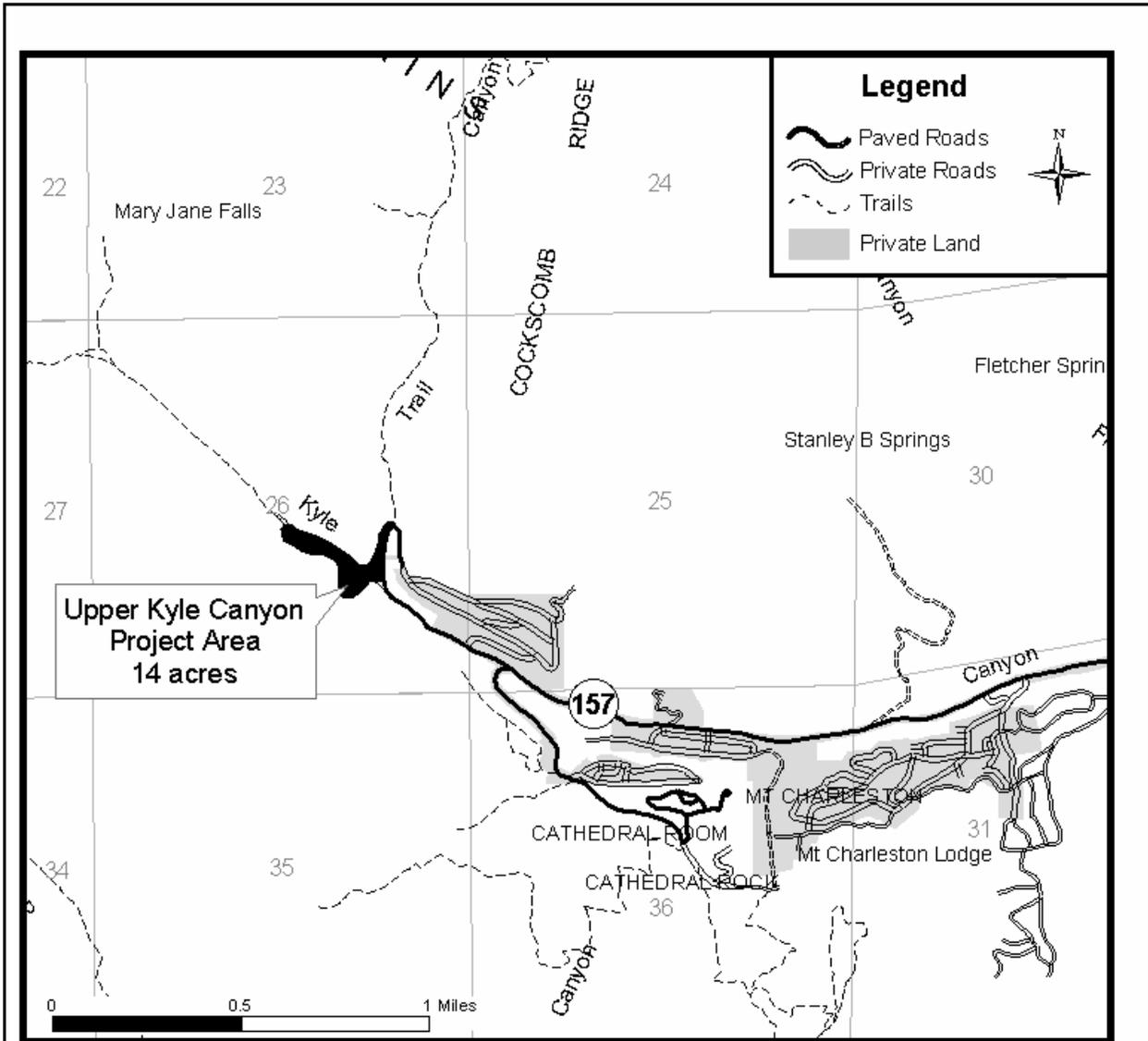
Proposed Action Item	Quantity	Description	Related Disturbance
Paved parking area at Mary Jane Falls	300 feet x 60 feet.	Parking for up to 75 standard vehicles and 25 vehicles with trailers.	Grading, paving of up to 2.5 acres. Designed to dissipate flow of storm water runoff to minimize erosive potential.
Paved parking area at Trail Canyon	Parking parallel to road on west side. Improved turning radius at switch back.	Parking for standard vehicles. Signed for no trailer access or parking. Paved, curbed, and lined with access to trailhead.	Approximately 0.5 acres in previously disturbed areas. Designed to dissipate flow of storm water runoff to minimize erosive potential.
Delineate parking at Old Ski Tow and install information kiosk.	Large enough to accommodate vehicles towing horse trailers and up to 20 cars.	Curbing used to delineate parking area perimeter.	Confined within area of existing disturbance no larger than one acre.
Pave FR 111 approximately 900 feet from Echo Road to Mary Jane Trailhead.	Approximately 900 feet x 14 feet	One lane access road with inter-visible turnouts and low water crossing at mouth of Trail Canyon.	Constructed along existing right-of-way. Grading and minimal vegetation removal.
Native Surface access road to Old Ski Tow	Approximately 100 feet x 14 feet	One lane access road. No turnouts. Gate located at intersection with Mary Jane Road to prohibit winter parking. Boulders placed to prevent off road access to Old Ski Tow when gate is closed.	Native surface with low-water crossing at Kyle Canyon Wash.
Connector trail between Mary Jane Trailhead, Old Ski Tow, and Trail Canyon Trailhead	18-24 inches wide by approximately 2000 feet long	Native surface, built by hand, to Forest Service Handbook specifications for non-motorized use.	Native Surface.
Fence Mary Jane Falls parking area the west side of Trail Canyon parking area, and the south side of access road FR 111.	Approximately 2200 feet of fencing.	Rustic fence to direct people towards designated trails.	



Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment  
Date: 6/04



The buildings and parking areas would be located and designed to blend with the surrounding landscape to the extent possible. Construction of the proposed improvements would be scheduled between July 15 and March 1 to avoid goshawk and flammulated owl nesting periods. The restroom facilities and information kiosks would be accessible to people with disabilities and would provide for overall quality customer service. Mary Jane and Trail Canyon parking areas would be paved, striped, and include curbing. The Old Ski Tow parking area would be unpaved and delineated using curbing. A gate would be installed at the Old Ski Tow entrance to prohibit winter parking.

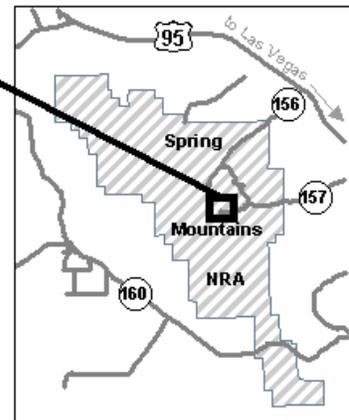


**MAP 1: VICINITY  
 Upper Kyle  
 Trailhead Improvement Project**

Humboldt-Toiyabe National Forest  
 Spring Mountains National Recreation Area  
 Las Vegas, Nevada



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Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment  
Date: 6/04



Reclamation of areas disturbed during construction would use native vegetation and seed sources. Native vegetation would be used to provide natural screens and landscaping. After construction is completed, disturbed areas outside the construction area footprint would be rehabilitated to a natural appearance. User-created trails not part of the designated connector trail would be reclaimed and signed to discourage cross country travel in the sensitive species habitat. Some of these rehabilitated areas may need to be ripped to loosen compacted surfaces and prepare the area for planting/seeding. Woody vegetation cut for construction purposes would be retained in the project area and used as cover habitat. A noxious and invasive weed plan would be developed to control the spread of weeds during construction.

## PURPOSE AND NEED

The Spring Mountains National Recreation Area, Humboldt-Toiyabe National Forest has identified the following needs for action in the Upper Kyle Canyon area:

- Additional, updated restroom facilities which are accessible to people with disabilities.
- Safe, fully utilized trailhead parking areas that provide spaces for people with disabilities, large vehicles, and vehicles with trailers
- Decreased impacts to the biodiversity hotspot and species of concern.
- Designated trails connecting the 3 trailheads in Upper Kyle Canyon.

## Assessment of Need for Action

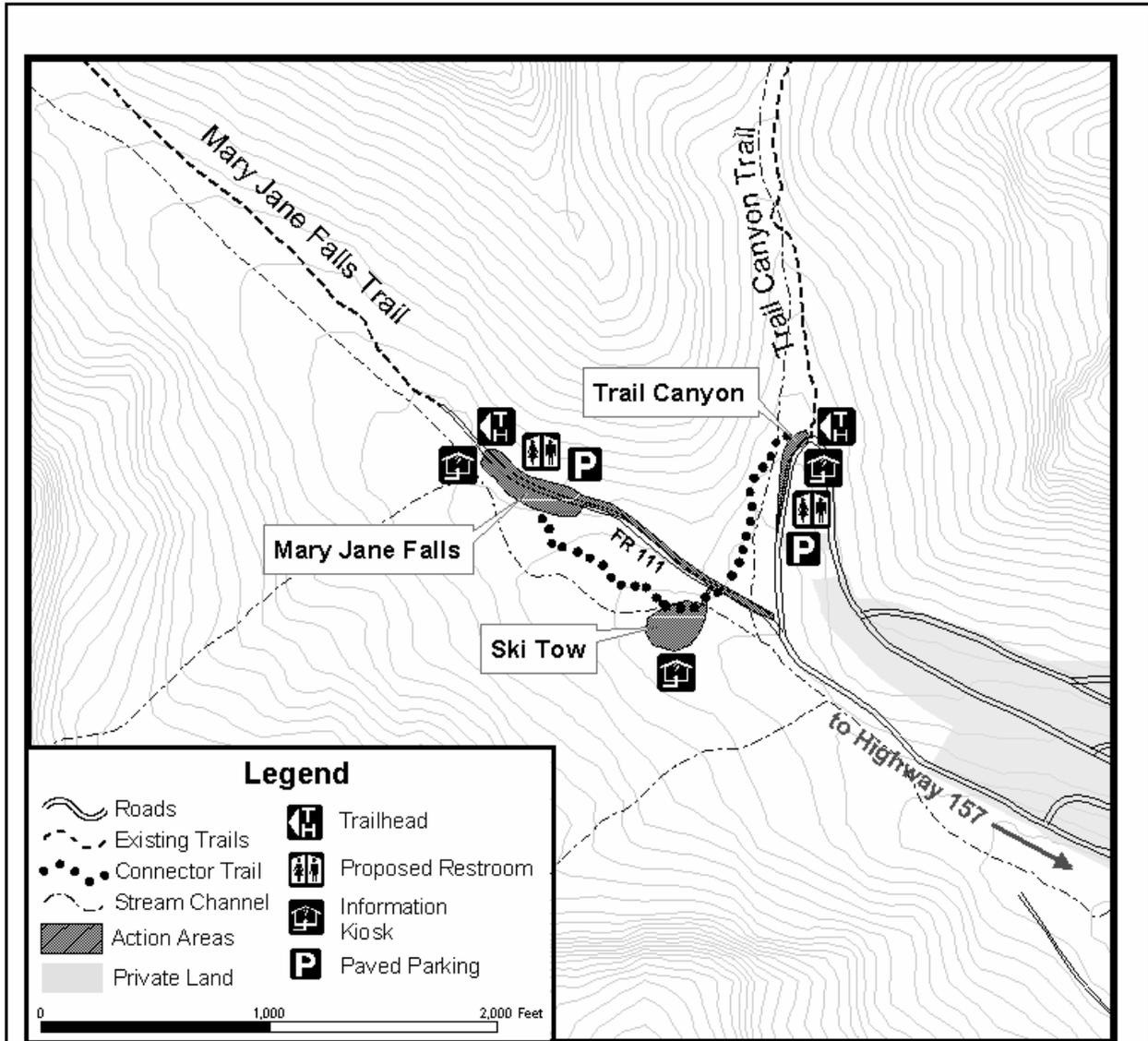
### Recreation

The Upper Kyle Canyon Day Use Area consists of two trailhead parking areas (Mary Jane Falls and Trail Canyon) and one native surface parking area at Old Ski Tow. All three of these areas are used to access a variety of recreation opportunities in the area including hiking, back packing, rock climbing, horseback riding, snow-play and dispersed camping (both in and around the trailheads). Use in this area is increasing as the population of Las Vegas grows and the popularity of the associated trail system and climbing areas increase. The facilities at these locations are inadequate to support this growth.

The trails that are accessed from these trailheads include two designated trails (Mary Jane Falls and Trail Canyon). There are also numerous user-created trails in the area.

Parking spaces are currently undesignated at all three sites. During times of high use, vehicles are parked at many different angles, which under-utilizes the parking area. When parking areas are full, visitors tend to park on the shoulders of adjacent roadways resulting in safety hazards. Also, adjacent landowners are inconvenienced when parked vehicles obstruct the roadway.

Currently there are no Forest System Trails linking these three trailheads. Both Old Ski Tow and the Mary Jane Falls Trailheads are large enough for horse trailer parking; however, the use at these locations is suspected to be low. There are safety problems with people walking along the roads to get from one trailhead to another.



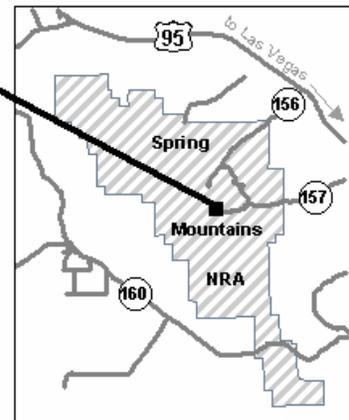
## MAP 2: PROPOSED ACTION Upper Kyle Trailhead Improvement Project

Humboldt-Toiyabe National Forest  
 Spring Mountains National Recreation Area

Las Vegas, Nevada



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Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment  
Date: 6/04



The restroom facility at the Mary Jane Falls Trailhead is outdated and no longer capable of servicing the needs of the visitors. This is the only restroom available in the Upper Kyle Area to serve these three high use trailheads. Lack of facilities along with continued increase in visitation has contributed to a human waste problem at and around all three sites.

There are currently information kiosks at the Mary Jane Falls and Trail Canyon Trailheads.

## Resources

Presently natural resources in the proposed project area are being impacted by various off-trailheads and off-road "dispersed" recreational activities. A network of user defined trails, parking, and dispersed campsites exist in the area between the Mary Jane Falls parking area and the Old Ski Tow parking area impacting Region 4 Forest Service listed sensitive, Clark County Multiple Species Habitat Conservation Plan (MSHCP) "covered" and Conservation Agreement (CA) plant and animal species and habitat.

The project area is located with the Upper Kyle Canyon High Priority Biodiversity Hotspot. Hotspots were designated in areas where two or more elements of concern were identified. Elements of concern include:

- Federally listed and candidate species (none within this hotspot);
- Spring Mountains regional endemics; and
- Locally rare species and unique communities (Nachlinger and Reeses, 1994).

Within the project area both endemic species and rare and unique species have been identified. Of these elements of concern, ongoing recreation activities occurring within the project area are presently impacting species and habitat within the biodiversity hotspot. The Forest Plan, CA, and MSHCP, all recommend the avoidance of activities and new construction within biodiversity hotspots.

The Migratory Bird Treaty Act of 1918 as amended (16 U.S.C.668-668d) requires management of migratory bird species, which including species of flycatchers, vireos, raptors, and woodpeckers. These species' nesting and foraging activities are presently being impacted and their habitats are becoming degraded over time by dispersed activities ongoing adjacent to the present parking areas.

## Forest Plan Direction

The need to improve the facilities at these locations was identified in the General Management Plan (USFS 1996). The desired conditions for the Spring Mountains NRA are identified in the General Management Plan (USFS 1996). Many of these desired conditions are also described in the Conservation Agreement (CA), and in the Multiple Species Habitat Conservation Plan (MSHCP). These desired conditions for the Spring Mountains National Recreation Area are incorporated in this document by reference. They include the desire to provide high quality recreation experiences for individuals and biodiversity hotspots to the extent possible. The goal of recreation projects initiated on the Forest must be designed to move toward attaining the desired condition for recreation and natural resource protection.



## **DECISION TO BE MADE**

Based on the analysis documented in the environmental assessment, the Deciding Officer will determine whether or not to implement the proposed action as described in this EA or as modified by the alternatives.

## **PUBLIC INVOLVEMENT**

This section describes the public involvement process. The intent of the public involvement process is to notify the public of the project, invite them to participate in the process, and to determine significant issues through scoping. The National Environmental Policy Act (NEPA) defines scoping as "an early and open process for determining the scope of the issues to be addressed and for identifying the significant issues related to a proposed action".

The Forest Service provided an opportunity for public comment on the Proposed Action on July 16, 2002. A scoping document was sent out to affected and interested agencies, organizations and individuals. This scoping letter requested comments on four separate projects. Fifteen letters, pertaining to this project, were received. Comments in these letters ranged from statements of support, to identification of issues to be considered in the analysis.

The Upper Kyle project has been included in the Schedule of Proposed Actions since the summer of 2002. This document is published quarterly by the Humboldt-Toiyabe National Forest and mailed to the Forest-wide mailing list of approximately 700 agencies, organizations and individuals.

Documents pertaining to this project are available for review at the Spring Mountains National Recreation Area office, located at 4701 North Torrey Pines Drive, Las Vegas, Nevada 89130.

## **Agencies and Persons Consulted**

To ensure compliance with the Endangered Species Act of 1973, the Forest Service has entered into Informal Consultation with biologists from the U.S. Fish and Wildlife Service, Southern Nevada Field Office. The Nevada Department of Transportation, Nevada State Historic Preservation Office and the Nevada Division of Wildlife were also consulted during the development of this environmental assessment.

## **Tribal Communication**

The Las Vegas Paiute Tribe, Moapa Paiute Tribe, and Pahrump Paiute Tribe chairpersons and interested tribal members were sent scoping letters on June 14, 2001 and on July 16, 2002 with no cultural response being received. A field visit was coordinated on July 12, 2003 with interested tribal members from the Las Vegas and Moapa Paiute Tribes to discuss this particular project, as well as others, and no cultural concerns were expressed for this already disturbed and heavily visited portion of Upper Kyle Canyon. The final Environmental Assessment report would also be sent to the Paiute Indian Tribe of Utah, the Kaibab Southern Paiute, the Chemehuevi at CRIT, and the Chemehuevi at the Chemehuevi Reservation for comments. All of these Southern Paiute and Chemehuevi Tribal governments have a strong link to the Spring Mountains.



## ***Issue Development***

For the purpose of NEPA, issues are defined as a dispute, debate, or disagreement over the effects of the proposed action. During public involvement and "scoping" for this project, the public and other agencies raised several issues with the proposed action. The following issues are considered to be significant and are used to develop alternatives, mitigation, or to guide the effects analysis.

### ***Biodiversity Hotspots and Species of Concern***

**Issue Statement:** Construction of the Upper Kyle Trailhead may impact the land base acres within the biodiversity hotspots, and subsequent use of the trailhead may continue to have impacts on sensitive habitats and component species within these areas.

Biodiversity hotspots are defined in the Nature Conservancy Spring Mountains National Recreation Area Biodiversity Hotspots and Management Recommendations (Nachlinger, 1994) document, and as a result of interagency agreements, they are managed in accordance with direction set forth in the MSHCP and the CA.

**Unit of Measure:** Number of acres affected by trailhead development compared to the remaining number of acres in the biodiversity hotspot.

### ***Sensitive (FS, Neotropical Migratory Birds, MSHCP, and CA) Plant and Wildlife Species***

**Issue Statement:** Construction of the Upper Kyle Trailhead Project and subsequent use of the trailhead may impact some individual **animal species and their habitats** which may be found within or around the proposed project area. This includes sensitive wildlife species, MSHCP "covered" species, CA species, Nevada species of concern, and neotropical migratory bird species that are managed for have either been recorded in, or could be associated with, the project area.

**Issue Statement:** Improvements proposed in the Upper Kyle Trailhead Project area and subsequent uses by recreationists may impact some of the individual **plants and their habitats** resulting in a diminished natural environment in the area. There are nine (9) USFS R4 sensitive plant species plus five MSHCP "covered" species and/or CA species that have been recorded in, or could be associated with the project area.

**Units of Measure:** Acres of suitable species' habitat affected by alternative, and number of species affected.

### ***Non-significant Issues***

During scoping, several issues were received that were not considered to be significant since they are already addressed by standards and guidelines of applicable management plans or Federal, state, and local regulations (Table 2). Issues already addressed by standards and guidelines of applicable management plans or Federal, state, and local regulations are addressed uniformly under all action alternatives. Non-significant issues are **not** used to develop alternatives or mitigation.



**Table 2: Non-significant Issues:**

<b>Issues</b>	<b>Response to Comment</b>
TES Plants	There are no threatened or endangered plant species in the Spring Mountains National Recreation Area and therefore none are in the project area.
TES Wildlife	There are no threatened or endangered wildlife species that would be affected by the proposed action.
Sensitive plant/animal/habitats	Addressed in Environmental Consequences
Soil and Water	Addressed in Environmental Consequences
Recreation Access	Addressed in Environmental Consequences
Environmental Justice	Addressed in Environmental Consequences
Air Quality	Addressed in Environmental Consequences
Heritage Resource	Considering the effects of all federal actions are required under the National Historic Preservation Act and the potential effects of this action are disclosed in this document.

## ALTERNATIVES

Alternatives to the proposed action were formulated as a result of the public scoping process. Alternatives include the “No Action” Alternative (continuation of current management), the “Proposed Action” and one alternative to the proposed action developed to address the significant issues identified during public scoping. At the end of this section is Table 4, which clearly delineates the differences between each alternative.

### No Action

The No Action Alternative reflects current conditions. The No Action Alternative would not improve parking facilities, add restrooms, or add information kiosks. No trails would be designated.

### Proposed Action

The Proposed Action is described in detail on pages 1, 2, and 3 of this document.

### Alternative Action

The Alternative Action was (Table 3 and Map 3) developed to address concerns regarding the effects of implementing the Proposed Action on the Biodiversity Hotspot and on the sensitive species populations and individuals.



**Table 3: Elements of the Alternative Action**

Alternative Action Item	Quantity	Description	Related Disturbance
2 unit vault toilets at the Mary Jane Falls parking area	1 at 30 feet x 30 feet	Americans with Disabilities Act accessible with electricity.	Grading, excavating excess dirt to be spread at site; placement at lower end of Mary Jane Falls Parking area so it can be accessed easily from Trail Canyon; small amount of vegetation removal. Located as far from Kyle Wash channel as possible.
Aggregate base parking area at Mary Jane Falls	300 feet x 60 feet.	Parking for up to 75 standard vehicles and 25 vehicles with trailers.	Aggregate base, gravel surface of up to 2.5 acres.
Aggregate base parking area at Trail Canyon	Parking parallel to road on west side. Improved turning radius at switch back.	Parking for standard vehicles. Signed for no trailer access or parking.	Approximately 0.5 acres in previously disturbed areas.
Pave FR 111 approximately 900 feet from Echo Road to Mary Jane Trailhead.	Approximately 900 feet x 14 feet	One lane access road with inter-visible turnouts and low water crossing at mouth of Trail Canyon.	Constructed along existing right-of-way. Grading and minimal vegetation removal.
Rehabilitate Old Ski Tow and close to parking.		Rip parking area and entrance road. Block access road with boulders. Plant or seed with native vegetation.	Confined within area of existing disturbance no larger than 1 acre.
Connector Trail between Mary Jane Trailhead and Trail Canyon Trailhead	18-24 inches wide approximately 2000 feet long	Native surface, built by hand, on user-created trails. Built to Forest Service Handbook specifications for non-motorized use.	Native Surface.
Close and reclaim dispersed campsites and user-created trails within the project area.		Plant native vegetation in reclaimed areas.	



Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment

Date: 6/04



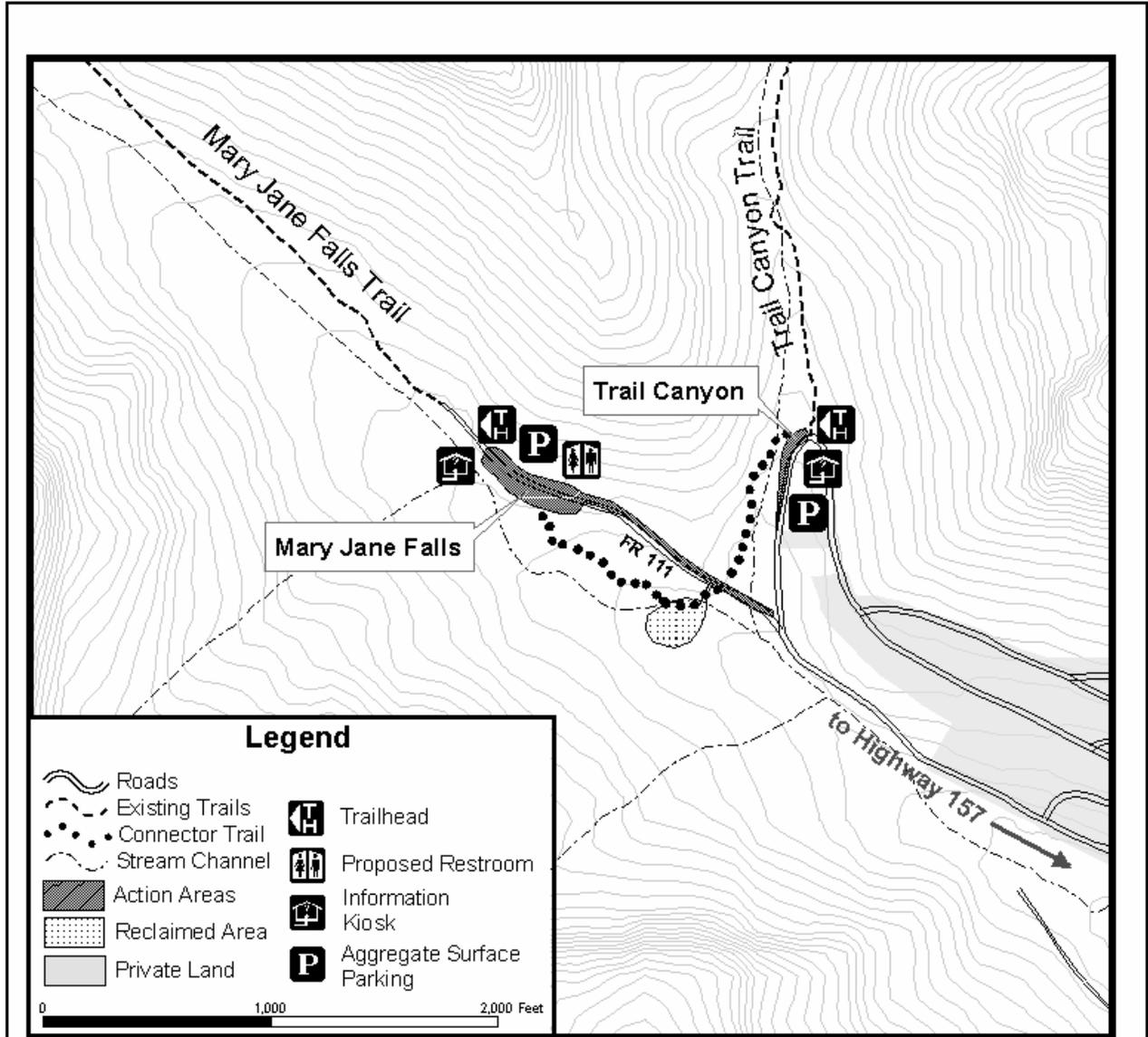
Alternative Action Item	Quantity	Description	Related Disturbance
Closure order prohibiting dispersed camping.	14 acre dispersed camping closure.	Camping closure information provided on site.	
Fence Mary Jane Falls parking area, the west side of Trail Canyon parking area and the south side of Access road FR 111.	Approximately 2200 feet of fencing.	Rustic fence to direct people towards designated trails.	

The buildings and parking areas would be located and designed to blend with the surrounding landscape to the extent possible. Construction of the proposed improvements would be scheduled between July 15 and March 1 to avoid goshawk and flammulated owl nesting periods. The restroom facilities and information kiosks would be accessible to people with disabilities and would provide for overall quality customer service. Mary Jane and Trail Canyon parking areas would have a gravel surface with parking spaces delineated with curb stops or other markers.. Old Ski Tow parking area would be closed to vehicles and revegetated with native plants or seeds. The access to Old Ski Tow would be blocked to vehicles.

Reclamation of areas disturbed during construction would use native vegetation and seed sources. Native vegetation would be used to provide natural screens and landscaping. After construction is completed, disturbed areas outside the construction area footprint would be rehabilitated to a natural appearance. User-created trails not part of the designated connector trail would be reclaimed. After the project is completed an area closure of approximately 14 acres encompassing the Kyle and Trail Canyon wash bottoms in the vicinity two trail heads would be issued closing the area to overnight camping.



Upper Kyle Canyon Trailhead Improvement Project  
 Environmental Assessment  
 Date: 6/04



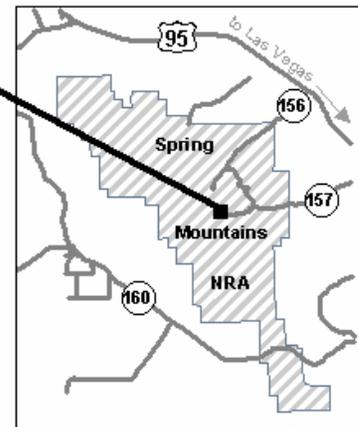
**MAP 3: ALTERNATIVE ACTION**  
**Upper Kyle**  
**Trailhead Improvement Project**

**Humboldt-Toiyabe National Forest**  
**Spring Mountains National Recreation Area**

Las Vegas, Nevada



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## **Alternatives Considered but Eliminated from Detailed Analysis**

### **Closing both the Mary Jane and Ski Tow parking areas and establishing a larger parking area in the Trail Canyon Wash**

Closing the Mary Jane Falls parking area was considered but eliminated from detailed study because building a parking area in the Trail Canyon location large enough to accommodate the demand from the Mary Jane Falls and the Old Ski Tow areas would require disturbing three additional acres within the biodiversity hotspot.

### **Paving the Echo Trail parking area and adding a restroom**

Improvement of the Echo Trailhead was eliminated because Echo Trailhead is outside the project area.

### **Paving only the Mary Jane Falls and Trails Canyon parking areas with no additional restroom facilities**

This alternative was eliminated because it does not meet the need for updated and additional restroom facilities.

### **Flush Restrooms**

Flush restrooms were considered but eliminated because leach fields could contaminate well water in the area that furnishes water to Kyle Canyon residents.

### **Adding a helicopter landing area and safe area for fire at the Mary Jane Falls parking area**

This alternative was eliminated because the parking area at Mary Jane Falls did not have an area large enough or flat enough for helicopter landing. The parking area would need to be three times the current size and clearing the parking for helicopter landings would be difficult.

## **Mitigation Measures**

- Use Best Management Practices (BMPs) (FSH 2509.22) with all action alternatives where ground-disturbing activities occur. BMPs would be applied to protect soil, water, vegetation resources, provide weed control, and dust reduction where construction activities occur.
- Provide exits from trenches (drop in branches) or slope the ends of trenches for all wildlife (especially for Palmer's chipmunks and reptiles) if the trenches are left exposed overnight. Backfill trenches as soon as possible.
- Revegetate and restore under-story at appropriate locations within developed recreation areas and new administrative sites consistent with defensible space (USFS 1986, 1996). Where possible, use temporary barriers at locations where revegetation efforts are occurring.
- Preserve butterfly host plants where possible, especially *Lupinus sp.*, *Chaenactis sp.*, and *Chrysothamnus sp.* Avoid creating any conditions which might unnaturally attract butterflies to the construction site and cause mortality, e.g. creation of pools of water.



- If implementation occurs between July 15 and August 15, conduct nest surveys for neotropical migratory birds and avoid all nests found by a set distance as recommended by the staff biologist, until fledging occurs
- Commence surveys for goshawks and flammulated owls before project implementation. Avoid nest sites until fledging occurs.

**Comparison of Alternatives**

Table 4 is a comparison of the potential environmental consequences of the alternatives within the project area and the area of impact.

**Table 4. Comparison of Alternatives and Potential Environmental Consequences**

Resource	No Action	Proposed Action	Alternative Action
<b>Biodiversity Hotspots</b>	Approximately four to five acres would continue to be impacted in the developed areas; parking areas remain unsuitable for species use.	Surrounding acres less impacted by trash and other human impacts. Paving of approximately four acres at Mary Jane and Trail Canyon results in no change of acreage of biodiversity hotspots disturbed since they occur in areas already heavily used. Some user defined trails would be reclaimed.	Surrounding acres less impacted by trash and other human impacts. Leaving the parking areas at Mary Jane and Trail Canyon unpaved would result in no change in the acreage in biodiversity hotspots disturbed since they occur in areas already heavily used. One acre rehabilitated, along with dispersed campsites and user defined trails. Net gain of approximately one acre to potential habitat base in the hotspot.
<b>T&amp;E Species</b>	No effect	No effect	No effect
<b>Wildlife - sensitive species of concern</b>	May impact species, but not likely to lead to a trend toward listing	May impact, species but not likely to lead to a trend toward listing	May impact, species but not likely to lead to a trend toward listing
<b>Plant - sensitive species of concern</b>	May impact species, but not likely to lead to a trend toward listing	May impact species, but not likely to lead to a trend toward listing	May impact species, but not likely to lead to a trend toward listing



Resource	No Action	Proposed Action	Alternative Action
<b>Soil and Water</b>	Damaging impacts on soil resources continue to increase as recreation use increases.	Impacts reduced as offsite vehicle use is eliminated. Paving reduces infiltration capacity in floodplain and surface roughness which increases the velocity of flood flows and erosive power.	Impacts reduced as offsite vehicle use is eliminated Rehabilitating Ski Tow would increase infiltration capacity at that site and improve overall site productivity. Aggregate surface would allow infiltration.
<b>Air Quality</b>	Generation of fugitive dust from vehicle traffic.	Fugitive dust significantly reduced.	Reduced fugitive dust generated from aggregate base material as compared to native surface.
<b>Heritage Resources</b>	No Adverse Effect to Old Ski Tow area [site 26CK6636]	No Adverse Effect to Old Ski Tow area [site 26CK6636]	No Adverse Effect to Old Ski Tow area [site 26CK6636]
<b>Recreation</b>	Parking, trash, sanitation continues to be a problem. User defined trails continue to be created. Safety not improved. No additional visitor information provided.	User experience is improved at all three trailheads. Paved areas improve access and parking area flow. New toilets improve sanitation. Traditional dispersed camping continues. Safety improved. Additional visitor information provided.	Old Ski Tow is closed displacing users at that location. Trailhead user experience is similar to the No Action since parking areas at Mary Jane and Trail Canyon are not be delineated. Sanitation would not be improved in the Trail Canyon Area. Over night camping area closure displaces users. Equestrians would need to use Mary Jane for loading and unloading horses, however the unpaved surface of the Mary Jane Parking Area would suit that need.

## ENVIRONMENTAL CONSEQUENCES

### Biodiversity Hotspots

Biodiversity hotspots were identified to demarcate the areas in the Spring Mountains where there is both a high diversity of endemic plants and wildlife species, high value plant and wildlife habitat, and a high risk to the species and habitat from human activity (USFS 1998). The Upper



Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment

Date: 6/04



Kyle Very High Priority Biodiversity Hotspot area encompasses 2,714 acres and provides high quality habitat for 13 plant species of concern and 11 wildlife species of concern as well as riparian canyons and spring sources (Big Fall, Little Falls, Mary Jane, Maize, and two unnamed springs) (TNC 1994). Very high priority hotspots were selected because they have the greatest numbers of species and habitats, the highest degree of vulnerability to impacts, and a high level of existing and potential conflicts with recreation (TNC 1994). Within the fourteen acre project area currently, the developed areas are heavily disturbed. Combined, the three sites (Mary Jane Trailhead, Trail Canyon Trailhead, and Old Ski Tow parking areas) occupy approximately four acres of the biodiversity hotspot with native surface parking areas. The vegetated area surrounding these parking areas is also disturbed but to a lesser extent than the parking area.

**No Action:** Under this alternative, vehicles at the three parking areas would continue to use the full extent of native surface parking areas and, as demand increases, the parking areas would be extended by recreationists taking advantage of adjacent flat areas. As a result intact and functioning sensitive species habitat adjacent to the three parking areas would be impacted through compaction, and removal of vegetation. Dispersed camping would continue in all three areas and, as demand increases, the number of dispersed sites would increase impacting intact and functioning sensitive species habitat within the project area. Associated with that would be the increase in user defined trails from parking areas to the dispersed sites. The long term result would decline in the amount and quality of intact habitat within the project area.

Effects to the biodiversity hotspot from the No Action Alternative would result from the everyday use of the area from compaction from vehicles and creation of new user-defined trails through sensitive species habitat. Noise and dust from vehicles would incrementally result in the degradation of the suitability of the habitat for occupation by sensitive species within the hotspot. The area of increased disturbance is not expected to expand beyond the project area (14 acres) boundaries because of the surrounding steep terrain.

**Proposed Action:** Under this alternative about four acres would be directly impacted by construction activities resulting in a loss of habitat in the areas paved. Dispersed camping in the area would still occur and is likely to increase over time, disturbing un-impacted habitat as new dispersed camping sites are created. This is likely to reduce the suitability of sensitive species habitat, as well as the biodiversity hotspot total acres over time. With the addition of fencing around the parking areas, and reclamation of many of the user defined trails, cross country travel may decrease within the project area and habitat in those area could rebound.

**Alternative Action:** With the closing of Old Ski Tow parking area, the dispersed campsites, and most of the user designated trails approximately two acres of the project area would be rehabilitated. Fencing would limit the size of the parking areas at Mary Jane and Trail Canyon within the designated footprint and limit future cross country travel. Sensitive species habitat within the 14 acre project area would have an opportunity to recover as sensitive plants and animals reestablish in the rehabilitated areas.

**Cumulative Effects:** Presently, approximately 345 acres within the hotspot are impacted by developments such as roads, utility corridors, subdivisions, and recreation use. These uses have and will continue to impact sensitive species and species of concern habitat in this biodiversity hotspot. It is unknown how much of this development has occurred in the area since the hotspot was identified. Since most of the developments, including the trailhead facilities at Upper Kyle predate the establishment of the biodiversity hotspot it is assumed that



the amount of new disturbance in the hotspot low. However, growth and development in the area does diminish the size of the biodiversity hotspot and its capability to maintain the qualities and diversity of species that it was recognized as having. This growth has resulted in an increase in effects to the hotspot from dust, noise, litter, trampling, and compaction, in the areas surrounding developed sites.

The most recent decision the Forest made which increases this disturbance is the approval for the Las Vegas Valley Water Authority to develop a wellhead and a 300,000-gallon water reservoir in Trail Canyon. The Echo View Reservoir Project will impact one acre of previously undisturbed land in the biodiversity hotspot. A decision was also recently made to restore the Kyle Recreation Vehicle Overflow parking area in Kyle Canyon. Restoration of this site to mimic the surrounding natural vegetation would return approximately three acres to habitat base resulting in a gain to the biodiversity hotspot of approximately two acres. This site is located in a biodiversity hotspot lower in Kyle Canyon.

In the near future work is proposed to improve/update the recreation facilities at the Cathedral Rock day use area. A detailed proposed action is not available at this time, however given that this project is also located in the biodiversity hotspot efforts would be made to minimize new disturbance to potential species habitat.

The current project would not increase the area within the biodiversity hotspot that has already been impacted by use or development. The project is located in an area that has been used for recreation activities since the Old Ski Tow area was opened in the 1930's and has been identified as an area where sensitive species habitat is degraded. Paving the current native surface parking areas that are devoid of vegetation would not decrease the present productivity of the undisturbed areas of the hotspot, but would eliminate future productivity potential at the parking area sites. If a decision is made in the future, the pavement could be removed, the ground ripped to reduce soil compaction, and the area rehabilitated to allow for the return of the site to the potential habitat base within the hotspot. Paving the parking areas would not result in an irreversible reduction in the size or function, of the biodiversity hotspot.

## Wildlife Species

Forest Service R4 sensitive animal species that might be found within in the biodiversity hotspot include northern goshawk (*Accipiter gentilis*), flammulated owl (*Otus flammeolus*), and pale Townsend's big-eared bat (*Corynorhinus townsendii pallescens*). The flammulated owl and the goshawk are both documented as being within the canyon confines (Arsenault 2002, Hundt pers. comm.). There is the potential for nesting habitat, as well as roosting and foraging habitat for both species of birds (NatureServe 2004). The Townsend's bat would not be expected to roost or have maternity colonies within the analysis area as most cave sites are further down or well away from the site (the proposed project boundaries and within ¼ mile of proposed activities), but it is known to forage within the canyon confines (O'Farrell 2002). MSHCP "covered" (highest management priority) animal species that would be expected to be present within the analysis area include:

- Flammulated owl
- Long-eared myotis (*Myotis evotis*),
- Palmer's chipmunk (*Tamias palmeri*),
- Morand's checkerspot (*Euphydryas anicia*)
- Northern goshawk
- Long-legged myotis (*Myotis volans*),
- Silver-haired bat (*Lasionycteris noctivagans*),
- Carole's silverspot (*Speyeria zerene*)



- *morandi*
- Spring Mountains comma skipper (*Hesperia comma mojavnensis*),
- Nevada admiral (*Limenitis weidemeyerii nevadae*),
- *carolae*).
- Spring Mountains icarioides blue (*Icaricia icarioides austinorum*)
- Speckled rattlesnake (*Crotalus mitchelli*),

All of the above species, except for the speckled rattlesnake, have been recorded within the proposed project area (MSHCP 2000; USFS GIS database, 2004; Boyd 1999, O'Farrell, 2002).

### Potentially Affected Species

**The flammulated owl and the goshawk** are both FS sensitive species and the flammulated owl has been documented within ¼ mile of the Mary Jane Falls parking area (Arsenault, 2002). Foraging and suitable nesting habitat occurs adjacent to the proposed parking sites for both species, and within ½ mile of the proposed project area. These species might be impacted during proposed activities, and by continued recreational use adjacent to the site.

**Special status bat species** include pale Townsend's big-eared bat (sensitive), silver-haired bat (covered), long-eared myotis, and long-legged myotis (both covered). These species, except for the silver-haired bat are recorded as foraging within the canyon and could be affected by recreation associated with the proposed project activities.

**Palmer's chipmunk** (*Tamias palmeri*) is an endemic mammal species that is managed by the Spring Mountains NRA as it is a Species of Concern listed by the U.S. Fish and Wildlife Service (USFWS File No. 2002.-5-02-SP-517), and is designated as a "covered" species, identified within the MSHCP and CA. It is also identified by the Forest as a Management Indicator Species (MIS). The presence of this species has been recorded in the project area (Tomlinson, 2001) and potential habitat exists adjacent to all proposed project sites. Effects of recreation upon this species are little known, and are primarily related to damage to habitat, cover, and food seed sources by crushing or removal of vegetation, attack by abandoned or free roving pets, and harm due to vehicle mishaps (MSHCP, 2000). During construction, they may fall into uncovered trenches or be inadvertently run over by vehicles associated with construction activities.

**The Nevada admiral, Spring Mountains icarioides blue, Spring Mountains comma skipper, Morand's checkerspot, and Carole's silverspot** have all been documented both above and below the proposed project site. These species utilize host plants that are found adjacent to the proposed project area. The icarioides blue is known to utilize puddles formed after rains. The checkerspot is highly mobile throughout the area and potentially utilizes rubber rabbit brush (*Chrysothamnus nauseosus*). This plant is found growing within parking areas as well as adjacent to all sites and within the Mary Jane, as well as within the wash area south of the parking areas. Construction activities might damage or kill individuals of butterflies and their host plants.

**Impacts to the speckled rattlesnake** as a result of construction are not expected because suitable reptile habitat is lacking at the proposed site. Mitigation measures would prevent direct harm to this species during these activities, if it should enter the area.



**Mixed Conifer Community:** For all actions, except for “No Action”, removal of approximately 4 acres out of 37,054 acres of Mixed Conifer habitat would be minimal compared to the overall acreages. Natural recovery and habitat restoration efforts would return habitat as much as possible to pre-impacted condition over time. The analysis area would be less impacted by human waste, trash, soil compaction, and would result in improvement of this plant community type, over time.

**No Action** Suitable habitat for the above mentioned species presently exists adjacent to the Mary Jane Trailhead, Trail Canyon Trailhead, and Old Ski Tow parking areas. The designated parking areas are no longer suitable for permanent occupation by any of the species, but the area contains a few surviving shrubby plants that may be occasionally utilized by butterflies and small mammals for cover and nectar sources.

**Effects upon all species** under the no action alternative, habitat and species located within and adjacent to the parking areas would continue to be negatively affected by activities resulting from people parking in flat areas adjacent to the designated parking areas and by dispersed camping and hiking activities occurring within suitable habitat adjacent to parking sites. Actions affecting habitat and species include soil compaction from hiking, camping and driving outside designated areas; and vegetation degradation in the form of root damage caused by compaction, by direct removal of vegetation and use of shrubs and down wood for campfires, and smashing/crushing vegetation. Continuation of these actions would result in the decrease of habitat quality, impacting the amount of available suitable foraging and roosting habitat for two Forest Service sensitive species over time. Expansion is expected to be incremental and not to exceed the boundaries of the 14 acre project area because of hill slope and other topographic features.

#### **Proposed Action:**

**Impacts to Bat Species:** Direct effects of construction on individual bats would not be expected because the bats are active at night when construction activity is halted, the construction area lacks potentially important hibernating, maternity, or mine roost sites and water resources, and the proposed project site contains no suitable foraging habitat. Direct effects to all bat species would occur as a result of the removal of 4 acres of potential habitat from the biological hotspot which would be paved instead of left as a native surface parking area. While heavily impacted the present site still has the potential to be converted back to foraging habitat. Paving the site would result in the removal of approximately 4 acres of potential habitat, contributing overall to the continuing reduction of foraging habitat for bats within the canyon by recreation, home building and the associated service industry that goes with these activities.

**Impacts to Palmer’s chipmunk** include the removal of approximately 4 acres heavily impacted habitat, (no denning sites and little cover is found within the parking areas); this amount is small compared to overall similar habitat utilized by the species. Chipmunks are mobile and able to avoid construction activities; however the potential for direct harm due primarily to entrapment in trenches does exist. The proposed project contains mitigation that branches will be placed in trenches left open overnight to allow individual animals to climb out preventing chipmunks from being trapped in trenches.

**Impacts to flammulated owl and northern goshawk:** Direct effects to these species would occur as a result of the removal of 4 acres of heavily impacted habitat (currently a native surface



parking area) from the biological hotspot which would be converted to a paved parking area with connecting trails. While heavily impacted by use over at least the last 40 years the present site still has the potential to be converted back to foraging habitat. The proposed project activities might cause avoidance of the area by both species within this portion of their territory. Mitigation has been identified which would delay construction activity at this location until after the nesting season to avoid disturbance and potential abandonment. Increased presence of humans earlier in the season at the site, if the recreation facilities are open year round, might cause disruption of breeding activities. Mitigation measures, including implementing the project after July 15 would minimize these effects.

**Impacts to individual butterflies:** Direct effects to these species would occur as a result of the removal of four acres of potential habitat from the biological hotspot that would be converted to a permanent administrative hardened site with connecting trails. This is because the present site still has the potential to be converted back to foraging habitat. The proposed project activity impacts are expected to be minimal for both for adults and for larvae because the four acres of habitat that is proposed for activities are already disturbed and is mostly bare ground, butterflies are mobile and able to avoid construction activities, management actions that are built in to the proposed project will minimize impact to what few nectar and larval plants that area at the site as possible, and the proposed site is small compared to the overall habitat for these species, as many have been recorded within many different habitats within the Spring Mountains range (Boyd and Austin, 1999; Dewberry et al., 2002) and the amount of this type of habitat removal is small.

**Alternative Action:** Effects would be similar to those of the proposed action except as a result of the closure of Old Ski Tow, approximately one acre of habitat would be rehabilitated and returned to the habitat base, benefiting all species mentioned above. In addition, with the implementation of a “no camping” rule, reduction of dispersed camping and restoration of the general area to mimic neighboring undisturbed areas in the vicinity would give this habitat a chance to recover and become part of the habitat base as well. Habitat protection in the form of a “no camping” restriction within the surrounding area would help restore butterfly nectar and larvae plants over some of the presently impacted area that is utilized for this purpose and result in the increase of cover habitat for small mammal and rodent species.

### **Neotropical Migratory Birds**

The Neotropical Migratory Bird Act directs conservation of all nesting Neotropical migratory birds. Bird surveys have been completed in the area since 1953 (O.V. Deming, 1953, Nevada Natural Heritage Program, 2000).

**No Action Alternative:** Current impacts (nest disturbance, habitat degradation, and removal as a result of wood and brush firewood collection) to the nesting habitat would continue as a result of concentrated and dispersed recreation activities in the vicinity of the parking area. Erosional effects would continue to contribute to the decline of potential habitat.

**Proposed Action:** Interpretive signing and parking restrictions should reduce the amount of dispersed hiking between the parking areas, trailheads, and climbing areas. By reducing the creation of user defined trails, suitable species nesting and foraging habitat would be less likely to be degraded. The interpretive signs providing information regarding the sensitive species in the area and the habitat requirements may help protect additional habitat in the area. However, 4 acres of habitat would be removed from the habitat base to a recreation-based management.



Direct impacts to individual neotropical birds as a result of proposed activities are not expected because the construction lacks quality nesting, foraging, or roosting habitat for all species, and nest surveys would be accomplished adjacent to the proposed site and all nests avoided until fledging occurs.

**Alternative Action**, effects would be similar to both the No Action and Proposed Action, except as a result of the closure of Old Ski tow, approximately one acre of habitat would be rehabilitated and returned to the habitat base. In addition, with the reduction of dispersed camping and restoration of the general area to mimic neighboring undisturbed areas in the vicinity would give bird habitat a chance to recover and become part of the land base.

A Biological Evaluation and Specialist Reports have been completed for this project and it was determined that there will be no impact to any other special status wildlife species as a result of the proposed action or other action alternatives.

### Plant Species

There are no threatened or endangered plant species in the project area.

The Spring Mountains NRA is required to treat “sensitive species”, “species of concern”, and “covered species” identified on the following lists as we would a Region 4 Forest sensitive species and address the potential effects to the species:

- Region 4 Humboldt-Toiyabe National Forest Threatened, Endangered, and Sensitive Species
- U.S. Fish and Wildlife Threatened, Endangered, and Sensitive Species
- Conservation Agreement “Species of Concern”
- Clark County Multiple Species Habitat Conservation Plan “covered” species

The table below (Table 5) shows the species and the list that they are identified on that are found in or around the project area.

**Table 5: Sensitive Species list for the project area**

Forest Service R4 sensitive plant species	Clark County Multiple Species Habitat Conservation Plan “covered species”	Conservation Agreement “supplemental list” species:
Charleston rough angelica ( <i>Angelica scabrida</i> )	Clokey paintbrush ( <i>Castilleja martinii</i> var. <i>clokeyi</i> )	Clokey paintbrush ( <i>Castilleja martinii</i> var. <i>clokeyi</i> )
pussytoes ( <i>Antennaria soliceps</i> ),	Clokey thistle ( <i>Cirsium clokeyi</i> )	Clokey thistle ( <i>Cirsium clokeyi</i> )
Jaeger draba ( <i>Draba jaegeri</i> ),	Inch high fleabane ( <i>Erigeron uncialis</i> var. <i>conjugans</i> )	Inch high fleabane ( <i>Erigeron uncialis</i> var. <i>conjugans</i> )
Charleston draba ( <i>Draba paucifructa</i> ),	Hitchcock bladderpod ( <i>Lesquerella hitchcockii</i> )	Hitchcock bladderpod ( <i>Lesquerella hitchcockii</i> )
Nevada willowherb ( <i>Epilobium nevadense</i> ),	Charleston pinewood lousewort ( <i>Pedicularis semibarbata</i> var. <i>nevadense</i> )	Charleston pinewood lousewort ( <i>Pedicularis semibarbata</i> var. <i>nevadense</i> )



Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment

Date: 6/04



	<i>charlestonensis</i> )	<i>charlestonensis</i> )
Charleston goldenbush ( <i>Ericameria compacta</i> ),		
Clokey greasebush ( <i>Glossopetalon clokeyi</i> ),		
Jaeger ivesia ( <i>Ivesia jaegeri</i> ),		
Charleston kittentails ( <i>Synthyris ranunculina</i> ),		

Sensitive Species surveys conducted in the proposed sites centered on the proposed disturbance area and extended out 200 feet into the wash habitat. Additional surveys along some of the user defined trails and in other portions of the project area were also conducted. During these surveys two plant species from the list of 13 were identified in the area. Because the entire area was not surveyed other species may be present in unsurveyed portions of the project area.

The two species identified during surveys were the rough angelica (*Angelica scabrida*) and Charleston goldenbush (*Ericameria compacta*).

**No Action Alternative:** Direct impacts to rough angelica and Charleston goldenbush are likely to occur as a result of cross country travel through occupied habitat. Disturbance of habitat from horse and foot traffic can kill individuals and impact habitat through compaction. Motor vehicles parking on or encroaching into habitat and result in permanent lose of habitat potential. The current use across the project area with the many user defined trails, dispersed camping, and open undefined parking areas can result in damage to both individual plants, and habitat.

**Proposed Action:** Parking areas would be defined and cross-country travel would be restricted. Approximately three acres of potential habitat would be lost as a result of paving the Mary Jane Falls Trailhead parking area and the Trail Canyon Trailhead parking area, but these areas have been disturbed since the 1930s and provide only marginal habitat for rough angelica and Charleston Goldenrod in their current state. Delineating the parking areas would allow potential habitat adjacent to these two parking areas an opportunity to improve.

At Old Ski Tow the parking area would not be paved and the parking area would be delineated using fences, boulders or natural landforms. Potential habitat within the boundaries of the parking area would continue to be impacted. Outside the parking area habitat might be able to recover but dispersed camping in the area and cross-country travel could still impact individuals and habitat. Designating a user defined trail between the three parking areas would help reduce the amount of cross-country travel thereby protecting individuals and habitat. Rehabilitating former user defined trails and signing them to discourage cross-country travel and informing users of the effects of cross-country travel on sensitive habitat could also reduce the effects of these activities.

**Alternative Action:** Direct impacts to rough angelica and Charleston goldenbush would be similar to those described under the proposed action. The parking areas at Mary Jane Falls and Trail Canyon would have an aggregate base resulting in approximately three acres of lost potential habitat. The connector trail would funnel users away from occupied habitat but potential habitat would be lost due to the trail alignment.



## Upper Kyle Canyon Trailhead Improvement Project Environmental Assessment

Date: 6/04



Closing Old Ski Tow, closing the surrounding area to dispersed camping, and rehabilitating the parking area and dispersed campsites would result in over one acre of marginal habitat being returned to the habitat base. Overtime, these rehabilitated areas could become occupied habitat for sensitive species in the area.

### **Cumulative Effects**

The wash system along the Mary Jane Trailhead and parking area, continues through the Old Ski Tow parking area and access road, and joins with the wash system that comes down from Trail Canyon. Both washes have rough angelica populations, with the major populations in the Mary Jane Wash system. At the junction of these washes, their natural flows, floods, and gravel deposits, have been greatly altered over many decades by the construction of State Highway 157 and Echo Road, the development of the three parking areas, the development of the Old Ski Tow in the 1930's, the Mary Jane Falls USFS campground and its abandonment due to flooding in the 1990s, and the development of the SNWA water wells along the state highway and in the Mary Jane Falls parking area. Other impacts to the wash system processes and rough angelica have accrued down stream where the wash goes through Old Town, immediately beside Highway 157, and through USFS administrative facilities and the Fletcher Campgrounds.

The cumulative changes to the wash processes and the rough angelica and Charleston goldenbush populations cannot be specifically measured because no surveys were done before or during most of these earlier changes. Therefore, we can surmise that the integrity of the wash system processes have degraded these plant populations.

It is known however, there are approximately 152 acres of wash habitat in the Kyle Canyon wash system. As described above much of this habitat has been disturbed by road construction, parking areas, and residential construction. While this project would result in removing approximately three acres from the habitat potentially available it is habitat that has been disturbed previously and neither of the proposed actions would increase the area of disturbed habitat.

### **Soil and Water**

Soils in the Mary Jane, Ski Tow, and Trail canyon area are coarse grained limestone and dolomite alluvium with high amounts of gravel, sand, and silt. Soils are well-drained with moderate to good infiltration. The existing Ski Tow and Mary Jane parking areas have reduced infiltration due to compaction but have relatively flat slopes. Therefore, the risk from increased storm runoff and subsequent erosion is low to moderate. According to the "Soil Hydrologic Reconnaissance – Las Vegas Ranger District" (Cole and Thompson 1970), the Mary Jane and Ski Tow parking areas are in the historic floodplain. The main channel is roughly in the center of the canyon and parallel to the south side of Forest Road 159. The depth to bedrock in Kyle Canyon at Ski Tow locality is approximately 210 feet (USGS, 1985).

The risk of floods that could cause damage is low. One reason for this is that the dry, highly permeable, and deep alluvium will absorb a large portion of the water during the summer. The main seasons of concern are during the summer thunderstorm season where the flooding is more localized due to the isolated nature of the storm. Winter rain on snow events are rarer but more devastating due to the large geographic area the floodwaters can originate from and the ground is frozen preventing the water to infiltrate into the soil (Jameson, 1980).



Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment  
Date: 6/04



Both Mary Jane and Ski Tow are located in the 100 year flood plain. Ski Tow is located next to the active channel and is more prone to flooding while Mary Jane is located farther away from the channel and topographically higher in the floodplain. Paving those areas would reduce roughness and infiltration capacity in the floodplain. If flooding does occur, the floodplain will still attenuate high flows and sediment will be deposited. Due to paving, flows will be faster, increasing erosion potential; especially as the storm water drains into its main channel.

The road accessing Ski Tow crosses the main Kyle Wash channel. Designing a low water crossing would minimize erosion and road damage if a flood occurred. The Trail Canyon parking area is located along the edge of Trail Canyon alluvial fan. Widening the parking area will narrow the width of the floodplain and increase the speed and force of floodwaters that may occur. Erosion along the edge of the parking area might also occur. The reduction of roughness and infiltration capacity and increased flooding speed is low because the sizes of the areas paved are small (approximately 2.5 acres paved out of the approximate 15 acres of the project area Trail Canyon Kyle Wash confluence). Channeling of floodwaters or runoff may result in increased erosion and gully formation.

**Under the No Action** alternative impacts to soil from compaction and resource degradation will continue to occur. **Cumulatively** over time these impacts are expected to increase as use of the area increases.

**Under the Proposed Action** alternative the paved parking areas and access roads at Mary Jane Falls and Trail canyon, would increase runoff during high intensity rainstorms. Motorized vehicle traffic would no longer occur outside of the paved area at Mary Jane, Trail Canyon and Old Ski Tow; therefore, there would be an increase in effective soil surface cover from increased vegetation density and litter. This would be due to fewer acres compacted by vehicles outside the parking areas and off the access roads. Correspondingly, there would be increased infiltration rates. The potential for this increase would be reduced by designing the Mary Jane parking area and access road and the Trail canyon parking area to dissipate the energy of the storm water runoff so that it does not cause slope or gully erosion outside of the paved areas, i.e., gravel buffer strips. **Cumulatively** soil health would improve outside of developed parking areas. However, the risk of resource damage from floods increases due to paving.

**Under the Alternative Action** alternative effects from using an aggregate base on the Mary Jane parking area, connecting access road, and the Trail Canyon parking area would improve the area. Using an aggregate base would stabilize the soils and reduce the amount of sediment from the road and parking lots during flooding. While sedimentations would still occur, proper ditch and crossdrain design and placement should minimize these effects. Also, it would allow for infiltration and provide roughness to moderate flow velocity compared with no infiltration and roughness on a paved parking area. A light colored base aggregate would be a cooler than black asphalt. The combination of aggregate parking areas, and closing and rehabilitating Ski Tow area would more than double the available infiltration capacity above what would occur if the parking lot was paved.

**Cumulatively**, closing Ski Tow to both parking and dispersed camping there would increase infiltration rates and decrease run-off due to an increase in effective soil surface cover from



vegetation and litter on about 2.5 acres. Closing the area around Mary Jane to dispersed camping would have similar results.

## ***Air Quality***

The project area is located within the Clark County PM-<sup>10</sup> Nonattainment Area in Hydrographic Basin 212. For projects within this Basin constructional construction work is done in compliance with Best Management Practices and contracts include dust control provisions.

Currently, the three trailheads and the Mary Jane Falls and Old Ski Tow access roads are dirt and do not have hardened surfaces. When vehicles are driven on these roads, approximately 3.3 acres, the soil is disturbed and some dust becomes airborne. The amount of dust is determined by the type and speed of the vehicle.

**Under the No Action** alternative direct and indirect effects on air quality include soil disturbance and airborne dust continuing to be generated from approximately 3.3 acres as visitors drive their vehicles on the three dirt trailheads and the Mary Jane Falls and Old Ski Tow non-surfaced access roads.

**Under the Proposed Action** alternative there would be beneficial direct and indirect effects on air quality, as vehicles would be driven only on surfaced trailheads and access roads. Driving and parking on the approximately 3.3 acres of non-surfaced area would be restricted, which would result in reduced airborne dust.

**Under the Alternative Action** alternative direct and indirect effects would still generate airborne dust, but using an aggregate base would reduce the amount of dust generated by vehicle traffic. Closing and rehabilitating the old Ski Tow parking area and access road, would reduce fugitive dust from those areas to minimal amounts.

## **Heritage Resources**

A total of 25 acres, in the areas of potential effect, were inventoried and revealed no new historic properties except for the previously recorded and evaluated Mt. Charleston Ski Area site (Old Ski Tow) (26CK6636). This historic facility and its components have been determined eligible for listing on the National Register of Historic Places under Criteria A and C. It was the first recreational snow facility built by the Civilian Conservation Corps circa 1937 under direction of the U.S. Forest Service and is also the oldest ski tow built in Nevada that still retains integrity. Ski tow led to the intensive recreational emphasis of the Spring Mountains and its subsequent designation as a National Recreation Area. This ski tow facility ceased operation in 1948 when snow play was more formally developed in Lee Canyon. The base of the old ski slope is presumed to have been the unpaved parking area for this facility; although, how it was specifically designed is unknown as skiers would have needed space at the bottom to stop. It has been used as an informal parking, picnicking, camping and snow play area since 1948.

Under the **No Action** alternative, the contributing elements to National Register-eligible site 26CK6636 would remain in their present form. The current recreation activities do not appear to be adversely affecting the structural features. This would be considered a No Adverse Effect alternative.



Under the **Proposed Action**, the proposed improvements would not detract from the actual contributing elements of National Register-eligible site 26CK6636 (the Mt. Charleston Ski Area). The current parking area would retain its original function and location; and none of the original structural components such as the ski tow support poles, drive pulley and ski lift anchor structures, concrete pad for the generator, or ski slope would be affected. The Proposed Action would be considered a *No Adverse Effect* project.

Under the **Alternative Action**, the proposed naturalization of the current parking area that is within National Register-eligible site 26CK6636 (the Mt. Charleston Ski Area) would include reclaiming the vehicular-hardened native surface and access road to allow revegetation of native species and prohibit vehicle use and camping. As this Action would not affect the property's structural components and the setting would not be adversely affected, this Alternative Action would be considered a *No Adverse Effect* to the site's overall integrity.

## Recreation Opportunity Access and Quality of Experience

Upper Kyle Canyon is an increasingly popular area for a variety of outdoor recreation activities including hiking, rock climbing, and horseback riding. Currently, the three locations that provide parking and access to trails are Mary Jane Falls Trailhead, Trail Canyon Trailhead, and Old Ski Tow parking area. All three are native surface parking areas that have no delineated parking stalls and few amenities. Because of the random parking patterns, the parking areas are not used to their full capacity during high use. When the parking areas are full, people park their vehicles on the shoulder of adjacent roads, restricting traffic flow. Access to the Trail Canyon Trailhead is via a paved road. Access to the Mary Jane Falls Trailhead and Old Ski Tow is via a native surface road.

Due to the lack of Forest System Trails connecting the three parking areas, visitors create or follow existing "user-created" trails between the trailheads.

The Upper Kyle area is frequently used for overnight dispersed camping (outside of developed campgrounds). Forest Service Law Enforcement Officers have observed that people tend to camp in or near their vehicles or recreational vehicles. To a lesser degree, backpackers who have hiked up the trail to camp, leave their vehicles in the parking areas overnight. During a typical summer weekend, Law Enforcement Officers have observed an average of 3 to 7 vehicles parked overnight in the Upper Kyle project area. On a busy summer weekend night, an average of 8 to 12 vehicles have been observed.

During the winter months, use patterns in the Upper Kyle project area change significantly from hiking, rock climbing, and horseback riding to winter recreation activities such as sledding and cross-country skiing. Law Enforcement Officers have observed as many as 70 vehicles parked at one time in this general area during the winter. The high number of people and vehicles in this limited space creates safety hazards, both on the roads and at the trailheads.

A two-unit vault toilet and a 4-yard dumpster located at Mary Jane Falls Trailhead are the only comfort station (toilet) and dumpster in the Upper Kyle project area. There are no other sanitation facilities in this area outside of the developed campgrounds.

The current facilities do not meet the requirements of the Americans with Disabilities Act and Forest Service minimum standard of accessibility for people with disabilities. The current facilities do not meet these standards.



Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment  
Date: 6/04



**Under the No Action** alternative, use at the three parking areas will continue as described above. Under the No Action Alternative, vehicles will continue to park in less than optimal patterns, resulting in fewer vehicles utilizing the sites, more vehicles parking along roadways, or vehicles being blocked by other vehicles in the parking areas. Vehicles along the roadways would create safety hazards and inconvenience local residents. Some visitors may not be able to access the trailheads when parking areas are full.

**Under the No Action Alternative**, user-created trails would continue to be developed and used to access adjacent areas, spreading recreation use throughout the project area. Dispersed camping would still occur around the trailheads, adding to the spread of recreation use throughout the project area. Equestrian riders with their larger vehicles and trailers would continue to use the Mary Jane Falls and Ski Tow parking areas to access the Echo and Cathedral Rock Trails.

The No Action Alternative would result in safety problems from inefficient or over use of the trailheads, and continued sanitation problems due to lack of toilet facilities and trash receptacles. Better environmental education and public information notices at the existing trailhead kiosks may slightly improve health and safety concerns in the project area. The existing facilities would not meet standards of accessibility for persons with disabilities.

**The Proposed Action**, would provide for more vehicle parking at the three parking areas by designating parking spaces. Safety hazards would be reduced as fewer vehicles would be parked along roadways and vehicles would not be blocked in. During the winter months when the Old Ski Tow parking area is closed to vehicles, visitors would have to park at Mary Jane Falls or Trail Canyon parking areas and walk to the Old Ski Tow area and beyond.

Equestrian riders with their larger vehicles and trailers would be able to use the Mary Jane Falls and Ski Tow parking areas more efficiently. However, equestrian use at the Mary Jane Falls may decrease due to paving. Dispersed camping would continue to occur in the project area, but fencing will limit driving outside the parking areas. Fencing the parking areas will also concentrate hikers and horseback riders within the parking areas and on designated trails. A new connector trail linking the trailheads would provide visitors with the ability to move between these areas easily and to access the trail they desire.

The Proposed Action would improve the quality of the recreation experience in the project area because of better parking, a designated connector trail, and improved facilities. However, winter recreation opportunities would be more limited by closing Old Ski Tow during the winter months. More and higher quality toilets at two parking areas, along with trash receptacles at all three parking areas would reduce existing sanitation problems. Environmental education and public information at all three trailheads would help reduce health and safety problems.

The Proposed Action would better meet the needs of people with disabilities by accessible toilet facilities and designated parking spaces in parking areas.

**With the Alternative Action**, the Trail Canyon and Mary Jane Falls parking areas would continue to be underutilized without delineated parking spaces. Delineating parking aisles would be problematic due to plowing and maintenance. The rehabilitation of Old Ski Tow would decrease the number of parking spaces available throughout the year in the Upper Kyle area as



compared to the other alternatives. Without the Old Ski Tow parking area and without equestrian parking at Cathedral Rock, equestrian users with their larger vehicles and trailers would be excluded from Upper Kyle Canyon when the Mary Jane parking area is full. Safety problems related to blocked vehicles and vehicles parked along roadways would increase due to fewer parking areas.

A new connector trail linking the trailheads would provide visitors the ability to move between these areas easily and to access the trail they desire. There would be no overnight camping in the Upper Kyle project area, resulting in perhaps more people camping in the Kyle Canyon developed campgrounds, other dispersed camping areas, or creation of new dispersed camping areas. Recreational use would be more concentrated in the Upper Kyle project area than currently exists by excluding overnight use, fencing the parking areas, and directing hikers and horseback riders to designated trails.

The quality of the recreation experience in the project area would decrease as compared to the No Action and Proposed Action Alternatives because of less parking and no dispersed camping. However, the improved facilities, a new connector trail, and fewer people as a result of less parking and no camping would be beneficial to some people's experience. Winter recreation opportunities would be the same as under the Proposed Action.

The Alternative Action would result in safety problems from inefficient or over use of the trailheads, and continued sanitation problems due to lack of toilet facilities and trash receptacles as compared to the Proposed Action. Better environmental education and public information notices at the trailhead kiosks may slightly improve health and safety concerns in the project area. The improved toilet facility at Mary Jane Falls parking area would meet standards of accessibility for persons with disabilities, but the lack of designated parking spaces at the Mary Jane Falls or Trail Canyon parking areas would not meet the standards.

### Environmental Justice

Executive Order 12898, dated February 11, 1994 established the requirement to address environmental justice concerns within the context of Agency operations. As part of the National Environmental Policy Act (NEPA) process, agencies are required to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income communities.

**Under the alternatives** there would be no adverse human health or environmental effects on minority and low-income communities. All areas would have some level of free access and continue to serve as access points to trails and recreation spots that are open to all publics year round.

### Effects Relative to Significance Factors

#### 1. Beneficial and Adverse Effects of the Proposed Action.

Beneficial	Adverse
Less potential for habitat disturbance outside parking areas.	Paving approximately 4 acres results in long-term loss of habitat potential
Benefits to Soil and Water in areas where motor vehicles are prohibited.	Some mortality of individual plant and animals is expected.
Reduced proliferation of user	Increased effects to downstream areas



Beneficial	Adverse
defined trails.	from runoff
Continued dispersed camping	Continued dispersed camping
Improved sanitation	Reduced infiltration in parking areas
Developed and signed connector trail	Loss of ground cover and under story from dispersed use
Improved safety	
Reduced dust	
Increased parking capacity at all three sites	

**2. The Degree to Which the Proposed Action Affects Public Health and Safety.**

Public health and safety would be enhanced with the delineation of parking spaces at the Mary Jane and Trail Canyon Trailheads. Parking on the side of FR 111, and Echo Road, would no longer be needed because of the added number of parking spaces. This reduces the risk of vehicle damage or personal injury. Paving the parking areas and access roads also reduces fugitive dust. Placement of the new vault toilets would improve sanitation across the area.

**3. Unique Characteristics of the Geographic Area.**

This project area is located in and adjacent to the Kyle Wash and the Trail Canyon Wash. Soils in the area are deep and well drained. Paving the parking areas may increase the effects of runoff downstream of the parking areas. The small scale of the project and design elements to slow flows and encourage infiltration would minimize those effects.

**4. The Degree to Which the Effects on the Human Environment are likely to be Controversial.**

The effects on the quality of the human environment are not likely to be highly controversial. There is no known scientific controversy among the experts over the impacts of the project. All inventories and analysis for this project have been conducted and prepared using methods commonly accepted in the scientific community.

**5. The Degree to Which the Possible Effects on the Human Environment Are Highly Uncertain or Involve Unique or Unknown Risks.**

The USFS has considerable experience with the types of activities to be implemented. The effects analysis shows the effects are not uncertain and do not involve unique or unknown risks.

**6. The Degree to Which the Action May Establish a Precedent for Future Actions with Significant Effects or Represent a Decision in Principle About a Future Consideration.**

The action is not likely to establish a precedent for future actions with significant effects, because it is a stand alone decision and as such is not dependent on past or future projects. This project and decision do not obligate analysis or considerations of resources in future projects or adjacent areas.

**7. Whether the Action is Related to Other Actions with Individually Insignificant Effects but Cumulatively Significant Impacts.**



This is a stand alone project that is not related to or dependent on other past or future projects in the area.

8. **The Degree to Which the Action May Adversely Affect Districts, Sites, Highways, Structures, or Objects, Listed in or Eligible for Listing in the National Register of Historic Places, or May Cause Loss or Destruction of Significant Scientific, Cultural, or Historical Resources.** Both of the proposed action alternatives would have a *no adverse effect* to National Register of Historic Places-eligible site 26Ck6636 (the Mt. Charleston Ski Area) in upper Kyle Canyon.
9. **The Degree to Which the Action May Adversely Affect an Endangered or Threatened Species or its Habitat That has Been Determined to Be Critical Under The Endangered Species Act of 1973.** There are no impacts to any listed species or its habitat as a result of the proposed project.
10. **Whether the Action Threatens a Violation of Federal, State, or Local Law or Other Requirements Imposed For the protection of the Environment.**  
The action will not violate Federal, State, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the EA. The action is consistent with the Toiyabe National Forest Land and Resource Management Plan as amended.

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Upper Kyle Canyon Trailhead Improvement Project  
Environmental Assessment  
Date: 6/04



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