



Department of  
Agriculture

Forest  
Service

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## ENVIRONMENTAL ASSESSMENT

### Fourmile Trailhead Improvement Project

**Pagosa Ranger District, San Juan National Forest  
Mineral County, Colorado**

Responsible Official: Jo Bridges, District Ranger

Location: Township 37 North, Range 2 West

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#### Abstract:

This environmental assessment documents the environmental consequences of a proposal to improve the Fourmile Trailhead. The project area is located approximately 12 miles north of the town of Pagosa Springs. The project is within the Pagosa Ranger District, San Juan National Forest, Colorado.

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# **1. INTRODUCTION**

The Forest Service has prepared this Environmental Assessment to document the environmental effects of a proposal to improve the Fourmile Trailhead. This analysis complies with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts of the proposed action and alternatives to the proposed action.

## **1.1. Proposed Action**

The proposed action is to improve the Fourmile Trailhead so that it can accommodate the existing use for both cars and horse trailers and also provide a trailhead toilet.

## **1.2. Need for and Purpose of Action**

The proposed action is needed because:

- the current parking area is not adequate to accommodate existing use especially for horse trailers.
- horse trailers must park alongside the road down from the trailhead which creates a safety hazard for horse users when exposed to car traffic along the road.
- conditions are becoming increasingly unsanitary from improper disposal of human waste.

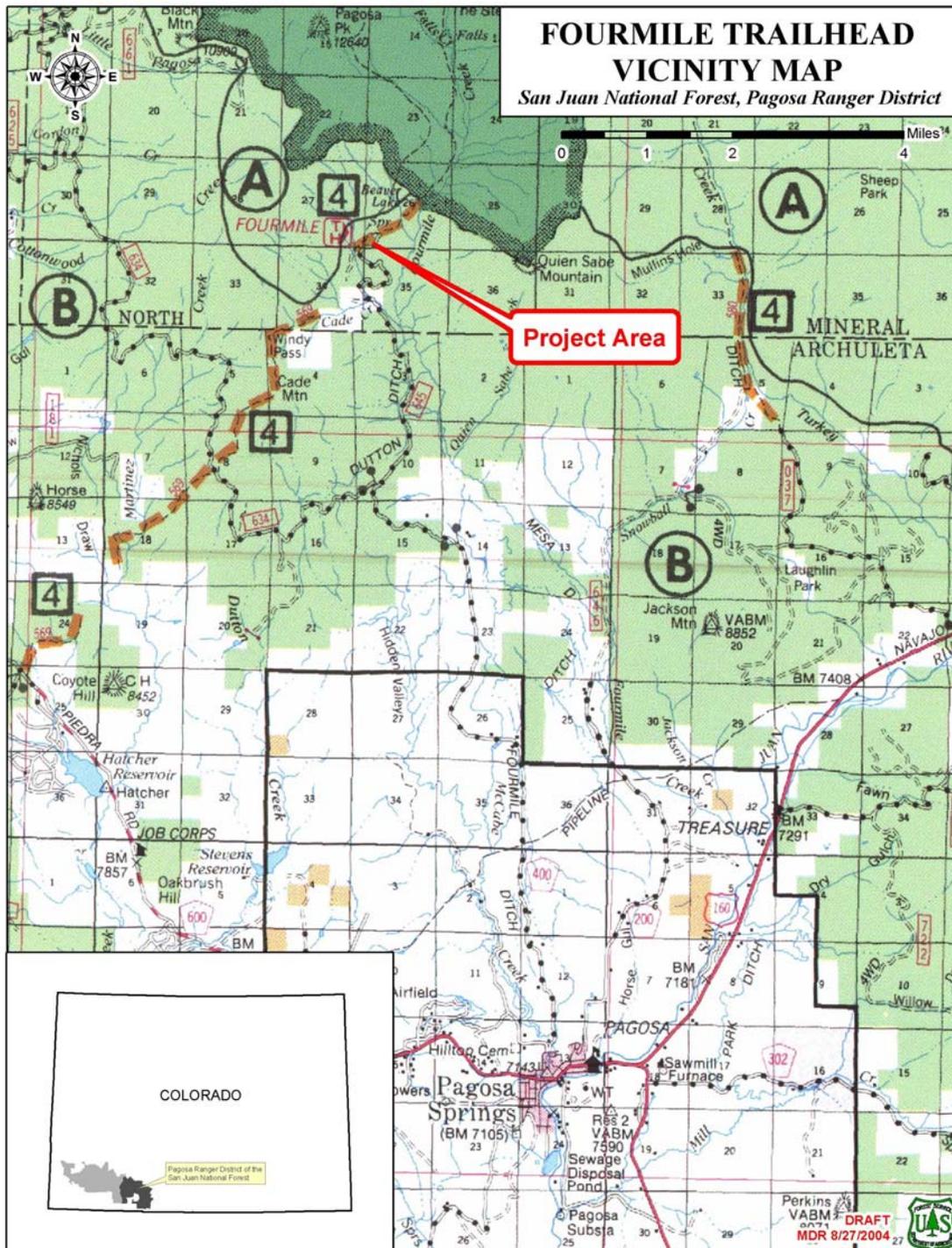
The purposes of the proposed action are to:

- provide for adequate parking areas to accommodate average daily summer capacity for cars and horse trailers.
- provide for horse users' safety
- provide a sanitary facility that allows for the proper disposal of human waste

## **1.3. Analysis area:**

The immediate area impacted by the proposed action and alternatives to the proposed action known as the project area is the same as the analysis area. The project area is located approximately 12 miles north of Pagosa Springs, Colorado at the end of the Fourmile road FSR 645, Township 37 North, Range 2 West, see Figure 1.

Figure 1: Vicinity Map



## **1.4. Forest Plan Consistency**

The analysis documented in this assessment is tiered to the 1983 San Juan National Forest Land (SJNF) and Resource Management Plan (Forest Plan), as amended in 1992, and associated Final Environmental Impact Statement. The Forest Plan guides all natural resource management activities and establishes goals, objectives, management standards, guidelines, and identification of lands suitable for various uses in the SJNF. The Management Area Direction for the project area emphasizes timber fiber production and utilization (7E). Forest Direction for developed recreation in the project area includes facility development adjacent to, or with access to, wilderness areas to compliment wilderness management objectives. Direction for dispersed recreation management in area 7E is found in the Forest Plan on pages III-211 (01) (provide for roaded natural dispersed recreation environment) and III-223 (01) (provide for trails). As such, the developed recreation uses and improvements proposed by this project are consistent with the Forest Plan.

## **1.5. Decision Framework**

Based on the analysis documented in this EA, the San Juan NF Forest Supervisor, the Decision Official, will make the following decision:

- Should the Forest Service improve the Fourmile Trailhead and if so what type of improvements should be made.

## **2. ALTERNATIVES, INCLUDING THE PROPOSED ACTION**

### **2.1. Public Involvement & Issues**

Initial public scoping for this project occurred with notice of the proposed action being published (and made available on the National Forest Service SOPA website) in the San Juan National Forest's Schedule of Proposed Actions (SOPA) March – June & July — Sept. 2004 editions. In addition to this notification, a project information scoping letter was sent to Regional Tribes on April 29 of 2004 and adjacent residents on July 29, 2004. An article describing the project and inviting the public to comment was published in the Pagosa Sun on August 5, 2004. No issues were received during the initial scoping period which ended on August 27, 2004.

### **2.2. Alternatives Considered in Detail**

#### **2.2.1. Alternative 1: No Action**

No improvements would occur at the Fourmile trailhead at this time.

#### **2.2.2. Alternative 2: Construct new trailhead with combined parking for car and horse trailers**

##### **2.2.2.1. Features of Alternative 2**

The existing trailhead would be moved south, down the Fourmile Road approx. 650 ft.. This portion of the road would be rehabilitated except for the trail pathway. See Figure 2 for map of alternative 2.

New Combined Car & Horse Trailer Parking Area:

- Would accommodate 18 cars
- Would accommodate 7 trailers
- Construct new double toilet
- New disturbance area = 0.97 acres
- No new trail construction with portion of abandoned road being used for trail.
- Removal of approximately 27 trees greater than 7.9 inches
- Total disturbance area = 0.97 acres

#### **2.2.3. Alternative 3: Use existing trailhead for car parking, construct new parking area for horse trailers and new horse trail.**

##### **2.2.3.1. Features of Alternative 3**

See Figure 3 for map of alternative 2.

Existing Trailhead Car Parking Area:

- Would accommodate 20 car spaces.
- Construct new single toilet
- Removal of approximately 3 trees

New Horse Trailer Parking Area:

- Would accommodate 7 trailers

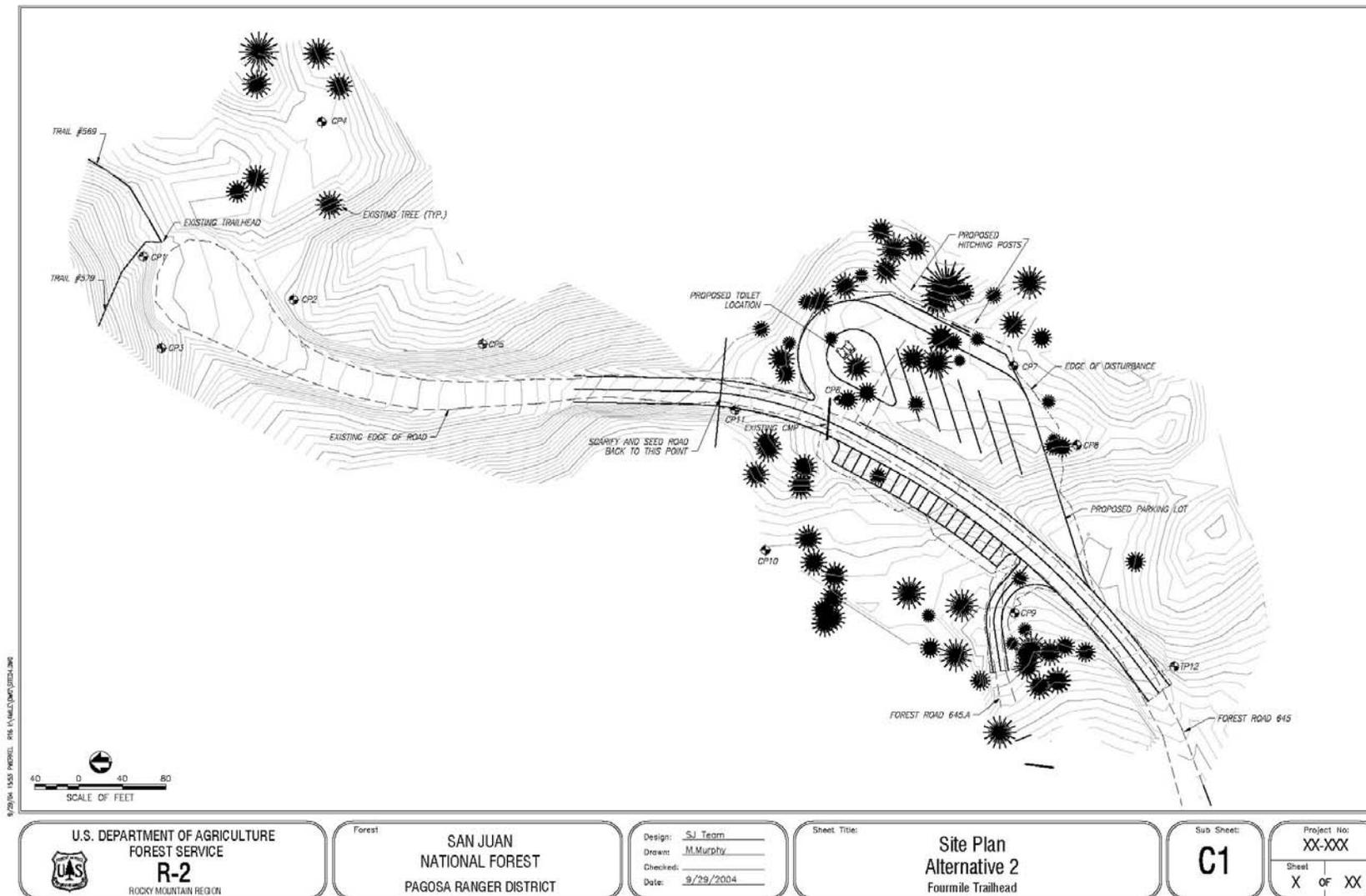
- Construct new single toilet
- New disturbance area = 0.96 acres
- Removal of approximately 27 trees greater than 7.9 inches diameter.

New Horse Trail:

- Length approximately 950 feet
- 2 foot wide tread (actual disturbed soil)
- Clearing width = 8 ft. (brush and tree pruning)
- Clearing height = 10 feet (brush and tree pruning)
- New disturbance area = 0.04 acres
- No large trees removed, there will be some cutting through down logs where they exist across trail, and some cutting of small saplings

Total new disturbance = 1 acre

Figure 2: Alternative 2, Construct new trailhead with combined parking for car and horse trailers







## 2.3. Mitigation Common to Action Alternatives

In addition to protection measures required by law, regulation, policy, or *Forest Plan* direction, mitigation measures are designed to address site specific conditions and are designed to reduce specific environmental impacts.

These mitigation measures have been selected to provide additional detail and guidance for those implementing this project. They are based on over three decades of local project construction experience and field evaluation of their practicality and effectiveness. They have been evaluated by hydrologists, wildlife biologists, ecologists, engineers, project administrators, and other resource specialists.

In addition, the ID Team used the following criteria in identifying and designing mitigation measures. Mitigation should

- reduce impacts to an insignificant level,
- demonstrate effectiveness (in past usage),
- lack controversy about their effectiveness,
- be specific,
- be measurable, and
- be enforceable.

The project manager is the person primarily responsible for monitoring and documenting the implementation and effectiveness of the site-specific mitigation measures identified in this document. The project manager will modify requirements or impose additional ones to remedy observed inadequacies. The project manager will work with specific specialists as needed in the application and effectiveness monitoring of the various mitigation measures. The ID Team will monitor implementation of selected measures by visiting the project area during the active treatment period and post-treatment time, determining where and whether mitigation was appropriately applied and assessing mitigation effectiveness.

### 2.3.1. Vegetation

Ground cover will be restored by revegetation of disturbed areas with a USFS approved seed mix. Under Alternative 2 only, only the abandoned portion of the Fourmile road not used as a trail will be seed the with a grass seed mix.

Noxious weed infestations will be treated prior to the 1<sup>st</sup> year of treatment, and monitor and treat annually thereafter. A noxious weed inventory will be conducted in the Project Area to map new infestations.

Prior to commencement of operations, all off-road equipment will be cleaned and free of soil, seeds, vegetative matter, or other debris that could contain or hold noxious weed seeds.

Forest Service and/or operators will report any new infestations of noxious weeds to the Forest Service noxious weed coordinator to insure that treatment can occur.

### 2.3.2. Watershed

Road drainage and existing contour along borrow ditches, along Fourmile road will be maintained.

### **2.3.3. Soil**

During periods when soils are too wet, construction equipment will not be allowed on land other than gravel roads. Soils are too wet when the soil moisture content exceeds the plastic limit. If soils within six inches of the surface can be rolled into threads that are three millimeters in diameter without breaking or crumbling, they are too wet.

Seed and place erosion blankets on any soil disturbance of slopes greater than 3:1. Installation shall follow manufactures' guidelines.

### **2.3.4. Cultural Resources**

Should any heritage resources be discovered during the course of project implementation, all ground-disturbing activities associated with the project will cease and the District Archeologist and District Ranger will be made aware of the discoveries before proceeding further.

### **2.3.5. Public Safety**

During active construction periods, warning signs will be posted notifying the public of construction activities. Any open trench left at night will be clearly marked and barricaded.

## **3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

### **3.1. Vegetation**

#### **3.1.1. Affected Environment**

The project area is surrounded by previously harvested Engelmann spruce and aspen forests, which were harvested as part of the Quien Sabe timber sale in 1990 (see Figure 4). There is a small wetland west of the project area, but this area will not be impacted by any project activities.

Both Canada thistle and toadflax are present at the existing trailhead. Only Canada thistle was found at the proposed new parking area.

No sensitive plant species were found during surveys of the project area.

#### **3.1.2. Environmental Consequences**

##### **3.1.2.1. *Alternative 1: No Action***

No trailhead improvements would occur under this alternative, so there would be no effects to vegetation.

##### **3.1.2.2. *Alternative 2: New combined car parking and horse trailer parking lot***

The new trailhead would disturb approximately .97 acres and remove 27 trees greater than 7.9 inches dbh. The road that currently runs from the proposed new trailhead to the existing trailhead (approximately 650 feet) will be used as a trail, but the portions of the road not needed for the trail will be obliterated and restored. The restored portions would be seeded with an appropriate seed mix. The ground disturbance and exposure of bare soil caused by trailhead construction will increase the area's susceptibility to noxious weed spread. However, mitigation has been designed that will reduce the

potential spread of noxious weeds, so there is not expected to be any meaningful increase in the amount of noxious weeds in the area.

**Figure 4: Location of New Combined Parking Area**



Since no sensitive species occur in the project area, a determination of no impact was reached for sensitive plant species. Since there are no federally listed threatened or endangered plant species known or suspected to occur on the Pagosa District of the San Juan National Forest, a determination of no effect was reached for threatened and endangered plant species. A biological evaluation for this project has been prepared and is on file at the Pagosa Ranger District Office.

**3.1.2.3. *Alternative 3: Use existing parking area for cars, build new horse trailer parking lot***

Alternative 3 would disturb slightly more ground (approximately 1 acre) but remove fewer trees (30 trees greater than 7.9 inches dbh). The existing road would remain in place with the current use. Compared to Alternative 2, approximately 0.03 acre more area will be disturbed, so there may be more area susceptible to weed increase. The same mitigation will be in place under this alternative and in Alternative 2, so an increase in the amount of noxious weeds in the area is not expected.

**Figure 5: Existing Parking area to be use for car parking under Alternative 3**

#### **3.1.2.4. Threatened or Endangered Flora Species, Region 2 Sensitive Flora Species**

For Alternatives 2 and 3, a no impact determination was made for sensitive plant species because no sensitive plants have been found within the project area, nor is there habitat for any of these species within the project area.

There are no federally listed threatened or endangered plant species known or suspected to occur on the Pagosa District of the San Juan National Forest according to the revised December 2003 Rocky Mountain Region Endangered, Threatened, and Sensitive Plants list. Therefore, under Alternatives 2 and 3 a determination of no effect was reached for threatened and endangered plant species.

## **3.2. Geology**

### **3.2.1. Affected Environment**

The Cretaceous bedrock formations along and near the proposed project are, from oldest to youngest, the upper Mancos Formation, the Mesa Verde Group and the Lewis Formation.

### **3.2.2. Consequences**

There are no areas of landslides or mass movement within the project area thus no impacts to geology are anticipated under Alternatives 2 or 3.

### **3.3. Soil**

#### **3.3.1. Affected Environment**

The soil of the area predominantly classify as Typic and Vertic Hapludalfs fine, smectitic. They are mostly deep, well-drained, and productive. Surface soil textures are silt loam and loam, while subsurface textures are clay and clay loam. Surface layers are mostly 4 inches or greater. Litter layers are primarily 1 inch or greater. Ground cover is greater than 70% in most places. Soil compaction potential for the project area is moderate, due to silt and clay content. Typic Argiudolls that display similar properties as described above are also present to a minor extent in the project area.

There are no soil erosion or compaction problems evident within the proposed project area.

#### **3.3.2. Environmental Consequences**

##### **3.3.2.1. *Alternative 1: No Action***

There would be no impacts to soil under this alternative.

##### **3.3.2.2. *Alternatives 2 and 3***

The proposed project will cause minor displacement and some compaction of soil during construction activities and also area permanently compacted under the new parking lots and outhouses. Under Alternative 3 the new horse trail will expose soil in the trail tread.

### **3.4. Watershed**

#### **3.4.1. AFFECTED ENVIRONMENT**

There are no streams or seeps within the project area. The nearest stream is over 1000' down slope of the project area. This area drains toward Cade and Fourmile Creeks. A sedges wetland is present to the west of the project area. There is 100' of vegetated buffer between the wetland and the edge of the project area at the closest point.

#### **3.4.2. ENVIRONMENTAL CONSEQUENCES**

##### **3.4.2.1. *Alternative 1: No Action***

There would be no changes from current management. There would be no ground disturbance or new parking areas constructed. No outhouses would be installed, so sanitation problems would not be improved.

##### **3.4.2.2. *Alternative 2: New combined car parking and horse trailer parking lot***

Approximately one acre would be disturbed for the new parking lot. Infiltration would decrease and runoff would increase over current conditions in this area. The runoff off the parking area would flow into the vegetated area around the parking area. Any sediment coming off the parking area would be filtered out by the vegetation and would not reach any wetlands or stream courses. Sanitation problems should be improved with the installation of an outhouse.

Infiltration and ground cover would increase along the rehabilitated section of road. This would result in decreased runoff and erosion from that portion of the road.

### **3.4.2.3. Alternative 3: Use existing parking area for cars, build new horse trailer parking lot**

There would be no additional water related impacts resulting from the continued use of the existing parking lot. Approximately one acre would be disturbed for the new horse trailer parking lot. Infiltration would decrease and runoff would increase over current conditions in this area. The runoff from the new parking area would flow into the vegetated area around the parking area. Any sediment coming off this parking area would be filtered out by the vegetation and would not reach any wetlands or stream courses. Sanitation problems should be improved with the installation of an outhouse.

## **3.5. Range**

### **3.5.1. Affected Environment**

The project area is within the Fourmile Range Allotment.

### **3.5.2. Environmental Consequences**

No impact to the range resource or permittee operations is anticipated

## **3.6. Recreation**

### **3.6.1. Affected Environment**

The Fourmile Trailhead Project Area provides access to the Fourmile and Anderson Trails which lead into the Weminuche Wilderness. The highest recreation use in this area occurs during the summer. Most visitors (estimated at 60 visits/day) to the trailhead day-hike the Fourmile Trail or backpack to Fourmile Lake and beyond. The Project Area receives summer recreation livestock use. Livestock use increases during the fall big game hunting seasons. Winter use is minimal with limited cross-country skiing and snowmobile use. Motorized vehicles, except for snowmobiles operating on snow, are not allowed off-road in this "A" designated area on the Forest Recreation map.

Seven outfitter and guide operations access the Weminuche Wilderness via the Fourmile Trailhead Project Area. Five outfitters conduct summer backpacking and horse packing trips and two outfitters lead fall hunting trips. The outfitters and guides are permitted a total of 578 days in the Fourmile Compartment.

The Forest Service uses the Recreation Opportunity Spectrum (ROS) to inventory, categorize and manage National Forest System lands. The Fourmile Trailhead Project Area is classified as a Roded Natural Setting. Characteristics of the Roded Natural Setting include a natural appearing environment within roded areas, prevalent evidence of other users, and evidence of past resource management activities.

### **3.6.2. Environmental Consequences**

#### **3.6.2.1. Alternative 1 – No Action**

Currently, there is no organized system for parking at the Fourmile Trailhead. Because of the parking congestion, recreation livestock users often have difficulty turning and parking horse trailers. Under the No Action Alternative, this situation would continue.

There is no toilet at the Fourmile Trailhead. Under the No Action Alternative, there would be increasingly unsanitary conditions from improper disposal of human waste.

### **3.6.2.2. Effects Common to All Action Alternatives**

The mere presence of trailhead improvements would not increase use of the trailhead beyond the existing annual growth the area is already receiving. Compartment capacities for public use would not be exceeded due to either Action Alternative. Wilderness guidelines would not be exceeded due to either Action Alternative.

Both Action Alternatives would reduce congestion and increase safety by providing clearly delineated parking areas.

Both Action Alternatives would provide a toilet which would result in improved sanitary conditions at the Fourmile Trailhead.

In the short term, the Fourmile Trailhead would be closed during the construction period which would impact recreationists by causing them to alter their travel plans to the area.

The construction of the new parking lot will permanently remove one dispersed campsite. This site has been primarily used during hunting season (see Figure 6). This is a minor impact as there are alternate dispersed campsites to the west along the Fourmile road.

**Figure 6: View of Dispersed Campsite at Proposed New Parking Lot**



### **3.6.2.3. Alternative 2: New combined car parking and horse trailer parking lot**

Under Alternative 2, car parking and horse parking would be combined. The toilet, trailhead signs, and registration box would be at a centralized location for all users. A combined trailhead may result in some conflicts between livestock users and hikers.

#### **3.6.2.4. Alternative 3: Use existing parking area for cars, build new horse trailer parking lot**

Under Alternative 3, parking areas for cars and horse trailers would be separate. Separating livestock users and day-hikers and backpackers may prevent conflicts between user groups. One toilet would be located at the existing parking lot and one at the new horse trailer parking area. A new section of trail would be constructed under Alternative 3 to allow livestock users access to the trailhead. This would allow riders to reach the trailhead safely without riding up the road and through the car parking area

### **3.7. Scenery**

#### **3.7.1. Affected Environment**

Under the Visual Management System the area in which the trailhead is located is classified as a "Retention" Visual Quality Objective. This is a result of road FDR 645 being classified as 'Sensitivity Level One'. The landscape of the area is rated as Variety 'Class B or Common' to the characteristic landscape of the area. This Visual Quality Objective gives the direction that 'all' management activities or proposals within the zone be not visually evident to the casual observer.

Road FSR 645 as it exists does not meet the objective yet will continue to be used and maintained as a needed facility of the area. Similarly a new trailhead constructed in the area along the existing road will be viewed as a necessary exception to a strict application of the Visual Management System.

#### **3.7.2. Environmental Consequences**

##### **3.7.2.1. Alternative 1 – No Action**

Under no action there will be a gradual negative visual change to vegetation and soil by heavy and crowded use as time progresses during peak periods of holidays and hunting season.

##### **3.7.2.2. Alternatives 2 and 3**

The result of constructing a trailhead in either of the action alternatives will likely be accepted as a positive appearance for most return users of the area and will offer a somewhat formalized appearance of a facility to the viewers of the immediate roadside. The responses of the public have been resoundingly positive where similar improvements have been introduced elsewhere on the Forest. The final result is a relatively small change in the existing landscape compared to the larger area with the viewers of the facility being largely the users and beneficiaries of these improvements.

### **3.8. Lands**

#### **3.8.1. Affected Environment**

The Lost Valley of the San Juans subdivision (platted in 1972) is located approximately one mile south of the project area. This 300-acre development is in both Mineral and Archuleta Counties. The development is subdivided into 72 lots, ranging from 0.49 to 35 acres. At the end of 2000, all but six lots were sold; there are 21 structures in the development. Most of the owners are seasonal summer residents. The development has no formal homeowners association.

### 3.8.2. Environmental Consequences

#### 3.8.2.1. Alternative 1 – No Action

No effect on land uses would occur under this alternative.

#### 3.8.2.2. Alternatives 2 and 3

Under Alternatives 2 and 3 a potential impact on Lost Valley of the San Juans residents is noise from construction activities. Also, during the construction period there would be a slight increase in heavy truck traffic on the Fourmile road.

## 3.9. Transportation

### 3.9.1. Affected Environment

The project area is accessed by the Fourmile road FSR 645. In addition to accessing the Fourmile Trailhead, this road provides access to the Lost Valley of the San Juan sub-division which is south of the project area. Primary users of the road are recreation visitors, outfitters and Lost Valley of the San Juan residents.

### 3.9.2. Environmental Consequences

#### 3.9.2.1. Alternative 1 – No Action

No change in traffic patterns of FSR 645 would occur under this alternative.

#### 3.9.2.2. Alternatives 2 and 3

Construction traffic associated with this project will increase overall road traffic. This impact is expected to be minor and temporary in nature, lasting 1-2 months during the summer.

## 3.10. Fisheries

The following analysis has fish grouped by legal, regulatory, and policy designations. Affected Environment and Environmental Consequences are included for USFWS threatened and endangered species, USFS sensitive species, and USFS management indicator species.

There are no streams, or other bodies of water containing fish or fish habitat within the project area. The nearest fishery is over 1,000 feet downslope of the project area in Cade Creek and Fourmile Creek. Two Sensitive species, bluehead sucker and flannelmouth sucker, are likely to occur in Cade and Fourmile Creek. Common fish species found in these two creeks are brook trout, rainbow trout, and mottled sculpin.

## 3.11. Federal Threatened and Endangered Fish Species

Table 1: Federally listed fish species for the San Juan National Forest based on the February 26, 2004 list from the USFWS and reconfirmed on August 11, 2004.

SPECIES	SCIENTIFIC NAME	STATUS	HABITAT	HABITAT PRESENT IN OR ADJACENT TO PROJECT AREA
Bonytail	<i>Gila elegans</i>	Endangered	Colorado River; affected by water depletions from the Colorado River Basin	No

Colorado pikeminnow	<i>Ptychocheilus lucius</i>	Endangered	Lower San Juan and Colorado Rivers; affected by water depletions from both basins	No
Humpback chub	<i>Gila cypha</i>	Endangered	Colorado River; affected by water depletions from the Colorado River Basin	No
Razorback sucker	<i>Xyrauchen texanus</i>	Endangered	Lower San Juan and Colorado Rivers; affected by water depletions from both basins	No

**3.11.1. Environmental Consequences: Federal Threatened and Endangered Fish Species**

**3.11.1.1. Alternative 1: No Action**

Under this alternative there will be no effect to threatened or endangered fish species since there is not change from existing conditions.

**3.11.1.2. Alternatives: 2 (Move Trailhead, Build New Combined Car and Horse Trailer Parking Area) AND 3 (Car Parking at Existing Trailhead, Build New Horse Trailer Parking Area)**

Effects Determination: Colorado pikeminnow and razorback sucker – The project area is located in the San Juan Basin. There will be no effect on the Colorado pikeminnow or razorback sucker since the project will not result in any water depletion from the San Juan River Basin.

**3.12. Forest Service Sensitive Fish Species**

Forest Service sensitive species with habitat present in the project area are listed in Table 2.

**Table 2 Sensitive Species that are likely to occur on the San Juan National Forest from the Regional Forester’s sensitive species list (USDA Forest Service, 2003).**

SPECIES	HABITAT	HABITAT PRESENT IN OR ADJACENT TO PROJECT AREA
Bluehead sucker ( <i>Catostomus discobolus</i> )	Animas, Piedra, Florida, Los Pinos, San Juan, Dolores Rivers, and certain tributaries year-round	No
Colorado River cutthroat trout ( <i>Onchorynchus clarki pleuriticus</i> )	Upper reaches of specific streams across the San Juan Public Lands (SJPL) year-round	No
Flannelmouth sucker ( <i>Catostomus latipinnis</i> )	Animas, Piedra, Florida, Los Pinos, San Juan, and Dolores Rivers, and certain tributaries year-round	No
Roundtail chub ( <i>Gila robusta</i> )	Lower Dolores and lower San Juan Rivers	No

**3.12.1. Environmental Consequences: Forest Service Sensitive Fish Species**

**3.12.1.1. Alternative 1: No Action**

There will be no impact to sensitive fish species under this alternative since there would be no change to existing conditions.

**3.12.1.2. Alternatives: 2 (Move Trailhead, Build New Combined Car and Horse Trailer Parking Area) AND 3 (Car Parking at Existing Trailhead, Build New Horse Trailer**

**Parking Area)**

Determination of Effect:

For all sensitive fish species – **No impact**. There is habitat near the project area (1000 feet downslope) for two sensitive fish species in the project area, bluehead sucker and flannelmouth sucker. There will be no impact to these species because “any sediment coming off the parking area would be filtered out by the vegetation and would not reach any wetlands or stream courses” (Watershed Section of EA).

**3.13.Fish Management Indicator Species (MIS)**

The 1982 regulations to implement the National Forest Management Act require that MIS be identified as part of the Forest Plan. The Forest Service is charged with preserving and enhancing the diversity of plants and animals consistent with overall multiple-use objectives stated in the Forest Plan (36 CFR 291.27-Planning, Management Requirements). To accomplish this goal, MIS were chosen to represent larger groups of species with similar habitat associations. An MIS is a plant or animal species whose population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality (36 CFR 219.19(a)(1)).

MIS are used to monitor the implementation of the 1983 Forest Plan for the SJNF, and its effects on population viability for all native and desired nonnative plant and animal species.

Implementation of the Forest Plan should provide suitable habitat to maintain viable populations of all MIS. It does not require that project decisions would necessarily result in maintaining or improving habitat for MIS, but it must be consistent with Forest Plan direction. Table 3 describes SJNF MIS, and those selected as MIS for this project.

**Table 3. 1983/1992 Forest Plan MIS Fish for the San Juan National Forest.**

MIS	HABITAT	SELECTED AS MIS FOR THIS PROJECT
Brook trout ( <i>Salvelinus fontinalis</i> )	Aquatic	No, no habitat present in project area.
Brown trout ( <i>Salmo trutta</i> )	Aquatic	No, no habitat present in project area.
^Colorado River cutthroat trout ( <i>Oncorhynchus clarki pleuriticus</i> )	Aquatic	No, no habitat present in project area.
Rainbow trout ( <i>Oncorhynchus mykiss</i> )	Aquatic	No, no habitat present in project area.
^ Forest Service Region 2 sensitive species, (USDA Forest Service, 2003)		

**3.13.1. Environmental Consequences: Fish Management Indicator Species (MIS)**

**3.13.1.1. Alternative 1: No Action**

There will be no effects to fish MIS under this alternative since there would be no change from existing conditions.

**3.13.1.2. Alternatives: 2 (Move Trailhead, Build New Combined Car and Horse Trailer Parking Area) AND 3 (Car Parking at Existing Trailhead, Build New Horse Trailer**

### **Parking Area)**

There will be **no effect** to fish MIS under these alternatives because there are no streams in the project area containing fish. In addition, there will be no impacts to downstream fisheries.

## **3.14. Wildlife**

The following analysis addresses federally listed species designated by the U.S. Fish and Wildlife Service (USFWS), Region 2 Forest Service sensitive species with habitat on the San Juan National Forest (SJNF), SJNF management indicator species (MIS), birds of conservation concern (BCC) designated by USFWS, and birds listed in the Colorado Partners in Flight Bird Conservation Plan for the Southern Rocky Mountains.

### **3.14.1. Affected Environment:**

As described by the 1992 San National Forest Plan, the project area lies within Forest Management Area 7E (Emphasis on production and utilization of wood-fiber).

Wildlife habitat in the project area consists primarily of cool-moist mixed conifer (see vegetation section). Overstory consists of spruce, Douglas fir, aspen and white fir. The understory is a mix of shrubs, forbs, grasses. A small wetland, comprised of sedges exists about 100 feet from the edge of the project area.

## **3.15. Federal Threatened and Endangered Wildlife Species**

Table 4 lists federally listed species considered for the proposed project, habitat presence within the project and adjacent areas, and known or expected species occurrence in the area.

**Table 4: Federally listed wildlife species for the San Juan National Forest based on February 26, 2004 list confirmed with USFWS August 11, 2004 concurrence.**

SPECIES	SCIENTIFIC NAME	STATUS	HABITAT PRESENT IN OR ADJACENT TO PROJECT AREA	KNOWN OR SUSPECTED TO OCCUR IN OR ADJACENT TO PROJECT AREA
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened	No	No
^Boreal toad	<i>Bufo boreas boreas</i>	Candidate	Yes	No
Canada lynx	<i>Felis lynx canadensis</i>	Threatened	Yes	Yes
+Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened	No	No
Southwestern willow flycatcher	<i>Empidonax trailii extimus</i>	Endangered	No	No
Uncompahgre fritillary butterfly	<i>Boloria acrocnema</i>	Endangered	No	No
*Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate	No	No

\*U.S. Fish and Wildlife Service Birds of Conservation Concern (Southern Rockies/Colorado Plateau) (USDI Fish and Wildlife Service, 2002).  
 +Birds listed in the Colorado Partners in Flight Bird Conservation Plan (Physiographic Area 62) Version 1.0, January 2000  
 ^ Forest Service Region 2 sensitive species, (USDA Forest Service, 2003)

### 3.15.1. Environmental Consequences: Federal Threatened and Endangered Wildlife Species

#### 3.15.1.1. Alternative 1: No Action

Under this alternative there will be no effect to threatened or endangered species since existing conditions would not be altered.

#### 3.15.1.2. Alternatives: 2 (Move Trailhead, Build New Combined Car and Horse Trailer Parking Area) AND 3 (Car Parking at Existing Trailhead, Build New Horse Trailer Parking Area)

Determination of Effect:

Bald eagle, Mexican spotted owl, southwestern willow flycatcher, Uncompahgre fritillary butterfly, and yellow-billed cuckoo: **No Effect**. There is no suitable habitat for any of these species within the project area and since none of these species are known or expected to occur in the area.

Boreal toad: analyzed as sensitive, see following section.

Canada lynx: **May affect but is not likely to adversely affect Canada lynx and lynx habitat.**

Please refer to Biological Evaluation on file at the Pagosa Ranger District Office for details of lynx analysis and determination rationale.

### 3.16. Forest Service Sensitive Wildlife Species

Table 5 lists Forest Service sensitive species with habitat present on the Forest, in or adjacent to the project area, and known or suspected occurrence.

**Table 5: Sensitive wildlife species with habitat on the San Juan National Forest (August 11, 2004 Unit List), habitat presence in or adjacent to the project area, and known or suspected occurrence.**

COMMON NAME	SCIENTIFIC NAME	HABITAT PRESENT IN OR ADJACENT TO PROJECT AREA	KNOWN OR SUSPECTED TO OCCUR IN OR ADJACENT TO PROJECT AREA	RATIONALE IF NOT CARRIED FORWARD FOR ANALYSIS
<b>Mammals</b>				
Spotted bat	<i>Euderma maculatum</i>	No	No	No suitable habitat in project area.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	No	No	No suitable habitat in project area.
Gunnison's prairie dog	<i>Cynomys gunnisoni</i>	No	No	No suitable habitat in project area.
River otter	<i>Lontra canadensis</i>	No	No	No suitable habitat in project area.
American marten	<i>Martes americana</i>	Yes	Yes	
North American Wolverine	<i>Gulo gulo</i>	Yes	No	
<b>Birds</b>				
American bittern	<i>Botaurus lentiginosus</i>	No	No	No suitable habitat in project area; migratory occurrences on Pagosa District.
White-faced ibis	<i>Plegadis chibchi</i>	No	No	No suitable habitat in project area.
Northern goshawk	<i>Accipiter gentilis</i>	Yes	Yes	
*Ferruginous hawk	<i>Buteo regalis</i>	No	No	No suitable habitat in project area.
*+American peregrine falcon	<i>Falco peregrinus anatum</i>	Yes	Yes	

*Northern harrier	<i>Circus cyaneus</i>	No	No	No suitable habitat in project area.
+White-tailed ptarmigan	<i>Lagopus leucurus</i>	No	No	No suitable habitat in project area; occurs only at higher elevation alpine habitat.
Columbian sharp-tailed grouse	<i>Tympanuchus phasianellus</i>	No	No	No suitable habitat in project area.
*Western burrowing owl	<i>Athene cunicularia</i>	No	No	No suitable habitat in project area; strongly associated with prairie dog towns.
*+Short-eared owl	<i>Asio flammeus</i>	No	No	No suitable habitat in project area.
+Boreal owl	<i>Aegolius funereus</i>	Yes	Yes	
+Flammulated owl	<i>Otus flammeolus</i>	No	No	No suitable habitat in project area.
*+Black swift	<i>Cypseloides niger</i>	No	No	No suitable habitat in project area.
*+Lewis's woodpecker	<i>Melanerpes lewis</i>	No	No	No suitable habitat in project area.
American three-toed woodpecker	<i>Picoides dorsalis</i>	Yes	Yes	
+Olive-sided flycatcher	<i>Contopus cooperi</i>	Yes	Yes	
+Purple martin	<i>Progne subis</i>	No	No	No suitable habitat in project area.
Loggerhead shrike	<i>Lanius ludovicianus</i>	No	No	No suitable habitat in project area.
Brewer's sparrow	<i>Spizella breweri</i>	No	No	No suitable habitat in project area.
<b>Amphibians</b>				
Boreal toad	<i>Bufo boreas boreas</i>	Yes	No	
Northern leopard frog	<i>Rana pipiens</i>	Yes	No	
<b>Insects</b>				
Great Basin silverspot butterfly	<i>Speyeria nokomis nokomis</i>	No	No	No suitable habitat in project area.
* U.S. Fish and Wildlife Service Birds of Conservation Concern (Southern Rockies/Colorado Plateau) (USDI Fish and Wildlife Service, 2002).				
+Birds listed in the Colorado Partners in Flight Bird Conservation Plan (Physiographic Area 62) Version 1.0, January 2000				

### 3.16.1. Environmental Consequences: Forest Service Sensitive Wildlife Species

#### 3.16.1.1. Alternative 1: No Action

There will be no impact to sensitive species under this alternative since there would be no change from existing conditions.

#### 3.16.1.2. Alternatives: 2 (Move Trailhead, Build New Combined Car and Horse Trailer Parking Area) AND 3 (Car Parking at Existing Trailhead, Build New Horse Trailer Parking Area)

Effects Determination: Spotted bat, Townsend's big-eared bat, Gunnison's prairie dog, river otter, American bittern, white-faced ibis, ferruginous hawk, northern harrier, white-tailed ptarmigan, Columbian sharp-tailed grouse, western burrowing owl, short-eared owl, black swift, Lewis's woodpecker, purple martin, loggerhead shrike, Brewer's sparrow, Great Basin silverspot butterfly,

wolverine, flammulated owl, boreal toad, and northern leopard frog – **No Impact.** This determination is based on a lack of habitat and lack of species occurrence in areas adjacent to and within the project area.

American marten, wolverine, northern goshawk, American peregrine falcon, flammulated owl, American three-toed woodpecker, olive-sided flycatcher, and boreal owl – **May adversely impact individuals, but is not likely to result in a loss of viability in the planning area nor cause a trend toward federal listing, or loss of species viability rangewide** Rationale for the “may adversely impact individuals” determination is due to increased human disturbance and a minor loss of habitat for each species.

The project construction period and associated human disturbances would be short in duration lasting two to four months during the summer of 2005. The level of human visitation to the area has continually increased over the years, and this increase combined with creation of a new car and horse trailer parking lot is expected to increase potential disturbances to wildlife in the area. The amount of human visitation to the area largely depends on the season, with the summer and fall hunting seasons being the predominant use period. Most use is restricted to the road corridor, around the trailhead areas, and along access trails (Fourmile Trail and Anderson Trail) into the Weminuche Wilderness Area. Abundant habitat adjacent to the project area provides security habitat for species when disturbance exceeds their tolerance. The location of the proposed parking area is not within any unique or rare habitat type. Under Alternatives 2 and 3 the combination of human disturbance and the minor 1 acre amount of habitat loss may affect individuals of the species analyzed, but is not expected to appreciably impact habitat for breeding, feeding, or sheltering. See the Biological Evaluation on file at the Pagosa Ranger District for analysis details.

### 3.17. Wildlife Management Indicator Species

The 1982 regulations to implement the National Forest Management Act require that MIS be identified as part of the Forest Plan. The Forest Service is charged with preserving and enhancing the diversity of plants and animals consistent with overall multiple-use objectives stated in the Forest Plan (36 CFR 291.27-Planning, Management Requirements). To accomplish this goal, MIS were chosen to represent larger groups of species with similar habitat associations. An MIS is a plant or animal species whose population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality (36 CFR 219.19(a)(1)).

MIS are used to monitor the implementation of the 1983 Forest Plan for the SJNF, and its effects on population viability for all native and desired nonnative plant and animal species.

Implementation of the Forest Plan should provide suitable habitat to maintain viable populations of all MIS. It does not require that project decisions would necessarily result in maintaining or improving habitat for MIS, but it must be consistent with Forest Plan direction. Table 6 describes SJNF MIS, and those selected as MIS for this project.

**Table 6:** MIS Species Considered and Selected.

MIS	HABITAT TYPE	REASON FOR SELECTION IN FOREST PLAN	SELECTED/REVIEWED FOR THIS PROJECT	RATIONALE IF NOT SELECTED/REVIEWED
Abert's squirrel	Ponderosa pine	Unique habitat that easily monitors change and limited range Nationwide	No	There is no habitat present in the project area.

MIS	HABITAT TYPE	REASON FOR SELECTION IN FOREST PLAN	SELECTED/REVIEWED FOR THIS PROJECT	RATIONALE IF NOT SELECTED/REVIEWED
American marten	Spruce-fir and cool-moist mixed conifer	Unique habitat that easily monitors change	Yes	
Bald eagle	Mature forest associated with large bodies of water	Threatened Species	No	There is no habitat present in the project area.
Beaver	Aquatic, riparian, and aspen	Unique habitat	No	There is no habitat present in the project area.
Black bear	All forested types, grassland, riparian, mountain shrub, aspen, and pinyon-juniper	Economically important, represents large group of species	No	Black bears are generally intolerant of human disturbances similar to elk. Elk are used as the representative MIS.
Canada lynx	Mixed conifer, spruce-fir and aspen	Threatened Species	No	Native lynx have not been known to occur on the SJNF for about ten years, and because lynx recently released by the CDOW on the SJNF do not appear to have fully established permanent home ranges or developed a functional population structure, it is impossible to draw reasonable conclusions about the effectiveness of the Forest's habitat management actions, based on lynx population structure or trend.
Columbian sharp-tailed grouse	Mountain shrub	Limited habitat on the Forest	No	There is no habitat present in project area
Deer mouse	All terrestrial habitats except alpine	Unique habitat and represents larger group of species	No	Species not useful as SJNF MIS; extreme fluctuation in population trends that are influenced by climatic conditions and local food availability and less related to changes in habitat conditions; not reasonable to draw meaningful conclusions from land mgmt. actions.
Elk	All terrestrial habitats; pine, pinyon-juniper and mountain shrublands in winter	Economically important, public issue	Yes	
Green-tailed towhee	Mountain shrub, pinyon-juniper, sagebrush, and riparian	Unique habitat, habitat that can be monitored	No	There is no habitat present in project area.
Hairy woodpecker	All forested types, aspen, and pinyon-juniper	Unique habitat, habitat that can be monitored	Yes	
Mallard	Aquatic and riparian	Economically important and wetland habitat indicator	No	There is no habitat present in the project area.
Merriam's turkey	Grasslands, riparian, mountain shrub, aspen, pinyon-juniper,	Limited habitat on the Forest that will readily monitor change	No	Elk are used as the representative species given similar habitat requirements (early successional forest conditions for foraging and mature forests for cover).

MIS	HABITAT TYPE	REASON FOR SELECTION IN FOREST PLAN	SELECTED/REVIEWED FOR THIS PROJECT	RATIONALE IF NOT SELECTED/REVIEWED
	ponderosa pine, and mixed conifer			
Mexican spotted owl	Mature ponderosa pine and mixed-conifer in canyons	Threatened Species	No	There is no habitat present in the project area.
Mountain bluebird	Alpine, aspen, mixed conifer, mountain shrub, pinyon-juniper, ponderosa pine, and sagebrush	Unique habitat that will monitor management practices	No	There is no habitat present in project area.
Mule deer	All terrestrial habitats; pine, pinyon-juniper and mountain shrublands in winter	Economically important, public issue	No	Elk are used as the representative species given similar habitat requirements and response to human disturbances (early successional forest conditions for foraging and mature forests for cover).
Northern goshawk	Mature forest habitats	Unique habitat and environmentally sensitive	No	Scale of project too small to be used as an indicator. Cannot draw meaningful conclusions of the species response to the management action. Addressed in the BE.
River otter	Aquatic and riparian	State Endangered Species	No	There is no habitat present in the project area.
Southwestern willow flycatcher	Riparian shrub	Endangered Species	No	There is no habitat present in Project Area
Uncompahgre fritillary butterfly	Alpine with snow willow	Endangered Species	No	There is no habitat present in Project Area

### 3.17.1. Environmental Consequences: Wildlife Management Indicator Species

Three species were selected for this project's MIS analysis based on habitat presence and occurrence in and adjacent to the project area, these species are American marten, elk, and hairy woodpecker. American marten have been observed in the project area. Elk disperse through the area during fall/winter migration and spring migration when enroute to preferred summer habitat in the Weminuche Wilderness Area. Hairy woodpeckers are also known to forage and disperse through the project area. For MIS species selected, specific Forest level quantitative population and habitat trend information is discussed in the individual species' Forest level assessments, on file at the Pagosa Ranger District.

#### 3.17.1.1. Alternative 1: No Action

There will be no effects to MIS under this alternative since no changes to existing conditions would occur.

**3.17.1.2. Alternatives: 2 (Move Trailhead, Build New Combined Car and Horse Trailer Parking Area) AND 3 (Car Parking at Existing Trailhead, Build New Horse Trailer Parking Area)**

**Table 7: Analysis Area Summary of effects to MIS Populations and Habitats due to Proposed Project.**

SPECIES	FOREST LEVEL HABITAT AND POPULATION TREND (MOST RECENT)	PROJECT EFFECTS ON FOREST LEVEL HABITAT TREND	PROJECT EFFECTS ON FOREST LEVEL POPULATION TREND
American marten	Stable/slightly downward	Negligible effect, due to the small (1 acre) amount of habitat removed relative to the size of habitat and stable trend at the Forest level.	Negligible effect, given small scale of impact and habitat affected. Abundant habitat is present in the area to provide security habitat when disturbance levels exceed the species tolerance. Project activities are not expected to appreciably impact species use of the area for breeding, feeding, or sheltering.
Elk	Upward for cover and downward for forage/Intentional Downward from State Management actions	Negligible, due to small (1 acre) amount of habitat removed relative to amount of ample habitat available at the Forest level.	Negligible, since project area is open and not providing good hiding cover. Forage is present but not likely being used due to it position along open road with existing human disturbance level. Also due to intentionally downward State management induced trend.
Hairy woodpecker	<b>Stable/Stable</b>	Negligible effect, due to the small (1 acre) amount of habitat removed. Of the 27-30 green trees removed, none contain cavity for nesting.	Negligible effect, because no cavity nesting trees would be removed, and project is not expected to appreciably impact breeding, feeding, or sheltering habitat for the species.

**3.18. Migratory Birds**

In this section we evaluate migratory birds identified as birds of conservation concern by the USFWS and Colorado Partners in Flight Bird Conservation Plan. Birds of conservation concern (BCC) are birds identified by the USFWS that are migratory and non-migratory birds of the United States and its territories that are of conservation concern. The concerns may be the result of population declines, naturally small ranges or population sizes, threats to habitat, or other factors. The intent of the BCC program is to prevent or remove the need to consider listing species under ESA, and promote and conserve long-term avian diversity in the United States. Birds listed in the Colorado Partners in Flight Bird Conservation Plan are birds of concern in Colorado for reasons similar to BCC. Table 8 lists BCC for the Southern Rockies/Colorado plateau geographic area (USDI Fish and Wildlife Service, 2002) and birds listed in the Colorado Partners in Flight Bird Conservation Plan for the Southern Rocky Mountains (Beidleman 2000). There are several BCC and PIF bird species that are also listed as Forest Service sensitive species in the Rocky Mountain Region. These species are addressed in the Biological Evaluation (BE) with a summary of project impacts described previously.

**Table 8: Birds of Conservation Concern for Region 16: Southern Rockies/Colorado Plateau geographic area and birds listed in the Colorado Partners in Flight Bird Conservation Plan.**

SPECIES	HABITAT	STATUS ON THE SAN JUAN PUBLIC LANDS (SJPL)	HABITAT PRESENT IN OR ADJACENT TO PROJECT AREA	KNOWN OR SUSPECTED TO OCCUR IN OR ADJACENT TO PROJECT AREA
*American peregrine falcon ( <i>Falco peregrinus anatum</i> ) BCC and PIF	Forages open habitats, nests on cliffs	Breeds and winters on both FS and BLM	Yes	Yes

American pipit ( <i>Anthus rubescens</i> ) PIF	Alpine	Breeds on both FS and BLM	No	No
American dipper ( <i>Cinclus mexicanus</i> ) PIF	Mountain streams and rivers	Breeds and winters on both FS and BLM	No	No
Band-tailed pigeon ( <i>Columba fasciata</i> ) PIF	Ponderosa pine and Gambel oak shrublands	Breeds on both FS and BLM	No	No
Bendire's thrasher ( <i>Toxostoma bendirei</i> ) BCC	Arid desert scrub	Does not occur on SJPL	No	No
*Black swift ( <i>Cypseloides niger</i> ) BCC and PIF	Cliffs at waterfalls	Breeds on both FS and BLM	No	No
Black-throated gray warbler ( <i>Dendroica nigrescens</i> ) BCC	Mature PJ woodlands	Breeds on both FS and BLM	No	No
Blue grouse ( <i>Dendragapus obscurus</i> ) PIF	Breeds in open coniferous and aspen forests with shrubby understories or adjacent to shrublands. Winters in Douglas-fir and lodgepole pine forests.	Breeds on both FS and BLM	Yes	Yes
*Boreal owl ( <i>Aegolius funereus</i> ) PIF	Mature spruce-fir or spruce-fir/lodgepole pine with meadows.	Breeds on both FS and BLM	Yes	Yes
*Brewer's sparrow ( <i>Spizella breweri</i> ) PIF	Breeds primarily in sagebrush shrublands, but also other shrublands such as mountain mahogany or rabbitbrush.	Breeds on both FS and BLM	No	No
Brown-capped rosy finch ( <i>Leucosticte arctoa australis</i> ) BCC	Alpine	Breeds on both FS and BLM	No	No
Broad-tailed hummingbird ( <i>Selasphorus platycercus</i> ) BCC	Ponderosa pine, Douglas-fir, lodgepole pine, and foothill riparian forests	Breeds on both FS and BLM	Yes	Yes
*Burrowing owl ( <i>Athene cucularia</i> ) BCC	Prairie dog towns	Breeds on Dolores BLM, some habitat on Pagosa FS	No	No
Chestnut-collared longspur ( <i>Calcarius ornatus</i> ) BCC	Shortgrass prairie	Does not occur on SJPL	No	No
Cordilleran flycatcher ( <i>Empidonax occidentalis</i> )	Coniferous and deciduous forests usually near streams or in moist ravines	Breeds on both FS and BLM	Yes	Yes
*Ferruginous hawk ( <i>Buteo regalis</i> ) BCC	Grasslands, semi-desert with scattered juniper	May breed on BLM, not FS, winters on both	No	No
*Flammulated owl ( <i>Otus flammeolus</i> ) BCC and PIF	Mature ponderosa pine, aspen, and mixed conifer	Breeds on both FS and BLM	No	No
Golden eagle ( <i>Aquila chrysaetos</i> ) BCC	Forages open habitats, nests on cliffs	Breeds and winters on both FS and BLM	No	No
Grace's warbler ( <i>Dendroica graciae</i> ) BCC and PIF	Mature ponderosa pine with Gambel oak	Breeds on both FS and BLM	No	No
Gray vireo ( <i>Vireo vicinior</i> ) BCC	Open juniper stands	Breeds on BLM, not on FS	No	No

Green-tailed towhee ( <i>Pipilo chlorurus</i> ) PIF	Gambel oak/mountain shrub, pinyon-juniper, sagebrush, and riparian	Breeds on FS and BLM	No	No
**Gunnison sage-grouse ( <i>Centrocercus minimus</i> ) BCC and PIF	Sagebrush grasslands, permanent resident	Breeds on BLM, not on FS	No	No
Hammond's flycatcher ( <i>Empidonax hammondi</i> ) PIF	Breeds primarily in mature spruce-fir. May occur in ponderosa pine, mixed coniferous-aspen forests, and aspen	Breeds on both FS and BLM	Yes	Yes
Lazuli bunting ( <i>Passerina amoena</i> ) PIF	Gambel oak shrublands, mountain shrublands, foothill riparian, sage shrublands, and pinyon-juniper woodlands	Breeds on both FS and BLM	No	No
*Lewis' woodpecker ( <i>Melanerpes lewis</i> ) BCC and PIF	Open pine forest, PJ woodland, riparian	Breeds and winters on both FS and BLM	No	No
MacGillivray's warbler ( <i>Oporornis tolmiei</i> ) PIF	Riparian shrublands, aspen forests with shrubby understories, and Gambel oak in moist ravines	Breeds on both BLM and FS	No	No
Marbled godwit ( <i>Limosa fedoa</i> ) BCC	Shorelines, mud flats	Does not occur on SJPL	No	No
++Mexican spotted owl ( <i>Strix occidentalis lucida</i> ) PIF	Mixed conifer habitat (Douglas-fir, ponderosa pine, white fir) located in steep rock walled canyons.	Possible breeder on both FS and BLM. Breeding has not been documented on the SJPL.	No	No
**Mountain plover ( <i>Charadrius montanus</i> ) BCC	Arid grasslands	Does not occur on SJPL	No	No
*Northern harrier ( <i>Circus cyaneus</i> ) BCC	Grasslands, wet meadows	Breeds and winters on FS and BLM	No	No
*Olive-sided flycatcher ( <i>Contopus cooperi</i> )	Breeds primarily in mature spruce-fir and Douglas-fir forests, especially on steep slopes or near cliffs, and less often in other types of coniferous forests, montane and foothill riparian, and aspen forests; burned areas.	Breeds on both FS and BLM	Yes	Yes
Pinyon jay ( <i>Gymnorhinus cyanocephalus</i> ) BCC	PJ Woodland	Breeds and winters on both FS and BLM	No	No
*Purple martin ( <i>Progne subis</i> )	Aspen forests near parks and generally near water; mixed aspen/ponderosa pine or aspen/Douglas-fir forests.	Breeds on both FS and BLM	No	No
Prairie falcon ( <i>Falco mexicanus</i> ) BCC	Forages open habitats, nests on cliffs	Breeds and winters on both FS and BLM	No	No

Red-naped sapsucker ( <i>Sphyrapicus nuchalis</i> ) BCC	Aspen and coniferous forests	Breeds on both FS and BLM	Yes	Yes
Sage sparrow ( <i>Amphispiza belli</i> ) BCC and PIF	Large stands of big sagebrush or greasewood	Breeds on BLM, not on FS	No	No
*Short-eared owl ( <i>Asio flammeus</i> ) BCC and PIF	Grasslands and wet meadows	Rare breeder on both FS and BLM	No	No
Snowy plover ( <i>Charadrius alexandrinus</i> ) BCC	Beaches, salt flats, and playas	Does not occur on SJPL	No	No
Solitary sandpiper ( <i>Tringa solitaria</i> ) BCC	Shorelines and mud flats	Does not breed in Colorado, very rare migrant on SJPL	No	No
Sprague's pipit ( <i>Anthus spragueii</i> ) BCC	Tallgrass prairie	Does not occur on SJPL	No	No
Swainson's hawk ( <i>Buteo swainsoni</i> ) BCC	Grasslands, desert, and agricultural	Unlikely to breed on FS, breeds on BLM, migrant both	No	No
Virginia's warbler ( <i>Vermivora virginiae</i> ) BCC and PIF	Dense shrublands, primarily Gambel oak	Breeds on both FS and BLM	No	No
Violet-green swallow ( <i>Tachycineta thalassina</i> )	Aspen and coniferous	Breeds on both FS and BLM	Yes	Yes
*White-tailed ptarmigan ( <i>Lagopus leucurus</i> ) PIF	Alpine	Breeds on both FS and BLM	No	No
Willet ( <i>Catoptrophorus semipalmatus</i> ) PIF	Breeds in grassy marshes	Uncommon migrant on both FS and BLM	No	No
Williamson's sapsucker ( <i>Sphyrapicus thyroideus</i> ) BCC and PIF	Conifer habitats mixed with aspen	Breeds on both FS and BLM	Yes	Yes
Wilson's phalarope ( <i>Phalaropus tricolor</i> ) BCC	Nest wet sedge & rush meadows with open water	May breed on BLM, not FS, uncommon migrant on both	No	No
Wilson's warbler ( <i>Wilsonia pusilla</i> ) PIF	Willow thickets of lakeshores, streambanks, and wet meadows, and at or just above timberline. In migration, riparian forests and shrublands.	Breeds on both FS and BLM	No	No
** Yellow-billed cuckoo ( <i>Coccyzus americanus</i> ) BCC	Gallery cottonwood forest with dense understory	May have habitat on BLM, not FS, no recent records	No	No
*Forest Service Sensitive **Candidate for Federal Listing ++Federal Threatened Species FS = Forest Service BLM = Bureau of Land Management				

### 3.18.1. Environmental Consequences: Migratory Birds

#### 3.18.1.1. Alternative 1: No Action

No effects – because there will be no destruction of bird habitat.

#### 3.18.2. Alternatives: 2 (Move Trailhead, Build New Combined Car and Horse Trailer Parking

### **Area) AND 3 (Car Parking at Existing Trailhead, Build New Horse Trailer Parking Area)**

Of the 49 migratory bird species of concern, 10 species have habitat within and adjacent to the project area, American peregrine falcon, blue grouse, boreal owl, broad-tailed hummingbird, Cordilleran flycatcher, Hammond's flycatcher, olive-sided flycatcher, red-naped sapsucker, violet-green swallow, and Williamson's sapsucker. The proposed action is expected to have similar effects to migratory birds as described for species in the sensitive species section. These effects are not expected to appreciably affect species use of the project area, nor appreciably impact populations in the general area or across the Forest.

## **3.19.Wildlife: Relationship to Forest Plan Direction, Standards and Guidelines**

Note no habitat will be impacted within the 4B (MIS management emphasis) prescription area. Forested lands affected by the proposed action fall under Management Areas 7E (wood fiber production) with this prescription having the following Forest Plan direction relative to wildlife.

1. "Maintain habitat for viable populations of all existing vertebrate wildlife species" (III-26).

The Biological Evaluation and MIS analysis concluded that the project would not substantively impact wildlife habitat and that the project, given its minute scale, would not affect the viability of any wildlife populations at the Forest-scale.

2. "Maintain habitat capability for MIS at 60% capability (III-184)"

The MIS analysis demonstrates there would be no impact upon habitat capability from this project.

3. "Provide adequate forage to sustain big-game population levels agreed to in the Statewide Comprehensive Wildlife Management Plan on NFS. (III-184)"

Amount of forage removed by this project is less than 1 acre and is negligible relative to the increasing forage (upward habitat trend) across the Forest.

4. For Hairy woodpecker: "Protect and/or provide for 20 snags per 10 acres in all forested types. Also provide for snag replacement." (III-185)

The trees to be removed are green and none are considered viable recruitment snags.

## **3.20.Economics**

### **3.20.1. Temporal Scope of Analysis**

The financial and economic efficiency analysis covers a period of 2 years. This time period includes the time it will take for project construction to be completed and one year of trailhead facility operation and maintenance.

### 3.20.2. Environmental Consequences

#### 3.20.2.1. Financial Efficiency

Financial Efficiency is a comparison of those costs and revenues that can be quantified in terms of actual dollars spent or received on the project. The main criterion in assessing the financial efficiency of each alternative is Present Net Value (PNV), which is defined as the discounted value (at 4 percent) of Forest Service costs and revenues. When considering quantitative issues, financial efficiency analysis offers a consistent measure in dollars for comparison of alternatives.

Present Net Value is an economic measure that accounts for all current and future costs and revenues for the proposed project in a single dollar figure. Future costs are estimated and discounted into today's dollars and added to the current project costs and revenues. The result is a figure that can be compared across alternatives representing the total financial impact over the life of the project.

Table 9 displays a summary of the financial efficiency analysis for quantifiable costs by alternative.

**Table 9: Financial Efficiency Analysis**

	<u>Alternative 1</u>	<u>Alternative 2</u>	<u>Alternative 3</u>
Investment Length (years)	NA	1	1
Present Net Value (\$)	NA	-\$72,450.00	-\$76,015.00
PV-Revenues (\$)	NA	\$0.00	\$0.00
PV-Costs (\$)	NA	-\$72,450.00	-\$76,015.00

This analysis covered a 1-year period that included the construction season. The analysis considered Forest Service costs only since there is no revenue associated with this project. The No Action Alternative represents the baseline with which to compare the action alternatives and is valued at zero. The negative present net value displayed for Alternatives 2 and 3 is largely due to the cost of trailhead improvements and the fact that there is no revenue return from use at the trailhead. Alternative 3 displays slightly higher costs than Alternative 2 since this alternative involves constructing an additional section of horse trail from the new horse trailer parking lot.

The economic analysis for this project is identical to the financial analysis, because no change in those outputs for which the USFS has established values (range, recreation, and water) would occur. This analysis was conducted utilizing Quicksilver, version 5 and the details of the analysis are on file at the Pagosa Ranger District.

### 3.21. Cultural Resources

To satisfy the forest's National Historic Preservation Act (NHPA) obligations the Pagosa ranger District Archeologist conducted a Class I (files search/literature review) and Class III (intensive-level survey) Sec. 106 (NHPA) inventory of the proposed 4-Mile Trailhead Improvement Project's "area of potential effect" (APE). The results of the Class I literature review, for information on previous heritage resource surveys and known cultural sites within the APE, were positive: an inventory of the proposed project area was conducted in 1976 with negative results. However, the inventory was conducted at a Class II "sample survey" level considered not appropriate by current SJNF Heritage Program protocols. Hence, the District Archeologist conducted a Class III intensive level inventory within boundaries of the 4-Mile Trailhead Improvement Project's Alternative 2 and Alternative 3 areas of potential effect.

The results of the Sec. 106 (NHPA) Class III intensive level heritage resource inventory were negative: no historic or prehistoric cultural properties on or eligible for listing on the National Register of Historic Places were discovered during the course of the pedestrian reconnaissance.

Per stipulations in the Programmatic Agreement (PA) between the USDA Forest Service, Region 2, and the Colorado State Historic Preservation Office (SHPO) for Sec. 106 (NHPA) heritage resource inventories of Forest Service undertakings that produce negative results, the project can be implemented at the forest's discretion with an official report of findings prepared by the forest's heritage resource specialist and submitted to SHPO "for information only" (i.e.: no return letter of concurrence required).

## **3.22. Cumulative Effects**

This section considers the effects on the environment resulting from the incremental impact of the alternatives analyzed in detail, when added to other past, present, and reasonably foreseeable actions and trends.

### **3.22.1. Past Actions**

No relevant past actions were identified that would have any influence on cumulative effects resulting from the combination of this project and other past actions.

### **3.22.2. Present Actions considered**

- Existing recreation use at Trailhead.
- Existing road traffic.

### **3.22.3. Reasonably Foreseeable Future Actions**

In the next 5 years, we anticipate the following occurring in the project area:

- An increase in vehicular traffic along Fourmile Road of 6 percent annually;
- Construction of the Dutton Pipeline.
- Increase in recreation use of the trailhead.
- Private construction at the Lost Valley of the San Juans and associated construction traffic.

Under Alternatives 2 and 3, the scale of impact from this proposed project is small relative to the magnitude of the other actions considered. Given this, the incremental addition of this project to those other actions yielded no identifiable cumulative effects for the following resource areas: vegetation, geology, soils, watershed, range, recreation, MIS, TES wildlife, scenery, economics, or cultural resources.

#### **3.22.3.1. Land Uses**

The combination of construction activity from this project and the Dutton pipeline may result in a temporary (duration of construction) increase in noise for the Lost Valley of the San Juans sub-division.

**3.22.3.2. Transportation:**

Existing traffic volume combined with the Dutton pipeline, future residential construction traffic and this project's construction traffic may cause a temporary increase in traffic volume. Incrementally this increase will be insignificant compared against existing and predicted future traffic volume increases.

## 4. CONSULTATION & COORDINATION

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and publics during the development of this environmental assessment:

### **4.1.1.1. List of Preparers:**

Brian Bachtel – Range

Laura Boudreaux-Johnson - Recreation

Sara Brinton – Ecology, Vegetation

Ron Decker – Recreation

Gary Fairchild – Cultural Resources

Rick Jewell – ID Team Leader, Soil, Geology, Lands, Transportation & Economics

Pete Merkel – Engineering

Mike Murphy – Engineering

Dick Ostergaard – Scenery

Kim Round – Landscape Architect

Becca Smith – Watershed

Gary Vos - Wildlife

### **4.1.1.2. FEDERAL, STATE, AND LOCAL AGENCIES:**

U. S. Fish and Wildlife Service

Mineral County

### **4.1.1.3. TRIBES:**

List on File at Pagosa Ranger District Office

### **4.1.1.4. OTHERS:**

List of adjacent residents on file at Pagosa Ranger District Office.

**Literature Cited:**

USDA Forest Service. 2003. Rocky Mountain Region Endangered, Threatened, Proposed, and Sensitive Species. Forest Service Manual 2600, Chapter 2670, Rocky Mountain Region [Region 2]; Supplement No. 2600-2003-1.

USDI Fish and Wildlife Service. 2002. Birds of Conservation Concern 2002. U.S. Fish and Wildlife Service Division of Migratory Bird Management, Arlington, Virginia. 99pp. [Online version available at <http://migratorybirds.fws.gov/reports/bcc2002.pdf>]