

**U.S. Department of the Interior
Bureau of Land Management
GRAND JUNCTION Field Office
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GRAND JUNCTION, CO 81506**

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-130-2004-018-EA

PROJECT NAME: Bangs Canyon Plan Implementation

PLANNING UNIT (optional): Bangs Canyon Special Recreation Management Area (SRMA)

LEGAL DESCRIPTION: The Bangs Canyon SRMA is located in Mesa County Colorado, 5 miles south of Grand Junction. The area is bounded by the Gunnison River on the north east, Colorado National Monument on the northwest, East Creek (Hwy 141) to the southeast, and Glade Park (Pinon Mesa) to the southwest.

APPLICANT: BLM Grand Junction Field Office

INTRODUCTION: This Environmental Assessment (EA) has been prepared to analyze actions associated with the implementation of the Bangs Canyon Plan (Plan). The EA is a site-specific analysis of potential impacts that could result with the implementation of a proposed action or alternatives to the proposed action. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any “significant” impacts could result from the analyzed actions. “Significance” is defined by NEPA and is found in regulation 40 CFR 1508.27. An EA provides evidence for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of “Finding of No Significant Impact” (FONSI). A Decision Record (DR), which includes a FONSI statement, is a document that briefly presents the reasons why implementation of the proposed action will not result in “significant” environmental impacts (effects) beyond those already addressed in Grand Junction Resource Management Plan (RMP), 1/1987. If the decision maker determines that this project has “significant” impacts following the analysis in the EA, then an EIS would be prepared for the project. If not, a Decision Record may be signed for the EA approving the alternative selected.

BACKGROUND: The Bangs Canyon SRMA was created by the Grand Junction Resource Management Plan of 1987. Special Recreation Management Areas are designated where significant public recreation issues or management concerns occur. Special or more intensive types of management are typically needed. Detailed activity planning, including recreation, is required in these areas and greater managerial investment is likely. Throughout the remainder of this document, the Bangs Canyon SRMA is referred to as Bangs Canyon.

The Bangs Canyon Plan was approved in 1999. The Plan is the result of extensive public participation over a four year period. The plan creates six distinct areas, each containing its own

management prescription. Many of the management actions called for in the plan have been accomplished. These actions include numerous closures of existing roads and trails, development of trail based infrastructure (trailheads, signage), fencing, and new trail system components development. The actions that have been implemented have been largely successful. The public has honored the closures and the closed routes are re-vegetating. Clubs have adopted trails and work with the BLM to build, maintain, and monitor impacts on trails. Fencing has remained intact. Visitors are using designated access points to trail systems and honoring travel prescriptions. Although implementation of the plan to date has been successful, increasing pressure on this area requires implementation of additional measures to meet the intent of the plan.

As stated in the Plan (p. 5), “The RMP designated approximately 40,000 acres (through GIS, Bangs Canyon was determined to contain 58,106 acres. This correction will be made through RMP maintenance) in the Bangs Canyon area as an intensive recreation management area to maintain semi-primitive motorized and non-motorized recreation opportunities, scenic and natural values, and activities such as horseback riding, hiking, and trail-oriented off-road vehicle use. Rough, Ladder, Northeast Creek and Bangs Canyon are to be protected from surface disturbing activities. A portion of Rough Canyon is to be protected for the purposes of geologic interpretation and education under the Rough Canyon Area of Critical Concern (ACEC) designation. New management direction is required to become more responsive to both the visitors and the land, to critical areas requiring intensive management to protect the more visible and popular resources, to public information and other visitor needs, and to provide facilities to help maintain the resource base and accommodate public use of the area. In no case will recreation management or other public land uses allow unique, scenic, and cultural resources of Bangs Canyon to be compromised. The management program will emphasize recreation in concert with other resource programs.” The alternatives presented in this document analyze a variety of actions to achieve and maintain this outcome. The proposed action is the agency preferred alternative which would meet the desired outcome while balancing the management goals of other resource programs.

Three distinct recreation niches are evident in Bangs Canyon. First, the day use, easy access areas provide opportunities primarily for local residents, although some of these urban-interface areas are seeing increased use and awareness from regional visitors (Front Range, Gunnison, Durango, etc). Next, the more remote opportunities are often frequented by regional, national and local visitors engaged in hunting, OHV use, backpacking, or other multi day experiences. Finally, a primitive backcountry experience utilizing remote undeveloped landscapes are utilized by local and regional visitors seeking multi-day recreation opportunities. Permitted events and activities occur throughout Bangs Canyon based on the opportunities provided and managed for.

The BLM can help fulfill many existing and emerging recreation demands while maintaining each distinct niche in Bangs Canyon. Through this document, the BLM analyzes the actions necessary to accomplish the intent of the plan. This EA will address site specific actions needed to manage the urban interface pressures on public land near the city of Grand Junction as well as site specific action required to manage the more remote Bangs Canyon areas. The EA addresses development and management of motorized and/or non-motorized trail systems in areas 1, 2, 3, 4, and the northern portion of Area 5. The central portion of the area (portions of Areas 5 and 6) has little or no development and the EA addresses actions needed to manage this area for its backcountry primitive values. The EA addresses development to accommodate dispersed trail

based recreation needs in the southern portion of Area 6. The EA also analyzes other trail based support infrastructure in each of the areas and conditions of use for visitors. Each alternative has been crafted to accomplish these goals in a different way.

The BLM proposes to fully implement the Plan including completion of trail development, signage, trailhead development and other support infrastructure completion, to encourage partnerships with the BLM, and to broaden conditions of use/restrictions in urban interface areas. The intent of the BLM is to complete site specific analysis of all remaining planned actions which would allow for implementation upon completion of cultural, paleontological, and threatened and endangered species inventories and associated mitigation.

NEED FOR THE PROPOSED ACTION: Grand Junction and Mesa County are typical of growing western communities. The population is expanding at a rate of 2 1/2 % per year, creating a healthy local economy and increasing demands on existing infrastructure within the county. The population growth is primarily attributed to new residents from out of the area relocating to Mesa County. One of the primary reasons for selecting Mesa County is the excellent outdoor recreation opportunities available year round. These new residents have a disproportionate amount of disposable income and often are retired or work part time.

Grand Junction is located on the I-70 corridor and attracts a significant number of tourists each year. The lodging tax receipts are increasing at a rate of about 2 % a year. Sales tax revenues increased by about 4 % last year (2004), a further indication of a growing local economy. The county contains over 130 small businesses catering to outdoor recreation. The Grand Junction Field Office reported almost 1 million visitor days in FY 04, an increase of 7 % over the previous year. 72% of OHV recreation takes place on public lands. The OHV industry contributes in excess of \$260 million a year to the Colorado economy. We estimate that this translates to \$86 million in southwest Colorado, or \$26 million in Mesa County (source Economic Contribution of Off Highway Vehicles Use in Colorado, 2001). OHV registration in Colorado has increased at an annual rate of 18% a year for the past 8 years. Mountain biking is estimated to contribute about \$3 million a year to the local economy (MCNCA, RMP, 2004). Hiking and backpacking use is also increasing (for example, use doubled from 2003 to 2004 on the Mica Mine/Ladder Canyon Trail from 3,383 to 8,167). Other recreational activities which occur on public lands in Mesa County include but are not limited to river running, hunting, camping, and equestrian use. Residents and visitors alike are discovering new recreation opportunities on BLM lands and have placed increasing demand on public land resources. These factors have and will continue to have an impact on public land resources. It is important for the community and the economy for the BLM to provide quality recreation experiences for residents and visitors in a sustainable way that maintains the health of the land.

PURPOSE OF THE PROPOSED ACTION:

The actions proposed and analyzed in this document are those that were derived from the Plan and the GJ RMP. The proposed actions implement specific items in the Plan or the intent of the Plan. Full implementation of the Plan would proactively provide for increasing uses of the area and protection of valuable resources. The proposed actions would provide an alternate site for recreation use off of the Mancos Shale (the need to relocate users off the Mancos was identified after approval of the Plan, See Appendix C), would mitigate user conflict, would encourage user and community participation in management of the area, enhance existing conditions of use for

the area, balance the needs of recreation users of the area with other resources and uses, provide high quality trail systems for multiple recreation use, and identify monitoring criteria.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: Grand Junction Resource Management Plan

Date Approved: January 1987

Decision Number/Page: 2-34, 2-35, and 2-36

Decision Language:

RECREATION: Designate and manage approximately 40,000 (58,106) acres in the Bangs Canyon Area as an intensive recreation management area to maintain the semi-primitive motorized and non-motorized recreation opportunities, scenic and natural values, and activities such as horseback riding, hiking, and trail oriented off- road vehicle use. Protect Rough, Ladder, Northeast Creek, and Bang's Canyons from surface-disturbing activities. Protect a portion of Rough Canyon for purposes of geologic interpretation and education under the Rough Canyon Area of Critical Environmental Concern (ACEC).

WATER: Reduce sediment and salinity yield from Rough Canyon. Treat two severely eroding channels in the Rough Canyon area.

OIL AND GAS/MINERAL MATERIALS: Make Bangs Canyon available for leasing with scenic and natural values stipulations. No surface occupancy stipulation to protect the Bang's Canyon area cliffs and canyons and the Rough Canyon ACEC. Close Rough, Ladder, Bang's and Northeast Creek to mineral materials sales or free use permits. The ACEC was withdrawn from locatable mineral entry (closed to new mining claims) in 1999 for a period of 50 years through the Bangs Canyon Plan.

FORESTRY: Limit cutting units in Bangs Canyon to 20 acres or less in the pinyon-juniper woodlands to protect recreation and scenic values. Reclaim all new roads in Bangs Canyon following logical development. Authorize only commercial fuelwood harvest in Northeast Creek Canyon. Ensure all roads constructed for timber harvesting are temporary, rehabilitated to blend in with the characteristic landscape, and not evident to the casual observer.

WILDLIFE: Focus management on drawing big game winter use out of Glade Park and into this emphasis area. Protect deer and elk critical winter range from disturbing activities from 12/1 to 5/1. Maintain sport fisheries in Northeast Creek. Prohibit surface disturbance within 100 feet of perennial streams, except at necessary stream crossings.

THREATENED AND ENDANGERED SPECIES: Identify approximately 48,000 acres (much of it overlapping) of Uinta Basin hookless cactus, and bald eagle habitat for active management and protection. Protect bald eagle concentration areas from surface disturbing activities from 12/1 to 4/1. Protect one species of federally threatened cacti. Protect known important habitat sites of sensitive plant and animal species from surface disturbing activities.

CULTURAL RESOURCES: Actively manage Rough Canyon and Ladder Springs archaeological sites as high value site areas.

OFF HIGHWAY VEHICLES: Limit vehicle use in Bangs Canyon to designated roads and trails to protect the natural scenic setting.

VISUAL RESOURCES: Manage Bang's, Rough, Ladder and Northeast Creek Canyons, the cliffs of Unaweep Canyon, and the Gunnison River corridor under VRM Class II objectives. Manage the benches in Bangs Canyon under VRM Class III objectives.

SPECIAL MANAGEMENT AREAS: Designated Rough Canyon as an ACEC to protect scientific, geologic, archaeological, and botanical values.

PUBLIC UTILITIES: Identify the canyons in the Bang's Canyon area as unsuitable for public utilities. Identify the remainder of Bangs Canyon as sensitive to public utilities.

TRANSPORTATION: Acquire public access for general resource management from Unaweep Canyon (Highway 141) to Little Park. Close roads that no longer serve their primary purpose and that have relatively little value to multiple use management to protect wildlife. And, Acquire public or administrative access into 37 areas (one of which is #32, Unaweep to Little Park) of public land where legal access does not exist. Use and improve existing roads and trails in these areas where feasible. Construct new roads and trails where none exist or where existing roads and trails are inadequate for BLM needs. Type of access called for is a public road to benefit recreation, forestry, and Range.

LAND TENURE ADJUSTMENTS: Place 140 tracts (one of which is Area 1 of Bangs Canyon) in a disposal category. The Bangs Plan discusses this decision in greater detail: Finalize discussions and negotiations with the City of Grand Junction, Mesa County, and the Museum of Western Colorado for the assemblage of lands leased under any R&PP lease or owned in fee into one parcel to be leased to the city under a new R&PP lease. Implementation of this recommendation is contingent on the city adopting the management plan developed by the Citizens Advisory Group (Area 1).*

*The BLM and City have agreed to manage Area 1 jointly with the area remaining under federal ownership. This agreement to retain Area 1 under federal ownership will require maintenance to the GJFO RMP.

SECONDARY PLANS:

Bangs Canyon Management Plan, August 1999

Management Objectives pg. 5 (see BCMP for specific decisions)

Objectives of the planned management actions are to:

1. Provide semi-primitive motorized, mechanized, non-motorized recreation opportunities, scenic and natural values, and activities such as horseback riding, hiking, trail running, mountain bike riding and trail oriented OHV's (motorcycles, ATV's, and jeeps).
2. Provide for compatible uses within each discrete unit.
3. Resolve resource user conflicts that stem from abuse of the area.
4. Protect natural resources by utilizing accepted ecosystem management principles, to include: range values, wildlife habitat, scenic, cultural, forestry, recreational, sensitive plant and animal habitats, soils, and watersheds.
5. Protect Rough, Ladder, Northeast Creek, and Bangs Canyon from surface disturbance activities.
6. Identify alternatives to land ownership issues and existing status.

Rough Canyon ACEC Plan, August 1992

Cultural resources, endangered plants and scenic values are the critical environmental concerns in the Rough Canyon ACEC. This ACEC includes prehistoric archaeological sites, plants and animals of very localized distribution, and a classical faulted monocline of geologic interest. (See Rough Canyon ACEC Plan for specific decisions).

RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS:

BLM's Priorities for Recreation and Visitor Services, 2003

BLM National Mountain Bicycling Strategic Action Plan, 2002

National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands, 2001

City of Grand Junction Strategic Plan, 2001

CDOW, Glade Park Mule Deer and Elk Data Analysis Unit Plans, Game Management Unit 40, 1999

PUBLIC NOTIFICATION:

Public notification of initiation of the EA was posted on the Grand Junction Field Office Internet NEPA Register on December 4, 2003. The BLM hosted a public meeting on May 25, 2004 to discuss implementation of the Plan, EA process, and timeframe. A series of three public field trips were held on August 21 and 28, September 11, 2004 to view trail location proposals, criteria for placement of trails, and resource management issues in the field. A link was established in June of 2004 on the Grand Junction's internet site on which BLM has posted the summaries of the public meeting, field trips, and status updates (public access to the GJFO web page was suspended. Access was then reestablished.). BLM issued a status update letter on January 7, 2005. The letter included an invitation to interested members of the public to view the BLM developing alternatives and learn about methodology (see Persons/Agencies consulted after Cumulative Impact Summary at the end of this document). BLM issued the EA on August 23, 2005. A 60 day public comment followed. Over 3,000 comments were received.

ISSUE IDENTIFICATION:

Issues identified through the above public notification and resultant feedback includes (issues, for purposes of this document mean effect on a particular resource component):

RECREATION/OHV

Issue 1: Increase in recreation use in Areas 1, 2, 3 and 4 have lead to user conflicts and a proliferation of social trails.

Issue 2: Private property trespass continues to occur on the Tabeguache near Highway 141. Legal access for motorized vehicles to Highway 141 (Unaweep) from Little Park Road is needed.

Issue 3: Access to Game Management Unit (GMU) 40 in the Bangs Canyon portion of the GMU (generally Areas 5 and 6) is limited and DOW harvest objectives are not being achieved. GMU 40 is bounded by the Colorado River on the north, the Utah border on the west, Highway 141 on the east and south and Gateway on the south.

Issue 4: Increased emphasis on reduction of salinity from the Mancos Shale into Colorado River necessitates relocating current and future recreation uses off of the Mancos Shale.

Issue 5: A demand for 'freeriding' mountain bike opportunities is rapidly growing resulting in user created, unsustainable trails.

Issue 6: Lack of looped trail opportunities has resulted in user created trails and concurrent resource damage.

Issue 7: Trails in Area 1 are predominately intermediate to expert skill level and user created. Lack of beginner to moderate trails has resulted in social trailing by those seeking less demanding experiences.

Issue 8: Random parking along Little Park Road by Bangs area users is resulting in safety and soil and vegetation displacement issues.

Issue 9: Level of use and inadequate parking space at the Monument Road Trailhead is leading to sanitation and safety issues.

Issue 10: Dispersed camping impacts are increasing along sections of the Highway 141 corridor. This area is also seeing an increase in use by transient populations and development and use of long term camp sites.

Issue 11: Increased housing development on private lands adjacent to and/or near Bangs Canyon is leading to increased recreational use of the area and some user created trails originating from private residences.

TRANSPORTATION

Issue 1: Lack of motor vehicle access to Highway 141 is affecting primitive motorized access and connectivity to the Tabeguache Trail linking Grand Junction to Montrose, is resulting in private property trespass (see Recreation/OHV Issue 2), is affecting recreation visitors experience, and is an RMP level decision that has not been fulfilled (see Transportation RMP decision on pg. 5, above).

Issue 2: Tabeguache Trail in Area 1 is unsustainable in its current location and existing use of the trail is leading to resource damage, public safety issues, and user conflict.

Issue 3: Many routes within the BCMA are intended for exclusive use by grazing permittees and BLM personnel. Some of these routes are being utilized by the general public. These routes are not part of a recreation trail system.

Issue 4: Some routes designated as open for recreation use in the Bangs Canyon Plan have not proved to be sustainable.

WILDLIFE

Issue 1: The current water supply/distribution for wildlife management is not adequate to utilize allowable forage.

Issue 2: The target elk herd size for the area is 2,200. The current population is approximately 3,000. DOW would like to see improved hunter access to reduce the herd to its target size and meet DOW herd management objectives. DOW has expressed support of enhanced motorized access in the Bangs Canyon Management Area.

DESCRIPTION OF PLANNING AREA

Areas 1, 2, 3 and 4 have become, or are rapidly becoming heavily used urban interface areas. BLM recognizes the value of these lands to the adjoining community and has committed to managing for more intensive levels of uses on these lands in conjunction with the community. The very proximity of these lands to established and new communities/homes necessitates more management actions. Portions of the BCMA are located within the incorporated city of Grand Junction and are no longer “wild lands,” but in fact are our “backyard.”

Areas 5 and 6 are more remote, but becoming better known through hunting, hiking, backpacking and four wheel driving in the area. Area 6 is seeing increased dispersed camping impacts and party sites. Additional management, enforcement, and user presence/peer pressure

in the area is needed. Management actions in the area need to be expanded to address increasing uses, but do not warrant the level needed in the other areas of Bangs Canyon.

Throughout the entire Bangs Canyon area, the BLM has identified the need to manage and protect resources, reduce user conflict, and provide quality experiences by directing users to appropriate sites.

AREA 1 - 1,428 acres or 2% of entire area

Area 1 is used most frequently by bicyclists, trail runners and hikers/dog walkers. The area is becoming popular with Freeriders/downhill bicyclists. The area is also commonly known as the “Lunch Loop” due to the areas excellent trail-based recreation opportunities near town (ride a trail during lunch hour). Historically, most of the trails in Area 1 were user-created over the past 10 years. Lack of design and maintenance has resulted in many trails that are susceptible to erosion and are unsustainable in the long term. Some of the trails leave public lands and trespass onto adjoining private lands.

AREA 2 - 1,719 acres or 3% of entire area

Area 2 is used most frequently by bicyclists and hikers. It is not known how many visitors use this area annually, but monitoring and estimates of use at the Kiln and Ribbon Trailheads show approximately 4,100 visits in 2004. Use of the Ribbon trail has become extremely popular with Freeriders/downhill bicyclists with reports that some of this use is leaving the designated Ribbon trail and entering the Colorado National Monument. Historically, most of the trails in Area 2 were user-created. Lack of design and maintenance has resulted in trail segments that are susceptible to erosion and are unsustainable in the long term. Many of the trail segments utilize slick rock as trail surface but lack adequate delineation. The area is seeing an increase in social trailing and trail braiding both along the Ribbon trail and onto the National Monument.

AREA 3 - 2,819 acres or 5% of entire area

Area 3 is used most frequently by hikers throughout the area and mountain bikers/motorized vehicle users on the Tabeguache trail. Area 3 is also designated as the Rough Canyon Area of Environmental Concern (ACEC) for its scenic, cultural, geology and unique flora and fauna. It is not known how many visitors use this area annually, but monitoring and estimates of use on the Mica Mine/Ladder Canyon trail show 3,383 visits in 2003 and 8,167 visits in 2004. The Tabeguache/Rough Canyon trail show 7,623 visits in 2003 and 6,736 visits in 2004.

AREA 4 - 4,476 acres or 8% of entire area

Area 4 is used most frequently by bicyclists, hikers, 4X4 enthusiasts, and other OHV users. Casual paintball gun use and combat scenario games are frequently staged in Area 4. Many unsustainable user-created trails in Area 4 have been closed. The Billings Canyon Jeep Trail is located in Area 4. Dead-end overlooks see illegal use (underage drinking, drug use, litter, graffiti). It is not known how many visitors use this area annually, but monitoring and estimates of use at the Little Park Trailhead show approximately 2,525 visits in 2004. After its first year of use (May 2004-May 2005), the Billings Canyon Jeep trail saw use of over 1,000 vehicles (3,500 people). (Although Billing Canyon is located in Area 4, it is accessed via Bangs Canyon Trailhead which is located in Area 5).

AREA 5 - 21,326 acres or 37% of entire area

The core of Area 5 sees very little recreational use. Area 5 routes are all challenging two-track roads and are used by bicyclists and motorized users. These roads include the Tabeguache Trail, the road to Billings Canyon, and the Windmill Road. Use of the Billings Canyon access road has increased due to those who are utilizing Billings Canyon Jeep Trail, which is located in Area 4. Hikers, hunters and backpackers and BLM permit holders also use the area. Use numbers for Area 5 are not available

AREA 6 - 25,707 acres or 44% of entire area

Area 6 is used most frequently by hunters and some hikers. Some rock climbers, paintball enthusiasts, motorized vehicle users, and BLM permit holders also use distinct portions of the area. Use numbers for area 6 are not available.

SUMMARY: This section has presented the Purpose and Need of the proposed project, as well as the relevant issues, i.e., those elements that could be affected by the implementation of the proposed project. In order to meet the purpose and need of the proposed project in a way that resolves the issues, the BLM has developed a range of implementation alternatives. These alternatives, as well as a no-action alternative, are presented in the next section of this document. The potential environmental impacts or consequences resulting from the implementation of each alternative are then analyzed for each of the identified issues.

Many of the proposed actions in the analysis concern the construction or reconstruction of recreational trails. The GJFO staff has taken great care in the design and location of the proposed trails. Each trail system has been analyzed to provide a rewarding experience for the visitor while maintaining sustainability of the resource. To this end staff has written trail management objectives for each area where trail system components are proposed. To meet these trail management objectives, site-specific criteria for the placement of trails have been developed to guide trail design and layout decisions (Appendix A). Other actions look to improve trail-based recreation support infrastructure (i.e.: trailheads, signage, etc).

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

The alternatives were developed with an overriding goal: to achieve high-quality, well-balanced, trail-based recreation opportunities for individuals and communities while protecting our natural and cultural resources. The alternatives contain a variety of trail proposals based on what the BLM heard from the public as desired experiences. The alternatives provide a range of trail-based recreation opportunities, each based on trail placement standards/criteria, minimizing resource damage, spreading use over a larger area to reduce user conflicts, and providing for all types of users/uses as described in the goals of the Plan. Infrastructure required to support the trail-based recreation of the area is necessary to contain impacts and would be developed as needed to protect the resources while maintaining the desired setting of the area. The alternatives also provide opportunities which may produce the following beneficial outcomes to both individuals and their communities:

- Improved physical fitness
- Appreciation for our environment
- Appreciation for natural resources and open spaces
- Strengthened sense of community
- Stewardship through volunteerism
- Challenge through one's sport

- Recreational problem solving
- Social affiliation
- Sense of common purpose
- Appreciation of the quality of life offered in the Grand Valley

BLM recognizes benefits to the economy through expansion of diverse recreation opportunities in the local area and by providing additional close-to-home outdoor recreation amenities. BLM also understands that providing these opportunities will benefit the environment by satisfying increasing demand through responsible development and focused use rather than user-created opportunities and concurrent resource damage.

This area is highly valued by all recreation users identified in the Plan and by those who use the area. As such, the BLM carries the expectation that continued implementation will occur hand in hand with these communities and across communities/uses. The goal of each of the alternatives is to repair and reroute the existing trails to bring them up to sustainable standards, as well as develop new routes to provide high-quality recreational trail experiences. Some trails would serve as shared use trails (foot, mechanized, and/or motorized) while the uses would be segregated on other trails. Alternative actions to achieve these goals are discussed in greater detail following this section and correspond with the attached maps.

AREA 1

About 30,000, mostly local residents, visit the area each year. With implementation of the plan, Area 1 would be managed primarily as a community-based recreation site for its designated hike, bike and equestrian trail opportunities. This area would provide easy to expert level trail opportunities. All users would be required to stay on designated routes. All designated routes would be signed. Routes would be rerouted as necessary to ensure sustainability of the trails. Some trails would be closed and rehabilitated. The Tabeguache Trail, from Monument Road to Little Park Road, would be closed to motorized use but would remain open to motorized administrative use. The trail would be rerouted as needed to meet sustainability standards.

All dog owners using the area would be required to pick up and properly dispose of dog waste. This area could be used for organized, competitive and commercial community events and activities if the activities/events do not adversely impact the trail system or other resources. Trail locations that accommodate freeride/downhill (long-travel suspension) bicycles would be identified and designated. BLM would coordinate with the City of Grand Junction and Mesa County on trailhead improvements at Tabeguache Trailhead off of Monument Road. The BLM and other law enforcement agencies (city, county, state) would enforce night closure hours for use and occupancy of Area 1 and address other law enforcement issues.

Development of an instructional mountain bike trail similar to “Rustler’s Loop” would occur in addition to the creation of “easy to moderate” skill level trails. Trails and facilities would be designed and maintained to accommodate the predominant uses. Although equestrian use is allowed in Area 1, this use is not emphasized or encouraged. Equestrian use is encouraged in areas 4, 5, and 6.

AREA 2

With implementation of the plan, Area 2 would be managed primarily as a community-based recreation site for its designated hike, bike and/or equestrian trail opportunities. This area would

provide moderate to intermediate level trail opportunities. All users would be required to stay on designated routes. All designated routes would be signed. Routes would be rerouted as necessary to ensure sustainability of the trails. Some trails would be closed and rehabilitated. This area could be used for organized, competitive and commercial community events and activities if the activities/events do not adversely impact the trail system or other resources. Trail locations that accommodate freeride/downhill (long-travel suspension) bicycles would be identified and designated. The BLM would expand existing night closure hours for use and occupancy of all of Area 2. Connector hiking (non-mechanized/non-motorized) trail(s) from the Ribbon Trailhead and/or Ribbon trail to Old Gordon trail in the Colorado National Monument would be constructed and designated. Additional trail loops would be constructed and designated within Area 2 for both non-mechanized and non-motorized use. The Ribbon Trailhead would be expanded and additional amenities provided if use warrants.

AREA 3

With implementation of the plan, and with the exception of the Tabeguache and route leading to the east of Tabeguache trail, Area 3 would be managed primarily as a community-based recreation site for its designated hike and equestrian trail opportunities. This area would provide easy to intermediate level trail opportunities. All users would be required to stay on designated routes. All designated routes would be signed. Routes would be rerouted as necessary to ensure sustainability of the trails. Some trails would be closed and rehabilitated. This area could be used for organized, competitive and commercial community events and activities if the activities/events do not adversely impact the trail system or other resources on the Tabeguache, Rough Canyon, or Mica Mine Trails. Educational use of this area would be encouraged. The BLM would institute night closure hours for use and occupancy of Area 3. Additional hiking looped trails would be constructed and designated including, but not limited to Clarks Bench, Rough Canyon, and the Mica Mine. The Mica Mine and Clarks Bench trails would be available to both hiking and equestrian use. Motorized trail opportunities in the area would not be expanded. The Tabeguache Trail would be maintained as needed to ensure sustainability.

AREA 4

With implementation of the plan, Area 4 would be managed primarily as a community-based recreation site for its designated trail systems. The north portion of Area 4 would be managed for mountain bike, hiking, trail running and dog walking trail opportunities. This system would connect at designated spots over Little Park Road to Area 1 and 2 trails. This system would be served by Little Park Trailhead. This trailhead may see the installation of a vault toilet should use levels indicate.

The south portion of Area 4 would be managed as a Shared Use trail system for ATV, motorcycle, 4X4, hiking, mountain biking trail opportunities. This area would provide easy to advanced level trail opportunities to encourage family participation and skills development. All users would be required to stay on designated routes. All designated routes would be signed. Routes would be rerouted as necessary to ensure sustainability of the trails. Some trails would be closed and rehabilitated. A hiking and horse trail area would be designated. These trails would connect to trails located in the northern portion of Area 5. These trails would be served by the Bangs Canyon trailhead.

Area 4 could be used for organized, competitive and commercial community events and activities if the activities/events do not adversely impact the trail system or other resources. The

BLM would institute night closure hours for use and occupancy of Area 4. This area would serve as an urban interface motorized/ mechanized trail system that meets a similar need as Area 1.

AREA 5

With implementation of the plan, Area 5 would be managed for its designated motorized two track opportunities along the existing Windmill Road, the access road to Billings Canyon, and on the Tabeguache Trail. Two new ATV routes would be constructed. These routes would provide better ATV loop opportunities and would serve as an alternate loop should the private property along the Magellan Loop remain private. The remainder of Area 5 would continue to be managed as a primitive backcountry area. Maintenance of the primitive and remote nature of Area 5 is a goal of these alternatives with little to no development except to maintain this character. Day-use and multi-day opportunities for primitive experiences would be encouraged. Motorized and mechanized users would be required to stay on existing, designated routes. These three designated routes would be signed and maintained. This area could be used for organized, competitive and commercial community events and activities. The BLM would institute night closure hours for urban interface areas of Area 5.

AREA 6

With implementation of the plan, the northern and western portion of the area (north of Northeast Creek and west of the Tabeguache Trail) would continue to be managed primarily for its backcountry primitive opportunities (horse and hike). This area represents approximately 74 % of Area 6. The opportunities described in each alternative for this portion of Area 6 are designed to provide unconfined foot and horse recreation opportunities. Day-use and multi-day opportunities for primitive experiences would be encouraged. Many existing routes would be closed and rehabilitated.

The southern portion of the area (south of Northeast Creek) would be managed primarily as a regional-based recreation site for its designated motorized and mechanized trail opportunities (shared use). Motorized and mechanized users would be required to stay on designated routes. All designated routes would be signed. Existing routes utilized as part of the recreational trail system would be rerouted and maintained as necessary to ensure sustainability of the trails.

The entire area could be used for organized, competitive and commercial community events and activities if the activities/events do not adversely impact the trail system or other resources. The BLM would enforce night closure hours for urban interface areas of Area 6. Connection to the Tabeguache from Highway 141 (Unaweep) would occur.

Proposed Actions common to all alternatives (except no action):

1. OHV sound limit of 96 db using the SAE 20" [SAE J1287] test would be applied throughout the management area.
2. Retention of Area 1 in BLM ownership to be managed in cooperation with the city of Grand Junction. Area 1 trailhead development adjacent to Monument Road including the installation of sanitation facilities (including a dog waste program) in cooperation with the city of Grand Junction and/or other willing partners.
3. Closure of the road leading east into Billings Canyon from the intersection with the Billings Canyon Jeep trail.

4. Fire pans and portable human waste disposal devices are required for all dispersed camp sites. Impacts from dispersed camping would be monitored. If monitoring indicates, BLM has the option of designating dispersed camping locations and limiting camping to the designated locations only.
5. In the future fees may be charged of recreation visitors commensurate with amenities provided in accordance with regulations and policies. Public comment may be required prior to instituting fees.
6. Areas 1, 2, 3, and 4 and portions of 5 and the north portion of area 6 along the banks of East Creek, would be closed to occupancy from 11pm to 5 am every day. Exceptions may be granted on a case by case basis.
7. Monitoring the impacts of actions that may be derived from this analysis is an essential part of Plan implementation. To that end specific monitoring locations would be established during the construction phase of each action. Appropriate monitoring protocols would be selected for each type of site. For example: A trail development would have photo monitoring as a selected tool. The monitoring site would be selected as being typical of a segment of trail. Photos would be taken of the location prior to construction, just after construction and periodically thereafter. A permanent administrative record would be kept to document impacts and serve as information for future actions that may be needed to repair or manage impacts. Traffic counters would be installed at key locations to assist in management decisions and allocation of resources needed to manage human impacts. Users of these areas would be asked to participate in monitoring impacts to the area following the Billings Canyon/Grand Mesa Jeep Club model.
8. Certain areas within Bangs Canyon were identified as no target shooting areas in the 1987 RMP. This analysis would continue this restriction and redefine it to include all devices that propel a projectile, including but not limited to, sling shots, paint ball, air guns, and bow and arrow. This does not apply to the lawful taking of game.
9. Travel in areas 1, 2, 3 and 4 would be restricted to designated routes for all uses. This includes, but is not limited to hiking and horse use. All motorized and mechanized travel is limited to designated routes throughout the BCMA. Grazing permittees would be allowed cross-country travel on horseback within that portion of the Bangs allotment in Area 4 for purposes of livestock management.
10. Continue efforts to acquire the two parcels along the Gunnison River that prohibit legal public access on the Magellan Loop Trail. Once these parcels are under BLM management the trail be assessed for adherence to the criteria of placement of trails and completed as called for in the plan.
11. In cooperation with the Colorado Division of Wildlife, a series of water developments would be constructed in remote locations of Area 5 and 6 for big game. No more than 12 locations would have these water developments. The benefits of water development include increased water sources for big game and other species, disbursement of the herds over a broader range, and water distribution over a larger area which allows wildlife to use other available forage.
12. The alternatives include the designation of administrative routes. Administrative routes are not available for use by the public. Allotment plans and permits may specify the seasons and conditions of use of permittees on these routes.
13. A combination of kiosks and handouts would be used to inform visitors about regulations and travel management. Trail markers, consistent with the Colorado State

standards would be used to mark routes. Barriers and gates would be used where necessary to limit travel.

14. Additional routes, infrastructure and facilities may be added or removed from the area if monitoring of demand and impacts warrants. These actions would undergo a separate analysis prior to action.

15. Appropriate gates and barriers would be erected to direct or contain public access, or to restrict access to specific locations. An example would be to place gates in strategic locations for seasonal closures if they become necessary.

16. Trail systems would be designed so as to prevent salinity from the Mancos Shale entering into the Colorado River.

17. All trails would adhere to the "Criteria for the Placement of Trails" (Appendix A). Some existing designated trails would require reroutes or major maintenance. Existing designated routes would remain open until reroutes were completed.

18. The location of proposed trails as shown on the accompanying maps represent GPS (global positioning system) and GIS (geographic information system) data from preliminary trail design and layout work. Site-specific cultural, T&E species, and paleontological clearances of each proposed trail corridor would be conducted prior to final layout and construction. If resource conflicts are identified, the trail would be rerouted to mitigate conflicts, or eliminated if the resource issues cannot be mitigated.

19. Social trails not identified as part of the designated route system would be closed and rehabilitated.

20. Ground disturbing actions described in the decision record can be implemented without further analysis after site specific cultural, paleontological, and threatened and endangered species clearances. If these resources are found, minor relocation of proposed actions may occur without additional analysis.

21. Priority would be given to actions where users demonstrate stewardship and assist BLM in implementation of these actions.

22. Areas 1, 2 and 3 could be used for events/activities (fun runs, kid events, City sponsored events) although most permitted events/activities would be directed to Areas 4, 5 and 6.

23. Within deer and elk critical winter range, no construction would occur from December 1 to May 1 and within bald eagle concentration areas, no construction would occur from December 1 to April 1.

24. Work with CDOT and Mesa County to sign Gunny crossing across Little Park Road.

25. Update recreation and travel maps for navigation use by the public. Ensure consistency between map and on-ground signage.

26. Future actions for other resources would be considered through separate analysis. Future project analysis would consider impacts to the recreation resource and design of these projects would be consistent with the Plan and other resource program objectives.

27. Coordinate with CDOT on issues arising from random parking and user created pull-offs along Highway 141.

28. Seasonal closures would be instituted as needed on any component of the trail system to protect soils and wildlife during critical seasons. Seasonal wildlife closures would be coordinated with the DOW.

Alternative 1 (See Map 1):Area 1:

- A. Development of trails as shown on map #1. This includes the closure of certain routes.

Area 2:

- A. Construct a connector hiking trail from the Ribbon Trailhead to Old Gordon trail in the Colorado National Monument.
- B. Additional loop hiking trails would be built between Rough Canyon and Little Park Road.
- C. Designate loop hiking and biking trails on the slickrock south of Little Park Road. These trails would be served by the Kiln and Ribbon Trailheads.
- D. Construction of a hike/bike trail west of Little Park Road.
- E. Construct a loop hike/bike trail that connects the Ribbon trail to Little Park Road and south of Little Park road to the Bangs Trailhead. Consider linking this trail to the Kiln trailhead.
- F. Barricade existing closed routes west of Little Park Road to enforce the closures.

Area 3:

- A. Construct three hiking-only trails along the rims of Rough Canyon and in the canyon bottom.
- B. The Mica Mine and Clarks Bench trails would be open to both equestrian and hiking use.

Area 4:

- A. If future use levels warrant, construct a vault toilet at the Little Park Trailhead. Indicators of the need for an expanded trailhead include at capacity parking on high use weekends/evenings, increased utilization of trailhead for permitted events, use by vehicles towing trailers, evidence of human waste, reports of crowding and sanitation issues, increased parking along Little Park Road, and traffic counter data. The parking area would be expanded to accommodate the forecast increase in use. The total disturbed area would not exceed two acres. The existing post and cable perimeter fence would be relocated and extended to define the expanded parking area. The opening to the trail system would be restricted to fifty inches in width. This would restrict access of full-sized vehicles. The routes beyond the trailhead would not be available to full sized vehicles except for administrative use and law enforcement needs.
- B. Trail development as shown on map # 1, including the closure of routes as shown. The proposed trail system would be based on primary access from the Little Park Trailhead. A system of looped multiple-use trails would be constructed for ATVs, mountain bicycles and motorcycles. The trails would be progressively more challenging as the user moves further from the trailhead.
- C. If future use levels warrant, construct a trailhead facility at 3rd flats to include parking for 10 towing vehicles. Total disturbed surface would not exceed ½ acre. Trailhead would be defined by a barrier around the perimeter.
- D. Design and construct loop hiking and equestrian trails from trails which have been previously closed near Little Park road.

Area 5:

- A. Construct hike and horse trails as indicated on map 1.
- B. Close the Tabeguache trail to motorized access eastward from the location where the proposed motorized reroute intersects with the main trail. Mountain biking, horse use and hiking would continue to be allowed on this section of the Tabeguache.
- C. Where the Tabeguache Trail splits into two alternate routes (one less difficult and one more difficult) in Area 5, travel will be allowed on the ledges between the two routes. This “island” is the only area where travel will be allowed off the designated route.

Area 6:

- A. If future use levels warrant, construct a trailhead facility to the west of State Highway 141 near East Creek as shown on map 1 (East Creek Trailhead). Indicators of the need for a trailhead include evidence of human waste, reports of sanitation issues, increased parking along Highway 141, and increased resource damage from vehicles pulling off and parking randomly near East Creek. The trailhead would be graded and graveled. The perimeter would be delineated with a suitable barrier to contain the impacts. Signing and hand out maps would be provided.
- B. A motorcycle and mountain bike trail system would be constructed in the southern portion of area 6 (see map # 1). This system would include the development of a two-track route connecting the Tabeguache trail to the Northeast Creek Road (6-15 on map 1), with a short connector to Snyder Flats Road (6-14 on map 1), thus connecting to Highway 141 (Unaweep). Primary access would be provided and a new trailhead constructed adjacent to the North East Creek Road (Northeast Creek Trailhead).
- C. A trailhead would be constructed at a location next to the North East Creek Access road (North East Creek Trailhead) at the time the trail system is constructed. This facility would accommodate the visitors to the area 6 trails. It would be graded and graveled. The perimeter would be defined. The trailhead is intended for day use only although staging vehicles at the trailhead overnight would be allowed. An information kiosk and hand out maps would be installed. The trailhead would be adequate to accommodate 15 towing vehicles, about $\frac{3}{4}$ acre. The perimeter would be defined with suitable fence or barrier. Interpretative signing and hand out maps of the area would be made available for the public. A sanitation facility may be installed at a later date if the level of use warrants.
- D. The existing unauthorized routes leading west from Highway 141 (6-2, 6-4, 6-5 on map #1) would be closed to vehicles. Coordinate with CDOT on safety issues related to random parking off of Highway 141 at these sites.
- E. The existing 4X4 route in the northern portion of Area 6 (East Creek Trail, 6-3 on map 1) would be extended to connect with the North East Creek Access Road (6-12 map 1). This portion of the North East Creek Access Road would be extended to connect with the existing Snyder Flats Road (6-13 on map 1). The Snyder Flats road would be extended to connect to the western end of the North East Creek Trail. A connector from this trail would be made to connect with the Tabeguache Trail (6-15 on Map 1). This route would be a two-track route and would be open to all uses.
- F. Construct a hiking only trail in East Creek (6-6 on map 1). The trail would avoid the riparian zone.
- G. If future use levels warrant, a trailhead (Unaweep Trailhead) would be constructed near the existing eastern terminus of the Tabeguache Trail on Highway 141. The

trailhead would serve hikers, equestrians and mountain bikers. The trailhead would be graveled, graded, the perimeter delineated and the trailhead would contain a kiosk.

Alternative 2 (See Map 2):

Area 1:

- A. Construction, relocation and closure of trails as shown on Map 2.
- B. The Tabeguache Trail, from Monument Road to Little Park Road, would be closed to motorized use. Unsustainable portions of the trail would be rerouted as necessary.

Area 2:

- A. Construct a connector hiking trail from the Ribbon trail and/or trailhead to Old Gordon trail in the Colorado National Monument.
- B. Delineate a multi-loop hiking/biking trail from the Ribbon to the Kiln trailhead to the Bangs trailhead and west across the slickrock and back to the Ribbon trailhead.
- C. Existing closed routes west of Little Park Road would be barricaded to enforce the closures.
- D. Construct a hiking/biking loop out of the Ribbon trail north of Little Park road.

Area 3:

- A. Construct a hiking only trail from Rough Canyon through “the notch” on Clark’s Bench to the Mica Mine to create a loop trail opportunity.
- B. Delineate the hiking route in the bottom of Rough Canyon and construct a hiking-only route along the north rim of Rough Canyon (Rough Canyon Rim trail) to create a non-motorized, non-mechanized loop trail.
- C. Promote educational opportunities within the ACEC through partnership with the Museum of Western Colorado, Mesa State and other educational institutions/organizations. Develop and implement an interpretive plan for the ACEC.

Area 4:

- A. Trail development as shown on map # 2, including the closure of routes as shown. The proposed multi-use trail system would be based on primary access from the existing Little Park Trailhead. A system of looped multiple use trails would be constructed for ATVs, mountain bicycles, and motorcycles. The system would also be available for use by equestrians and hikers. The trails would be progressively more challenging as the user moves further from the trailhead. ATV trails would be approximately 6 feet wide and constructed using a trail tractor (a specially designed small bulldozer with an overall width of 48 inches). The more remote trails would be designed for motorcycles and mountain bicycles. They would be narrow, or a maximum of 3 feet wide. Some of these trails may be constructed by the trail tractor, most would be hand constructed by trail crews using hand tools.
- B. If future use levels warrant, construct a vault toilet at and expand the Little Park Trailhead. The parking area would be expanded to accommodate the forecast increase in use. Indicators of the need for an expanded trailhead include at capacity parking on high use weekends/evenings, increased utilization of trailhead for permitted

- events, use by vehicles towing trailers, evidence of human waste, reports of crowding and sanitation issues, increased parking along Little Park Road, and traffic counter data. The additional expanded area would not exceed two acres. The existing post and cable perimeter fence would be relocated and extended to define the expanded parking area. The opening to the trail system would be restricted to fifty inches in width. This would restrict access of full-sized vehicles. The routes beyond the trailhead would not be available to full-sized vehicles except for administrative use and law enforcement needs.
- D. Closure and rehabilitation of the Second Flats access off Little Park Road. This access point would no longer connect to the recreational trail system.
 - E. Construct a connection from the Tabeguache Trail to the Gunny Loop and Ribbon Trails for hikers and mountain bikers.
 - F. Design and construct loop hiking and equestrian trails from an area where trails have been previously closed near Little Park road.

Area 5:

- A. Continue to manage the backcountry primitive area for these values. No motorized trails or facilities would be constructed within Area 5. Some existing public routes would be closed and rehabilitated. Administrative access would be maintained.
- B. Construct a series of hiking and equestrian trails as shown on map # 2 in the northeast portion of Area 5 (access provided by the Unawep Trailhead in area 6).
- C. Where the Tabeguache Trail splits into two alternate routes (one less difficult and one more difficult) in Area 5, travel will be allowed on the ledges between the two routes. This “island” is the only area where travel will be allowed off the designated route.

Area 6:

- A. If future use levels warrant, upgrade the primitive trailhead facility to the west of State Highway 141 near East Creek (East Creek Trailhead). Indicators of the need for a trailhead include evidence of human waste, reports of sanitation issues, increased parking along Highway 141, and increased resource damage from vehicles pulling off and parking randomly near East Creek. The existing trailhead would be graded and graveled. The perimeter would be delineated with a suitable barrier to contain the impacts on adjoining soils. Signing and hand out maps would be provided.
- B. A motorcycle and mountain bike trail system would be constructed in the southern portion of area 6 (see map # 2). This system would include the development of a two-track route connecting the Tabeguache trail to the Northeast Creek Road (6-15 on map 2). A short connector to Snyder Flats Road would be made from the North East Creek Trail (6-14 on map 2) and another connector from Snyder Flats Road to the North East Creek Road (6-13 on map 2), thus connecting to Highway 141 (Unawep). This connector from 141 to the Tabeguache would be a two track route available to all uses. Primary access would be provided and a new trailhead constructed adjacent to the North East Creek Road (Northeast Creek Trailhead). The trailhead is intended

- for day use only although staging vehicles at the trailhead overnight would be allowed.
- C. The existing two-track route in the northern portion of area 6 (East Creek Trail) would be extended to connect with the North East Creek Access Road (6-12 on map 2) and would be available to all uses.
 - D. Access roads (6-2, 6-4, 6-5 on map 2) leading west from state Highway 141, south of Highway 50 and north of Cactus Park Road would be closed to vehicles with the exception of Snyder Flats road, East Creek road, Northeast Creek road, and BLM trailheads. Hiking, mountain biking, and equestrian access would continue to be allowed from Highway 141 east along the Tabeguache from the Unaweep Trailhead. Coordinate with CDOT on safety issues related to random parking off of Highway 141.
 - E. A trailhead would be constructed at a location next to the North East Creek Access road (North East Creek Trailhead) at the time the trail system is constructed. This facility would accommodate the visitors to the area 6 trails. It would be graded and graveled. The perimeter would be defined. The trailhead is intended for day use only. An information kiosk and hand out maps would be installed. The trailhead would be adequate to accommodate 10 towing vehicles, about ½ acre. Interpretative signing and hand out maps of the area would be made available for the public. A sanitation facility may be installed at a later date if the level of use warrants.
 - F. If future use levels warrant, a trailhead (Unaweep Trailhead) would be constructed near the existing eastern terminus of the Tabeguache Trail on Highway 141. The trailhead would serve hikers, equestrians and mountain bikers. The trailhead would be graveled, graded, the perimeter delineated and the trailhead would contain a kiosk.
 - G. Construct a hiking only trail in East Creek. The trail would avoid the riparian zone.
 - H. Designate routes west of the Tabeguache Trail as administrative use only, closing those that serve no administrative purpose. These routes are not part of a public recreational trail system and are located within the area identified as a backcountry primitive area through the RMP.

Alternative 3 (See Map 3):

Area 1:

- A. Construct, close, and relocate trails as shown on map 3.
- B. The Tabeguache Trail, from Monument Road to Little Park Road, would be closed to motorized use. Unsustainable portions of the trail would be rerouted as necessary.

Area 2:

- A. Construct a connector hiking trail from the Ribbon Trailhead to the Old Gordon trail in the Colorado National Monument.

Area 3:

- A. Delineate a hiking route in the bottom of Rough Canyon and construct a hiking-only route along the north rim of Rough Canyon to create a non-motorized, non-mechanized loop trail.

Area 4:

- A. Construction of new trails and closure of existing routes as shown on map #3.
- B. Closure of the Second Flats access off Little Park Road.

Area 5:

- A. The following routes would remain open to motorized use: the Windmill Road (open to the public), the access road to Billings Canyon (open to the public), the road into Hells Hole (administrative use, closed to the public) and western section of the Tabeguache (open to the public) as shown on map 3.
- B. The eastern section of the Tabeguache would remain open to mountain bike and other non-motorized uses.
- C. A day-use hike/horse loop trail would be constructed in the northeast portion of Area 5 and 6.
- D. Where the Tabeguache Trail splits into two alternate routes (one less difficult and one more difficult) in Area 5, travel would not be allowed on the ledges between the two routes.

Area 6:

- A. Trails would be developed in the southern portion of area 6 as shown on map 3. Recreation access would be provided by the North East Creek Access Road.
- B. The East Creek Trail would be extended as a 4X4 route to connect to the North East Creek Road.
- C. Access roads leading west from state Highway 141, south of Highway 50 and north of Cactus Park Road would be closed to vehicles with the exception of Snyder Flats road, East Creek road, Northeast Creek road, and BLM trailheads. Hiking, mountain biking, and equestrian access would continue to be allowed from Highway 141 east along the Tabeguache from the Unaweep Trailhead (see map 3).
- D. A day-use hike/horse loop trail would be constructed in the northeast portion of Area 5 and 6.
- E. Construct a hiking only trail in East Creek. The trail would avoid the riparian zone.
- F. The existing 4X4 route in the northern portion of Area 6 (East Creek Trail) would be extended to connect with the North East Creek Access Road (6-12 map 3). This portion of the North East Creek Access Road would be extended to connect with the existing Snyder Flats Road (6-13 on map 3). The Snyder Flats road would be extended to connect to the western end of the North East Creek Trail. A connector from this trail would be made to connect with the Tabeguache Trail (6-15 on Map 3). This route would be an ATV route and would be open to motorcycle use, mountain bikes, foot and horse travel.

No Action Alternative/Alternative 4:

The no action alternative would halt the further implementation of the Bangs Canyon Plan. No additional work would be done to develop recreation resources or to protect resources from the

encroaching urban population and increased human pressure. This alternative is inconsistent with the Plan and the RMP.

Revised Agency Proposed Action (RAPA/Alternative 5)

NOTE: The Bangs Canyon EA was distributed to the public for comment in September of 2005. About 3,000 comments were received from the public. The comments were reviewed upon the close of a 60 day comment period. The BLM heard from a wide variety of local, regional and national individuals and organizations. They expressed many varying points of view and concerns for their quality of life and the value of public land. As a result of the review of these comments, a Revised Agency Proposed Action was crafted from a mix of the alternatives. Listed below are actions which formulate the Revised Agency Proposed Action (RAPA/Alternative 5).

Revised Agency Proposed Action (RAPA)/Alternative 5:

Additions to Common to All under Alternative 5. These are actions that are common to all areas or in more than one area:

- A. Trailheads would be located in day use areas. Vehicles would be allowed to park overnight at these facilities. However, no occupancy would be allowed within the night time closure hours.
- B. Day use has been redefined to allow occupancy and use between 6 a.m. and 10 p.m. Use outside of this timeframe would not be allowed.
- C. BLM would work with Mesa County to provide a hike/bike crossing across Little Park road to the Little Park trailhead to connect Area 4 trails with Area 1 and 2 trails.

Area 1: The RAPA is the same as Alternative 1 with the following exceptions:

- A. BLM would develop an instructional trail for beginning mountain bikers similar to “Rustlers Loop” in the NCA. This route is depicted on the Alternative 1 map but was not described as an instructional trail in the EA.
- B. The Tabeguache Trail between Monument Road and Little Park Road would be closed to motorized use. This does not affect future maintenance work via motorized means.

Area 2: The RAPA is the same as Alternative 1.

Area 3: The RAPA is the same as Alternative 1 with the following exceptions:

- A. The night time closure has been extended to the southern boundary of Area 3.
- B. The proposed hiking trail to the south west of Rough Canyon has been omitted.

Area 4: The RAPA is the same as Alternative 2 with the following exceptions:

- A. Little Park Trailhead would not be expanded beyond the present perimeter. Sanitation facilities may be added. Access from the Little Park Trailhead to the non-motorized trail system would be restricted to prevent motorized access.
- B. The motorized trails in the north portion of Area 4 have been omitted.

- C. A series of walking trails would be delineated in an area east of Little Park Road (4E). No motorized use including parking would be allowed in this area.

Area 5: The RAPA is the same as Alternative 3 with the following exceptions:

- A. Two new ATV routes are included in the RAPA and have not undergone analysis. These routes would provide better ATV loop opportunities and would serve as an alternate loop should the private property along the Magellan Loop remain private. These trails would replace those originally proposed in the north section of Area 4. An administrative route on Horse Mesa would be designated as part of the recreational trail system.
- B. Horse and hike trails proposed in the northeast corner, north of the Tabeguache trail have been omitted.
- C. The Tabeguache trail east of the Tabeguache reroute would be closed to all motorized and mechanized uses. The Old Tabeguache Trail would be open for administrative use only.
- D. Where the Tabeguache Trail splits into two alternate routes (two different levels of difficulty), travel would be allowed within the designated corridor, or “island” between the two trails

Area 6: The RAPA is the same as Alternative 2 with the following exceptions:

- A. Trailhead names have been changed to reduce confusion. The locations remain the same as described in Alternative 2. The Unawep trailhead was renamed as the Whitewater trailhead. The East Creek trailhead remains the East Creek trailhead. The Northeast Creek trailhead was renamed the Unawep trailhead. The East Creek trailhead would be expanded to act as the primary motorized trailhead and staging area. The Whitewater and Unawep trailheads would be developed as secondary trailheads, accommodating fewer vehicles. The trailheads would be developed and may include sanitation facilities if use dictates.
- B. One location off of Highway 141 for access would be designated and delineated for use by rock climbers.

Bangs Canyon Approximate Mileage

ALTERNATIVE 1							
	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	TOTAL
Proposed	5	1	0	4	2	8	20
Closed	6	1	0	7	2	3	19
Admin	0	0	0	0	16	51	67
Existing*	16	3	6	11	43	29	108
Proposed New	13	10	6	28	36	84	177
Open public routes	29	13	12	39	79	113	285
ALTERNATIVE 2 – PROPOSED ACTION							
	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	TOTAL

Proposed Closed	5	0	0	4	3	14	26
Closed	6	1	0	7	2	3	19
Admin	0	0	0	0	34	64	98
Existing*	16	6	5	11	40	28	106
Proposed New	11	5	4	23	16	53	112
Open public routes	27	11	9	34	56	81	218

ALTERNATIVE 3

	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	TOTAL
Proposed Closed	0	0	0	5	2	13	20
Closed	6	1	0	7	2	3	19
Admin	3	0	0	0	24	57	84
Existing*	20	4	6	11	32	33	106
Proposed New	4	1	3	17	19	37	81
Open public routes	24	5	9	28	51	70	187

ALTERNATIVE 4 – NO ACTION

	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	TOTAL
Proposed Closed	0	0	0	0	0	0	0
Closed	6	1	0	7	2	3	19
Admin	0	0	0	0	0		0
Existing	16	5	10	11	75	94	211
Proposed New	0	0	0	0	0	0	0
Open public routes	16	5	10	11	75	94	211

ALTERNATIVE 5-REVISED AGENCY PROPOSED DECISION

	Area1	Area2	Area3	Area4	Area5	Area6	TOTAL
Proposed Closed	9	8	0	10	7	11	45
Closed	6	1	0	7	2	3	19
Admin	0	1	0	1	23	56	81
Existing	15	9	9	13	24	20	90
Proposed New	12	6	4	20	6	49	97
Open public routes	27	15	13	33	30	69	187

*Existing mileages differ between alternatives due to the utilization of portions of existing routes as components of the trail system.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

A. An additional trailhead near the south end of Area 6 was considered. In order to access public land and the proposed trail system visitors would have to cross private land in at least two locations. A very challenging trail would need to be constructed across a scree hillside. For these reasons this location was dropped from further consideration. 6th PM T14S R100W sec 11 SW of NE.

B. Two alternate locations for observed motorcycle trials open areas were considered. Both proposals were dropped from consideration due to the complexities of designating an open area within a designated trails system and a lack of an available partner for this project.

C. A location for two-track access from the Tabeguache Trail to Highway 141 was investigated. It was determined to be unsuitable due to large rock outcroppings and severe topography. Further, to make this a viable access point, major construction including blasting would be required. This is not consistent with the visual management objectives for the canyon and is not consistent with the Criteria for Placement of Trails. 6TH PM T135S R99W sec 7 NE of SW.

D. A location for a 4X4 rock crawl near the northern end of area 6 was investigated. The area was determined to be unsuitable due to the extremely large rocks in and narrow nature of the drainage. 6th PM T13S R99W sec 7 SW of NE.

E. The previously identified proposed location for a connection between the Tabeguache trail and Highway 141 near the private lands at the northernmost tip of area 6 was eliminated from consideration. The proposed route is visible from the Unaweeep-Tabeguache Colorado Scenic Byway. The RMP specifies the location as VRM class III. The constructed route would leave a cut bank visible to the Byway. No suitable location could be found that would provide adequate parking and trailhead facilities at this location. 6th PM T12S R99W sec 33 NE of NM.

Standards for Public Land Health:

In January 1997, the Colorado State Office of the BLM approved the Standards for Public Land Health (<http://www.co.blm.gov/standguide.htm>) and amended all RMPs in the State. Standards describe the conditions needed to sustain public land health and apply to all uses of public lands. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality.

Standard 1: Upland soils exhibit infiltration and permeability rates that are appropriate to soil type, climate, land form, and geologic processes. Adequate soil infiltration and permeability allows for the accumulation of soil moisture necessary for optimal plant growth and vigor, and minimizes surface runoff.

Standard 2: Riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance such as fire, severe grazing, or 100-year floods. Riparian vegetation captures sediment, and provides forage, habitat and

bio-diversity. Water quality is improved or maintained. Stable soils store and release water slowly.

Standard 3: Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species and habitat's potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous, and able to reproduce and sustain natural fluctuations, and ecological processes.

Standard 4: Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.

Standard 5: The water quality of all water bodies, including ground water where applicable, located on or influenced by BLM lands will achieve or exceed the Water Quality Standards established by the State of Colorado. Water Quality Standards for surface and ground waters include the designated beneficial uses, numeric criteria, narrative criteria, and anti-degradation requirements set forth under State law as found in (5 CCR 1002-8), as required by Section 303(c) of the Clean Water Act.

Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

AFFECTED ENVIRONMENT **ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES**

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: There are no designated Class I air sheds located within Mesa county; the nearest Class I areas are 50+ air miles away, with the Flattops and Maroon Bells wilderness areas and Black Canyon NP being the closest. The EPA general conformity rule requires a formal conformity determination document for federally sponsored or funded actions in nonattainment areas, or in certain designated maintenance areas when the total direct and indirect net emissions of nonattainment pollutants (or their precursors) exceed specified levels. Since the project area is not within a nonattainment area, Clean Air Act conformity does not apply.

Environmental Consequences/Mitigation: Construction of, and improvements to trails, trail heads and facilities would cause some temporary negative impacts to air from fugitive dust due to surface disturbance. Because construction would be on a small scale and would take place incrementally, there would not be a significant impact to air quality at any point in time. Indirect impacts associated with recreational use of the newly constructed trails and improved facilities would also have minor, long-term impacts to air quality; however, most of the trail use would consist of displaced activity from other parts of the GJFO resulting in no net increase in air quality impacts within the GJFO planning area. An increase in the number of recreation events, additional long-term construction, more dispersed camping, and additional trails could increase the probability of direct, long-term, adverse impacts on air quality. Even the increased probability resulting from the management scenario with the greatest potential disturbance the impacts to air quality would be overall insignificant in context and intensity.

Alternative 1: This alternative proposes the greatest amount of new trail development and would result in more direct and indirect impacts to air quality, but these impacts would not be significant in context or intensity. The majority of new trail development would be found rocky areas, minimizing the direct and indirect impacts from dust emissions. The new trails would offer the same experiences, motorized and non-motorized, as found throughout western Colorado and the Grand Valley and so would not necessarily attract a new visitor base, they would attract use from other local recreation areas and the overall indirect impacts to regional air quality would remain unchanged as a result of implementing this alternative.

Alternative 2 and 3: The impacts of Alternatives 2 and 3 would be similar to, but would have fewer short-term, direct impacts from construction. Long-term direct and indirect impacts would be nearly the same as those predicted for Alternative 1.

Alternative 4: This alternative would have almost no impacts as a result of managed trail construction. However, the no-action alternative could result in the continuing situation of unplanned and un-engineered trails being developed outside of a public lands planning process. Historically this type of development is known to cause more impacts to air quality because of poor placement and design of trails resulting in increased surface disturbance.

All actions related to climate and air quality must be completed in compliance with regulatory requirements that are already in place and would result in minimizing the potential of any direct or indirect impacts to the environment. No other mitigation would be required.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
The impacts of Alternative 5 would be similar to those described above under Alternative 1.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: Area 3 is designated as the Rough Canyon ACEC through the 1987 RMP. The purpose of the ACEC is to protect the unique flora and fauna, geologic features, visual and cultural resources in the area. A management plan was completed for the ACEC in 1992. The Plan tiers to and supplements the Rough Canyon ACEC management plan. The unique flora of the ACEC includes the Grand Junction milkvetch, *Astragalus linifolius*, and helleborine, *Epipactis gigantea*. Canyon treefrog, *Hyla arenicolor* is the wildlife species of concern addressed by the ACEC. Note that the ACEC also harbors other special status species.

Environmental Consequences/Mitigation: Cultural Resource concerns within the ACEC are discussed in the Cultural Resources section of this document as are the other ACEC resources of Visual, Geology, and unique flora and fauna. See relevant sections that follow.

With the exception of the no action alternative, regardless of alternative selected, additional recreational opportunities in the ACEC would increase awareness and exposure of the ACEC resources to the public. Additional visitors would add to increased 'eyes and ears' on site who may report site incidents to the BLM, increase user enforcement (peer pressure) which may affect other visitors' behavior while in the area, and increased stewardship of the area which may potentially add to BLM's volunteer workforce. Additional visitors may also lead to additional impacts including vandalism, litter, user conflict and need for additional BLM presence in the

area. This can be addressed to a large degree by encouraging community /club stewardship in the area (adopt-a-site, volunteer patrol days, etc). Additional interpretation of the ACEC values would educate and help people appreciate this and other unique public land areas. Use of the area as an educational setting by institutions and organizations would help achieve these organizations educational goals while exposing students to public land resources and management.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5: The construction and management of two hiking trails (Rough Canyon and the Rough Canyon Rim Trail) would provide quality opportunities in an area of high resource values. The analysis remains the same under Alternative 5.

CULTURAL RESOURCES

Affected Environment: The archaeological record indicates that west-central Colorado has been occupied, at varying levels, since the Pleistocene-Holocene transition approximately 11,500 B.P. The earliest recognized cultural tradition is termed the Paleo-Indian, characterized by the hunting of now extinct mega-fauna and the production of distinctive fluted or basally ground spear points. The next period, referred to as the Archaic, indicates a broad-spectrum hunting and gathering life way. The Archaic populations demonstrated great diversity, the material expression of this diversity of found in the wide variety of stone and bone tools, textiles, art, and food processing techniques. In many areas, the Archaic came to a close with the introduction of agriculture by 2000 to 1500 B.P. In others, the Archaic life way was still practiced at the time of European contact.

The period during which agricultural villages flourished over much of the Colorado Plateau is termed the Formative. The Formative Period in west-central Colorado probably represents expansion/colonization by farmers from the southern Colorado Plateau. The earliest maize in the region dates to 2000 B.P. From 1500 B.P. to 650 B.P. Formative Period sites area assignable to the Fremont cultural tradition. Fremont villages typically consisted of several semi-subterranean pithouses with associated storage structures. The Fremont produced distinctive grayware, ceramics, single rod-and-bundle basketry, and deer-hock moccasins. They also created some of the most impressive rock art in North America. The Fremont abandoned the Colorado Plateau by 650 B.P. possibly due to climatic shift that made maize agriculture unsustainable.

The Ute, a Numic-speaking group sharing a common origin with the Southern Paiute and Shoshone, then occupied the region. The Ute, like their Great Basin contemporaries and Archaic predecessors, were hunter-gatherers.

Historic records suggest occupation or use by Euro-American trappers, settlers, miners, farmers, and ranchers. Removal of the Ute peoples to reservations in 1881 opened the Grand Valley for agricultural development, railroad construction, and permanent settlement. By the mid-1880s the valley was populated by non-native settlers and prosperous agricultural and cattle and sheep ranching industries has been established. The carnotite industry; mining vanadium, radium, and uranium in three sequent phases was active from the early 1900s through the Cold War Era.

Canyons, mesas, and rock shelters in the project area have provided many areas for temporary shelters and long-term habitation. Several rock art panels are known in the area as well. Archaic

and Fremont populations, as well as the Historic Ute and Euro-American settlers have left fragile reminders of their presence throughout the project area.

A records search of the planning unit was conducted by the GJFO archaeologist using in-house site data and the SHPO database. To date, approximately 5,500 acres of the 58,000 acres (10.5%) of the project area has been professionally surveyed for cultural resources. This has resulted in the recordation of approximately 217 sites and 189 isolated finds. A research project concerned with the documentation and further evaluation of prehistoric and historic sites in Bangs Canyon (GJFO CRIR 15804-01) was completed. This evaluation included the reassessment of previously recorded sites and the reconnaissance inventory (Class II) of approximately 890 acres primarily in Areas 1 & 4 or the northwestern portion of the Bangs Canyon management area. Eighteen previously recorded sites were revisited and twenty seven were newly recorded. Of the forty-three sites relocated or newly recorded, nine were field evaluated as eligible for inclusion on the National Register of Historic Places and thirteen as need data. One of the goals of the project was to contribute to an overall predictive model of site number, density, and location for the Bangs Canyon management area. The inventory considered parcels selected for their topographic diversity as well as their disbursement throughout the high development areas of Bangs Canyon. Based on the findings from this research study prehistoric sites are evenly distributed between mesa tops and inter-canyon locales and the density of the prehistoric sites does not appear to increase as the distance to the Gunnison River decreases. The opposite actually appears to be the case. A Class III inventory of the North Clarks Bench Hazardous Fuel Reduction Project (GJFO CRIR 14504-03) was also completed in 2005. A total of 925 acres was inventoried for this project and two large prehistoric sites were recorded that encompass both of the Hazardous Fuel Reduction parcels and cover an area of over 1000 acres. The North Clarks Bench project area is located in areas 3 & 6 shedding additional light on the cultural resources of these areas. These sites are astonishing phenomena with their size, density, complexity, and the presence of multi-component area artifacts indicating site multi-function. Although these evaluations provide base information for Areas 1, 3, 4 & 6 considering only 10.5% of Bangs Canyon has been professionally inventoried the known site data and the gaps in the survey areas provide an inadequate base for projecting anticipated site densities for planning purposes.

Traditional Cultural Properties

No traditional cultural properties have been identified in Bangs Canyon. The following tribes were formally contacted: the Ute Tribe of the Uintah and Ouray Agency, the Southern Ute Tribe, and the Ute Mountain Ute Tribes. Consultation will continue throughout the planning and implementation process.

Environmental Consequences & Mitigation:

Regardless of which alternative is selected, management measures are in place that preserve and protect cultural resources for present and future generations (FLPMA Sec. 103 [c], 201 [a], 202 [c]; National Historic Preservation Act {NHPA} Sec. 106, Sec. 110[a], ARPA Sec. 14[a]), and the National Cultural Programmatic Agreement and Colorado Protocol which substitutes for Sections 106, 110, 111(a) of the NHPA. Compliance with management measures for authorized actions requires consultation with the Colorado State Historic Preservation Officer, federally recognized Native American tribes and other members of the interested public, the identification and evaluation of cultural resources, and adherence to procedures for resolution of adverse effects and mitigation of impacts. Preservation in place through avoidance is the most

commonly applied mitigation measure. However, this mitigation strategy requires long-term, systematic monitoring of cultural resources. Excavation or data recovery in those cases where avoidance is not feasible, is also an acceptable form of mitigation if conducted under an approved research design.

The cultural resources of Bangs Canyon have already been subjected to significant adverse impact through erosion, grazing, off-highway vehicle (OHV) traffic, bike traffic, foot traffic, unauthorized surface collection of artifacts, unauthorized excavation of archaeological sites, and intentional vandalism. Based on the findings of the most recent field evaluation (see GJFO CRIR 15804-01), it is evident that impacts to the cultural resources in the area have increased over the past several decades and could escalate as a result of increased visitor use. In addition to recommendations for avoidance and future investigations relating to the identified resources, including test excavations to mitigate and/or evaluate the eligibility of specific sites, an intensified program of monitoring and patrolling of particular resources is advised. Monitoring plans should also be developed prior to the construction phase of each action.

Impacts of actions common to all alternatives except the no action alternative:

The direct impacts would be from on the ground construction of new trails, re-routes and trailheads. Recreational uses could directly affect cultural resources through direct disturbance, soil compaction, altered surface water drainage, and erosion. The direct effects are loss of archeological materials and deposits and the information they contain. Road and trail designation requires compliance with Section 106 of NHPA. Concurrently, route designation would protect cultural resources being impacted off of travel routes. The indirect impacts of increased access and visitation (i.e. surface collection, foot traffic, vandalism, etc) may be more harmful than the direct effects of trail and route building. Increased visitation and recreational use of the Bangs Canyon management area constitute the greatest threat to cultural resources. As noted above, the cultural resources of Bangs Canyon have suffered serious degradation from surface collection and vandalism. Increasing recreation in general has an adverse affect on non-renewable resources. Impacts on known and unknown cultural resources have cumulative impacts through incremental degradation of the resource base from a variety of sources reducing scientific information and interpretive potential or affecting values important to Native American communities. Cumulative impacts cannot be directly measured but because they are non-renewable resources, damaged or destroyed cultural resources are a permanent resource loss.

Mitigation common to all alternatives except the no action alternative:

Management measures are in place to identify and mitigate impacts from authorized projects and activities. Resources would be managed according to existing legislation and BLM policies, which include measures to identify and protect cultural resources in planning and project activities. Class III inventories in compliance with Section 106 of the NHPA would be completed prior to all surface-disturbing activities, and mitigation measures would be taken to avoid or reduce impacts on resources and mitigation of adverse effects identified through the Section 106 process will be concluded prior to construction. There would continue to be impacts on NRHP-eligible sites, unevaluated and undiscovered cultural resources associated with unregulated and unauthorized projects and activities. The rate of these impacts would increase with increases in the local human population. Current management actions that direct travel through designation of trails and roads for all uses would enhance the protection of cultural resources, as would measures that control erosion or designate lands for limited use areas. Some

of the effects of increased visitation may be mitigated through education and interpretive programs and developing a monitoring plan for the area.

Alternative 1

Alternative 1 proposes the most new trail development with 177 miles of new trail proposed. This alternative would have the greatest adverse affect on cultural resources as visitor use would increase throughout the planning area and in areas of specific cultural resource concern such as Area 3 (the Rough Canyon ACEC). As an ACEC the cultural resources within this area should be managed in compliance with the management objectives of the 1992 ACEC Activity Plan and Environmental Assessment.

Alternative 2-Proposed Action

Alternative 2 proposes less new trail development with 112 miles of new trail being proposed. Continued management of a primitive area in Area 5 would enhance the protection of cultural resources within this area. The limited cultural resource investigations in Area 5 have indicated a high density of cultural resources. Less trail development is being proposed for Area 3 (the Rough Canyon ACEC); however, a new trail is being proposed that would extend visitor use into areas of Rough Canyon with a high potential for cultural resources. Interpretation of the ACEC would lead to increase awareness of cultural resources and their values.

Alternative 3

Alternative 3 proposes the least amount of new trail development, except for the no action alternative, with 81 miles of new trail being proposed. This proposal would cause the least adverse impacts on cultural resources in several ways. Limited re-routes would occur creating more sustainable trails that would decrease the creation of social trails that adversely impact cultural resources. A moderate amount of new trails are proposed in areas known to be easily accessible to the public where increased use will occur as local human populations increase. This could lessen adverse impacts on cultural resources from the creation of unauthorized trails where no cultural resource inventories are completed. Less trail development is being proposed for Area 3 (the Rough Canyon ACEC); however, the new trail in Rough Canyon is carried through in this alternative also.

No Action Alternative

With the no action alternative no new trail development would occur. Although the no action alternative would have the least direct impacts on cultural resources the indirect impacts of increased visitor use as local human populations increase, and the creation of unauthorized trails would have adverse affects on cultural resources. User created routes, continuing use of these routes and lack of travel management in the area would compound the damage to cultural resources. Additionally, continuing current management does not take pro-active steps in monitoring, interpreting or protecting cultural resources. The cumulative impacts on known and unknown cultural resources have cumulative impacts through incremental degradation of the resource base from a variety of sources reducing scientific information and interpretive potential or affecting values important to Native American communities. Cultural resources would continue to be adversely impacted under the no action alternative due to the lack of proactive management and associated mitigation or avoidance measures, resulting in a permanent resource loss.

Mitigation:

If the no action alternative is selected cultural resources would continue to be adversely impacted by undirected general visitor use (foot traffic, surface collection, vandalism, bike and OHV traffic) and the creation of unauthorized trails by various users of the area. A proactive management plan of known sites through interpretation, education, monitoring and excavation and of unknown sites through cultural resource inventory would decrease adverse impacts.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:

Area 1 and 2 under Alternative 5 would have no change from the mitigation common to all alternatives above. In addition to the mitigation common to all alternatives above the following analysis is made for Alternative 5 for the remaining areas: Less trail development is being proposed for Area 3 (the Rough Canyon ACEC); however, the new trail in Rough Canyon and the north rim trail are carried through in this alternative so the ACEC recommendations under Alternative 1 above applies. The elimination of the trail south west of Rough Canyon and the closure of all Area 3 trails (with the exception of the Mica Mine and Clarks Bench trails) to horses would reduce impacts to cultural resources and reduced recreation use of the administrative trail network in Area 6 on Clarks Bench is a benefit. Motorized use in Area 4 would be shifted to the south; reducing trail mileage and concentrating the new motorized route construction and use which may facilitate monitoring. In Area 5, the new trails proposed connect vehicle travel on both sides of Rough Canyon which would open and encourage recreation use in an area that has previously had very limited and in some areas, no authorized public access. Closure of the Old Tabeguache Trail in Area 5 to motorized and mechanized uses would return the road to its historic character. The area in Area 5(D) between the Tabeguache Trails has no sensitive cultural values. The Area 6 proposal would increase access to areas infrequently used before and change use along the boundaries of Area 6 with the upper reaches of the canyons in Area 5 along the Tabeguache Trail.

ENVIRONMENTAL JUSTICE

Affected Environment: The requirements for environmental justice review were established by Executive Order 12898 (February 11, 1994). That order declared that each Federal agency is to identify “disproportionately high and adverse human health or environment effects of its programs, policies, and activities on minority populations and low income populations.”

According to Census 2000, the only minority population of note in the impact area is the Hispanic community of Mesa County. Persons describing themselves as Hispanic or Latino represented 10.0 percent of the population, considerably less than the Colorado state figure for the same group, 17.1 percent. Blacks, American Indians, Asians and Pacific Islanders each accounted for less than one percent of the population, below the comparable state figure in all cases. The census counted 7.0 percent of the Mesa County population as living in families with incomes below the poverty line, compared to 6.2 percent for the entire state. Both minority and low income populations are dispersed throughout the county.

Environmental Consequences/Mitigation: Minority and low-income populations of the county are small relative to state-wide averages and such populations are dispersed throughout the county. Therefore, no minority or low-income populations would suffer disproportionately high and adverse effects as a result of any of the alternatives.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

FARMLANDS, PRIME AND UNIQUE

Affected Environment: There are no Prime and Unique Farmlands in the Grand Junction Field Office, or in or near the planning area affected by the proposed action.

Environmental Consequences/Mitigation: None

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

FLOODPLAINS

Affected Environment: There are no floodplains associated with the perennial systems in Bangs Canyon.

Environmental Consequences/Mitigation: none

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The Bangs Canyon area was inventoried for noxious weeds during the 2003 field season. Most of the Bangs area is free of noxious weed invasion. A few isolated Russian knapweed patches exist along the Tabeguache trail, Bangs Canyon Trailhead, and near Needum-More-Seldom-Feed Park. These infestations were treated in 2003 with good success. Russian knapweed still exists in small numbers in the uplands, but after treatment the area is stable. The Gunnison river corridor is significantly infested with Russian knapweed, Russian Olive, and Tamarisk. Weed management of the river floodplains is essentially a separate function due to the continuous nature of many weed species along great distances of river.

Environmental Consequences/Mitigation: Basically, from a weed management standpoint, actions that result in the least ground disturbance are favored. This is true no matter what the proposed project is: recreation, wildlife, range, etc. Ground disturbance creates an opportunity for weed invasion to take place. In the case of Bangs Canyon, the key is monitoring developed trails for weed invasion. Monitoring for new weeds, and comparing infestations found with the base weed data set, will allow us to rapidly respond to new infestations. Monitoring is accomplished by BLM patrols, BLM weed crews, educated recreationists, etc. who manage and visit the area. There are no alarming differences from a weed standpoint between any of the alternatives. Reality is that recreation use is going to continue rising in the Grand Valley area. Our challenge will be to keep a relatively clean area (from a weed standpoint) clean.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5: The changes under the RAPA are favorable from a weed standpoint primarily due to fewer routes in

the remote Bangs area. This area is fairly free of noxious weeds, and is a difficult and costly area to access for weed treatments.

MIGRATORY BIRDS

Affected Environment: With the elevation change from the river at the edge of saltbush desert to ponderosa pine plus riparian areas from top to bottom, there is a rich variety of birds.

Environmental Consequences/Mitigation: Trail building typically generates little risk of disturbing active nests. Larger projects would have more risk. The May 15 to July 15 restriction of vegetation disturbance would be applied to all projects that presented more of a risk than is typical of small linear projects that tend to avoid considerable vegetation removal. Alternative 3 would carry the least risk and Alternative 1 the most, yet the impact from any alternative would be managed to minimal levels acceptable to the intents of the Migratory Bird Treaty Act and are therefore not significant.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment: There are currently no known traditional cultural properties present within the project area. Potential does exist for traditional cultural properties which have not yet been identified or inventoried in the project area. Properties of a type previously identified as being of interest to local tribes, possible Ute period open camps, have been identified during cultural resource inventories within Bang Canyon.

Environmental Consequences/Mitigation: An information letter with a map of the project area was sent to the Southern Ute Indian Tribe, the Ute Mountain Ute Tribe, and the Ute Tribes of the Uintah and Ouray Agency. No comments were received. Consultation would continue throughout the implementation process. As implementation occurs within Bangs Canyon, cultural resource inventories would be conducted prior to surface disturbing activities. If traditional cultural properties are identified during these inventories the appropriate Native American Indian Tribe(s) would be contacted.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

THREATENED, ENDANGERED& SENSITIVE SPECIES (includes a finding on Standard 4)

Affected Environment: There are several rare plants in the recreation area within which the trails are proposed. The two plants of concern that may be affected by the proposed construction/development are the Federally Threatened Uinta Basin Hookless Cactus (*Sclerocactus glaucus*), and the BLM Sensitive Grand Junction Milkvetch (*Astragalus linifolius*). Other rare plants found in the Bangs Canyon area are the Naturita milkvetch, helliborine, Osterhout's catseye, katchina daisy, eastwoods monkey-flower, and the long-flower cats-eye. Sizeable lists of special status animal species occur within Bangs Canyon. There are bald eagles (federally threatened), Northern goshawk, peregrine falcons, Lewis's woodpecker, gray vireo,

four sensitive bat species, five endemic Colorado River fish species (at east edge), canyon treefrogs, Northern leopard frogs, Great Basin spadefoot toads, milk snakes, and midget faded rattlesnakes. At the west edge of Bangs Canyon is 525 acres of Gunnison sage-grouse potential habitat (see Critical Habitat Map). Public land occupies 455 of these acres. Potential habitat is defined in the Gunnison Sage-grouse Rangewide Conservation Plan to be “unoccupied habitats that could be suitable for occupation of sage-grouse if practical restoration were applied”. Intensive site analysis within that mapped area may or may not substantiate the mapping designation over all or part of those acres.

Environmental Consequences/Mitigation for All Alternatives: The trails proposed in T 1 S, R 1 W, Section 28 would be surveyed for the BLM Sensitive Grand Junction Milkvetch (*Astragalus linifolius*), the location of any plants found would be GPS'd and incorporated in the BLM database. Any plants found would be avoided and provided with a buffer area between the trail and plant to insure plant protection. The trails proposed in T 12 S, R 101 W, Sections 23, 24, 25, and T 12 S, R 100 W, Sections 19, 30, 31, 32, and T 13 S, R 100 W, Sections 25, 26, 27, 28, 33, 34, 35, 36, and T 14 S, R 100 W, Sections 1, 2, 3, 9, 10, 11 would be surveyed for the Federally Threatened Uinta Basin Hookless Cactus (*Sclerocactus glaucus*), the location of any plants found would be GPS'd and incorporated in the BLM database. Any plants found would be avoided and provided with a buffer area between the trail and plant to insure plant protection. Controlling the proliferation of travel routes in Bangs Canyon would help to ease concerns over how recreation might degrade the habitats of the 20 special status species in the area. Development of a first rate recreational area would draw more human use, yet the location and type of activity would be more predictable. All wildlife species can accommodate to human presence best if human activities are routine in place and nature. The canyon bottom trail in Area 3 would avoid the treefrogs' enduring pool habitat. No nesting or roosting sites of any of the above-listed species would be destroyed by the proposed projects, but would be enhanced by the closure of routes, although this can only be a prediction in the case of the milk snake. No recreation development is proposed in the sage grouse potential habitat. The big game water developments can be expected to be used by some of these species; particularly by three of the four bat species (spotted bats are never caught at them and therefore are assumed to not use them). BLM would conduct Section 7 consultation with the Fish and Wildlife Service as required by regulation.

Finding on the Public Land Health Standard for Threatened & Endangered species: For rare plants, including the ESA-listed Uinta Basin Hookless Cactus (*Sclerocactus glaucus*), the mitigation measures described above would insure that the Public Land Health Standard for Threatened & Endangered species will be met. There would be no affect on the bald eagle, Colorado River pikeminnow, and razorback sucker, the three ESA-listed animal species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Hazardous and solid wastes are not a part of the natural environment

Environmental Consequences/Mitigation: Hazardous wastes could be introduced to the environment through implementation of some of the proposals. This could be in the form of spilled motor vehicle fuel and lubricants used during construction of trails using the trail tractor or parking areas using heavier equipment. Care should be taken to make sure vehicle fueling and maintenance activities do not take place in or near drainages, and any spills of fuel or lubricants should be cleaned up properly. Any commercial construction contracts should include this

language and it should be a standard operating procedure for construction carried out by BLM personnel or volunteers. Opening any more areas up to motorized access increases the chance of spilled fluids, either through accidents or intentionally (draining oil on the ground during oil changes.) This would be very rare and insignificant.

Solid waste (trash and litter) could increase in any areas that receive increased public use as a result of implementation of this plan. The impact would not result in any lasting, significant environmental harm and could be addressed by regular cleanup efforts by BLM personnel or volunteers.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There would be no change under Alternative 5.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Bangs Canyon lies within the Gunnison River watershed. The unit is drained by northeast trending tributaries including East Creek, Bangs Canyon, Rough Canyon, Billings Canyon and No Thoroughfare Canyon. All of the canyons have ephemeral flow so are generally dry. The exception is when runoff is generated from snowmelt or summer convective storms. East Creek has intermittent flow most years. One tributary to East Creek, Northeast Creek has perennial flow with seasonal variation of flow. However, natural flow characteristics have been affected somewhat by irrigation withdrawal and return flows. Some water quality and discharge data exists for East Creek and Northeast Creek. East Creek discharge ranged from no flow to over 80 cfs. Water quality was very good with pH averaging 8.2, and total dissolved solids averaging 416 mg/l. Waters are a bicarbonate-sulfate-sodium type. Selenium levels ranging up to 5 micrograms per liter were measured in East Creek. Northeast Creek has the same type water but with lower concentrations with total dissolved solids concentration averaging 401 mg/l. East Creek is classified aquatic life cold 1, recreation 1a, and agriculture. The canyon tributaries are classified use protected for aquatic life warm 2, recreation 2, water supply and agriculture. The 303(d) list includes these tributaries because of selenium impairment. A short reach of the Gunnison River forms a portion of the Bangs Canyon boundary. A gauging station (#09152500) has been operated on the Gunnison River by USGS for more than 100 years. Data from that station indicate mean flow is approximately 2600 cfs (cubic feet per second), with the highest flows occurring in May and June, and low flow occurring in August and September. Natural flow is affected by diversions for irrigation, storage reservoirs, and return flow from irrigated lands. Data collected at the gage indicate water quality in the river is variable. Total dissolved solids can range from below 200 mg/l generally during higher flow periods, to over 1100 mg/l during baseflow conditions. Suspended sediment ranges from 6 mg/l during low flow to over 1500 mg/l during high flow. Sulfates are often elevated reflecting the Mancos shale geology in portions of the watershed. The pH is generally in the slightly basic range. The mainstem of the Gunnison River from a point immediately above the confluence with the Uncompahgre River to the confluence with the Colorado River is classified by the State of Colorado aquatic life cold 1, recreation 1a, water supply and agriculture. Accordingly water quality standards have been collected to protect those uses. This reach is included in the 303(d) list for selenium. Additionally, the 303(d) M&E list includes this reach because of sediment. Inclusion on the monitoring and evaluation list indicates that there is insufficient data to indicate if beneficial uses are being adversely affected. As additional data are

collected, this reach will either be listed requiring a TMDL determination or delisted requiring no further action

Environmental Consequences/Mitigation:

Alternative 1. This alternative would have the most impact of any alternative for the management area. More trails would be developed, a new vault toilet installed as well as the development of two new trailheads. Generally the more disturbance within a watershed the more impact to water quality. Since closure of 20 miles of trails would occur in the more unstable soils, there should be a slight decrease in the sediment loading within those watersheds. Additionally the installation of a new vault toilet should decrease somewhat the coliform bacteria level from human wastes. The siting of trails and other infrastructure would consider the suitability of the area or that use, so the more erosive soils would be avoided where possible. While an increase in sediment is anticipated from the 177 miles of new routes that would be developed and the use on those routes, impacts would be offset somewhat by locating of the trails on the more stable sites. In other words, impacts would be minimized from closure and rehabilitation of user created trails and the new trails would be well designed and in more sustainable locations. The ephemeral nature of most of the watersheds in the management area would also tend to mitigate impacts somewhat. The East Creek watershed where perennial and intermittent streams occur would have considerably more impact from recreation use than what is currently occurring.

Alternative 2. This alternative would have the second most impact of any alternative for the management area. New trails would be developed, a new vault toilet installed as well as the development of two new trailheads. Generally the more disturbance within a watershed the more impact to water quality. Since closure of 26 miles of trails would occur in the more unstable soils, there should be a slight decrease in the sediment loading within those watersheds. Additionally the installation of a new vault toilet should decrease somewhat the coliform bacteria level from human wastes. The siting of trails and other infrastructure would consider the suitability of the area or that use, so the more erosive soils would be avoided where possible. While an increase in sediment is anticipated from the 112 miles of new routes that would be developed and the use on those routes, impacts would be offset somewhat by locating of the trails on the more stable sites. In other words, impacts would be minimized from closure and rehabilitation of user created trails and the new trails would be well designed and in more sustainable locations. The ephemeral nature of most of the watersheds in the management area would also tend to mitigate impacts somewhat. The East Creek watershed where perennial and intermittent streams occur would have considerably more impact from recreation use than what is currently occurring.

Alternative 3. This alternative would have less impact on water quality than Alternative 1, 2, or 5. Approximately 81 miles of new trails would be developed while 20 miles of trails would be closed. Since closure of some trails would occur in the more unstable soils, there should be a slight decrease in the sediment loading within those watersheds. No installations of trailheads or vault toilets are proposed with this alternative. Consequently the decrease in coliform bacteria level from human wastes resulting installation of a vault toilet would not occur. While an increase in sediment is anticipated from the 81 miles of new routes that would be developed and the use on those routes, impacts would be offset somewhat by locating of the trails on the more stable sites. In other words, impacts would be minimized from closure and rehabilitation of user

created trails and the new trails would be well designed and in more sustainable locations. The ephemeral nature of most of the watersheds in the management area would also tend to mitigate impacts somewhat. The East Creek watershed where perennial and intermittent streams occur would have somewhat more impact from recreation use than what is currently occurring.

Alternative 4. This alternative would have the least impact on water quality when looking at the entire management area. There may be localized areas where more sediment is produced than the other alternatives because no unstable trails would be closed. These generally would occur in the ephemeral drainages and the sediment impact would be confined to small areas.

Alternative 5. This alternative would have the third most impact of any alternative for the management area. New trails would be developed, new vault toilets installed as well as the development of new trailheads. Generally the more disturbance within a watershed the more impact to water quality. Since closure of 26 miles of trails would occur in the more unstable soils, there should be a slight decrease in the sediment loading within those watersheds. Additionally the installation of new vault toilets should decrease somewhat the coliform bacteria level from human wastes. The siting of trails and other infrastructure would consider the suitability of the area or that use, so the more erosive soils would be avoided where possible. While an increase in sediment is anticipated from the 97 miles of new routes that would be developed and the use on those routes, impacts would be offset somewhat by locating of the trails on the more stable sites. In other words, impacts would be minimized from closure and rehabilitation of user created trails and the new trails would be well designed and in more sustainable locations. The ephemeral nature of most of the watersheds in the management area would also tend to mitigate impacts somewhat. The East Creek watershed where perennial and intermittent streams occur would have considerably more impact from recreation use than what is currently occurring.

Finding on the Public Land Health Standard for water quality: Generally water quality standards would not be violated by this action, therefore standard 5 would be met.

WETLANDS & RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: Bangs Canyon is drained by northeast facing tributaries including East Creek, Bangs Canyon, Rough Canyon, Billings Canyon and No Thoroughfare Canyon. All of the canyons have ephemeral flow and are generally dry. The exception is when runoff is generated from snowmelt or summer convective storms. East Creek has intermittent flow most years. One tributary to East Creek, Northeast Creek has perennial flow with seasonal variation of flow partly due to irrigation withdrawals and return water. East Creek, Northeast Creek, Gunnison River, Dolores River were re-evaluated in 2003 and were found in Properly Functioning Condition. Rough Canyon was also re-evaluated for riparian characteristics in 2003 and was found to be in Properly Functioning Condition, however it is noted the area is receiving heavy recreation use and the trail passes through or adjacent to the riparian area. Monitoring needs to occur in this area to determine if heavy recreational use is impacting the riparian zone. The upper portion of Bangs canyon was re-evaluated in 2003 and was found to be in Properly Functioning Condition. This area may need mitigation measures if it were to start receiving recreational use. There are several springs in the upper portion of Bangs Canyon also. Currently, this area is very difficult to access. There are several spring sources within the

planning unit that support riparian values and there are likely more that have not been inventoried. No Thoroughfare Canyon has not been evaluated for riparian values.

Environmental Consequences/Mitigation: All springs should be buffered by 1/8 to 1/4 miles for trail placement and trails that are next to springs should be moved if possible to protect riparian values. Stream crossings should be kept to a minimum and should include use of culverts, bridges or other structures which elevate the tread above/out of the riparian zone. All undeveloped and developed springs should be inventoried/re-evaluated before any trail construction occurs if trail is within 1/8 of a mile to the proposed trail. The trail in Rough Canyon leading to the Mica Mine should be monitored to determine if or when riparian values are being compromised. Proper trail placement and the proposed trail closures would ensure the riparian values in this unique area are protected for all future uses.

Finding on the Public Land Health Standard for riparian systems: At the present time the area is meeting Land Health for Standard 2. Implementing standard mitigation measures described above would ensure that no significant impacts would result from implementing any of the proposed alternatives Land Health Standard 2 would continue to be met.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5: There are no changes to the analysis under Alternative 5.

WILD AND SCENIC RIVERS

Affected Environment: The Grand Junction Field Office manages no wild and scenic rivers, therefore, none are affected by the proposed action or alternatives.

Environmental Consequences/Mitigation: N/A

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5: There are no changes to the analysis under Alternative 5.

WILDERNESS

Affected Environment: Bangs Canyon does not contain designated wilderness or Wilderness Study Areas.

Wilderness Characteristics

Affected Environment:

In late 1995, the Bangs Canyon Citizen Advisory Group was formed to help address growing concerns about increased public use of Bangs Canyon. Increased use was resulting in a proliferation of trails, safety concerns, and resource damage. Using the RMP direction, the public citizen group drafted a set of recommendations for management of the entire planning unit (58,106 acres). Of this acreage, 21,372 acres were included in the Roadless Review Area. The roadless review process for Bangs began after the Bangs Canyon ad hoc group formed and after planning began for the area. The roadless review area is bounded on the northwest by the Windmill road, on the west by the Tabeguache trail and an unnamed road, on the south by private property, unnamed roads which generally follow Northeast Creek, highway 141 on the east, and the Gunnison River and private property on the north.

The Tabeguache trail bisects the area with approximately 2/3 of the area north of the Tabeguache in Area 5 and 1/3 of the area south of the Tabeguache in Area 6.

The Bangs Canyon Management Plan was approved in 1999 and addressed management of the area as follows: “Addressing the...wilderness proposal, the advisory group acknowledged that the BLM did not recommend the Bangs/Rough Canyon Area as a Wilderness Study Area in the original inventory conducted in 1980. The advisory group made no recommendation either for or against wilderness designation for Bangs Canyon. However, in recognition of the remote nature of much of Area 5, the committee recommended that management of Area 5 should emphasize a goal of minimizing environmental impacts. For example, the goal of minimizing environmental impact should be examined when and if BLM considers construction and/or approval of new trails, new recreation opportunities, and/or range improvement projects.” A recommendation was made to the BLM by the Ad Hoc group: do not pursue additional access to Highway 141 in Unaweep Canyon at this time, future access is not precluded. BLM did not adopt the Ad Hoc groups’ recommendation because this recommendation is inconsistent with an RMP decision (Unaweep to Little Park Road motorized connection). BLM has determined that it is time to implement this decision from the RMP.

The 1999 Roadless Review found 20,842 acres in portions of Area 5 and 6 to contain the following wilderness characteristics:

1. Size: Area has at least 5,000 acres of contiguous land or is of sufficient size to make practicable its preservation and use in an unimpaired condition.
2. Naturalness: Area generally appears to have been affected primarily by the forces of nature, with the imprint of people’s work substantially unnoticeable.
3. Solitude: Area has outstanding opportunities for solitude.
4. Primitive and unconfined recreation: Area has outstanding opportunities for a primitive and unconfined type of recreation.
5. Supplemental values: Area may contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

Within this portion of Bangs Canyon the following is found:

- a segment of the Tabeguache Trail (a two track motorized route linking Montrose to Grand Junction)
- 5 miles of road
- 22 miles of ways
- 1 catchment
- 1 range well
- 14 reservoirs
- 3 miles of fence

Subsequent to the Plan, it was determined that the BLM’s authority to designate WSA’s had expired. Only Congress can designate Wilderness Areas. As a result, the management of these areas (portions of Areas 5 and 6) reverts to the prescriptions as described in the RMP of 1987. In that plan these areas have a Recreation Opportunity Spectrum (ROS) assigned. In general, the higher elevation areas are classified as semi-primitive motorized, while the canyon bottoms are classified as semi primitive non-motorized. A portion of Area 6 is not assigned an ROS classification. Although the existing RMP direction for management of this area does not include a special designation, the existing management has afforded protections which allowed

the inventory team to find wilderness characteristics. The backcountry primitive nature of the area was recognized in the RMP and the area would continue to be managed accordingly.

Under the current RMP (BLM 1987), this area is being managed as Recreation Opportunity Spectrum (ROS) management Category 1-semi-primitive motorized (mesa tops), and Category 2-semi-primitive non-motorized” (canyon bottoms). Under the first category, areas are characterized by a predominately unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. On-site controls and restrictions may be present, but are subtle. Motorized use is permitted on designated routes only. Under the second category, areas are characterized by a predominately unmodified natural environment of moderate to large size. Concentration of users is low, but there is often evidence of other area users. On-site controls and restrictions may be present, but are subtle. No motorized use is permitted. In accordance with these ROS descriptions, the BLM is already managing the area for primitive and unconfined recreation where a visitor may participate in activities that require an open, unconfined setting, and which do not demand developed facilities. The area’s size, unique features, and steep rugged topography, which contribute to the availability of these opportunities, would still be present under the proposed action and alternatives.

Environmental Consequences and Mitigation

Rerouting the Tabeguache Trail to Highway 141 through this area is a component of each alternative. Implementation of the RMP decision to connect Little Park road to Highway 141 (Unaweep) would require development of an approximate 3 to 3.5 mile route to connect two existing two-track routes. Although this would remove approximately 2,700 acres from being contiguous with the remaining roadless area, the Tabeguache trail to the east of the connector would be closed to motorized and mechanized use. Closure of this approximately 6 mile portion of the Tabeguache would create a contiguous primitive area between Areas 5 and 6. Motorized users would be able to access Highway 141 from Little Park Road. The backcountry primitive area would see approximately 6 miles of a motorized trail eliminated from the core of the area, thereby enhancing non-motorized primitive values of the area.

Alternative 1: Under Alternative 1, new trail system development would occur throughout the inventory area. Wilderness characteristics could be managed for in canyon bottoms and in pockets on the mesa tops. Trails would bisect the area, but the nature of the topography would assist in dispersing users. The trail system proposed under Alternative 1 in this section of Area 5 would be hike and equestrian only. The majority of new trails would be located in Area 6. The systems proposed in area 6 would be both mechanized and motorized. Naturalness and solitude and a primitive and unconfined recreation would be affected in some areas due to trail development and use. The primary impact from this alternative to wilderness characteristics would be effects on solitude through introducing and accommodating new and existing users in the area. Impacts on supplemental values would be mitigated.

Alternative 2: Under Alternative 2, no trail system development is proposed within this area with the exception of a hike/horse trail system area in the east corner of Area 5 and rerouting the Tabeguache through Area 6 to Highway 141. Under this alternative, 92 % of the inventoried area would remain roadless. The Tabeguache connector (in Area 6) would segment the roadless area found south of the Tabeguache trail into two areas of 2,700 acres on the west and 4,980

acres to the east of the proposed connector. The reroute would be approximately 3 to 3.5 miles in length and would connect two existing two track routes. The Tabeguache would be closed to motorized travel (approximately 6 miles) to the east of the reroute which would add to the remaining roadless area's solitude, naturalness and would increase opportunities for primitive and unconfined recreation. The remaining roadless area (north of the Tabeguache in Area 5) would be approximately 13,260 acres. Area 5's wilderness characteristics would not be affected with the exception of adding to the values through the reroute of the Tabeguache and designating the eastern 6 miles of the Tabeguache in Bangs as non-motorized. Looped horse and hike trails in the east corner of Area 5 would provide opportunities for primitive exploration within a defined system. These trails may impact some users' solitude and may create more of a confined recreation setting. Naturalness and a primitive recreation setting would not be affected on a landscape level. Several routes would be closed in both greater areas of Area 5 and Area 6, which would increase the natural values of these areas. Under this alternative, new motorized and mechanized trail system development would occur south and outside of the inventoried area in Area 6. These trails would not impact the inventoried areas' wilderness character. Naturalness, solitude and a primitive and unconfined recreation would be affected in the area immediately around the Tabeguache connector. Solitude may be affected through introducing and accommodating new and existing users in the area, but interruptions in solitude would be short term as the nature of trail systems is to move people through areas. Impacts on supplemental values would be mitigated.

Alternative 3: Under Alternative 3, no trail system development is proposed within this area with the exception of a hike/horse trail system area in the east corner of Area 5 and rerouting the Tabeguache through Area 6 to Highway 141. Under this alternative, 92 % of the inventoried area would remain roadless. The Tabeguache connector (in Area 6) would segment the roadless area found south of the Tabeguache trail into two areas of 2,700 acres on the west and 4,980 acres to the east of the proposed connector. The reroute would be approximately 3 to 3.5 miles in length and would connect two existing two track routes. The Tabeguache would be closed to motorized travel (approximately 6 miles) to the east of the reroute which would add to the remaining roadless area's solitude, naturalness and would increase opportunities for primitive and unconfined recreation. The remaining roadless area (north of the Tabeguache in Area 5) would be approximately 13,260 acres. Area 5's wilderness characteristics would not be affected with the exception of adding to the values through the reroute of the Tabeguache and designating the eastern 6 miles of the Tabeguache in Bangs as non-motorized. Looped horse and hike trails in the southeast corner of Area 5 would provide opportunities for primitive exploration within a defined system. These trails may impact some users' solitude and may create more of a confined recreation setting. Naturalness and a primitive recreation setting would not be affected on a landscape level. Several routes would be closed in both greater areas of Area 5 and Area 6, which would increase the natural values of these areas. Under this alternative, new motorized and mechanized trail system development would occur south and outside of the inventoried area in Area 6. These trails would not impact the inventoried areas' wilderness character. Naturalness, solitude and a primitive and unconfined recreation would be affected in the area immediately around the Tabeguache connector. Solitude may be affected through introducing and accommodating new and existing users in the area, but interruptions in solitude would be short term as the nature of trail systems is to move people through areas. Impacts on supplemental values would be mitigated.

Alternative 4: The area would continue to be managed for its backcountry primitive values. Additional users in the area would not be provided for. Trail proliferation, resource damage and unplanned travel would occur in this area as the area population grows. Unplanned travel routes and use of these routes could impact the areas naturalness, solitude and primitive and unconfined recreation opportunities.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:

There are no changes to the analysis under Alternative 5 with the exception of eliminating motorized and mechanized use on the Old Tabeguache. By restricting this route to administrative, foot and horse use, the backcountry primitive values of this core area would be enhanced. Elimination of the proposed designated horse/hike routes in the eastern portion of Area 5 (as contained in the original proposed action) would enhance opportunities for a primitive and unconfined recreation experience. This is due to allowing this use within this area, but not defining a looped system.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS

Affected Environment: Descriptions and survey maps of the soils in the proposed management area are available in the Grand Junction Field Office. Soils are developing in sandstone and shale sediments and residuum; aeolian deposits and influences are also common throughout the area. Depth to hard sandstone ranges from deep to very shallow (less than 10 inches). In the canyon bottoms and on benches and some mesa tops, soil textures may be fine sandy loam to loamy fine sand throughout the profile. Soil profiles with sandy clay loam, clay loam, and clay horizons are also present. Upland soils are often stony, particularly on the surface, and inclusions of flat-lying sandstone bedrock exposures are scattered throughout many of the soil map units. Ground cover and vegetation production is generally in static or slightly upward trends. There does not appear to be widespread accelerated erosion or sediment production. This situation, however, does occur in small, localized areas. Geologic erosion generally has the greatest impact.

Environmental Consequences/Mitigation: The water erosion hazard is high. Concerns for trail construction and recreational use include areas with steep slopes, soils with high clay content, and with stones and boulders on the surface. Construction of well-planned trails and continued use of well-placed existing trails or roads would have little additional impact in terms of erosion or sediment production. Soil health assessments (completed in 2001) over much of the area to the west of Billings Canyon, revealed no evidence that soils were undergoing excessive erosion or were in poor condition. The Bangs Canyon area is similar in nature and condition, and parts of the area also receive similar use. In any area, motorized vehicles, bicycles, horses, and hikers cause impacts to the surface that result in changes in density, structure, and particle cohesion. These changes often result in accelerated erosion and sediment transport during runoff-producing precipitation events. Intensive recreational or motorized use can damage soil health, vegetation, and cryptobiotic (biological) and other soil crusts. These biological crusts are found throughout the area, primarily on undisturbed soil surfaces. They are not generally continuous due to rock

outcrop and geologic erosion (erosion not caused by human, livestock, or wildlife sources). Results from impacts depend on the location and severity of impact. Occasional, minor impact most often heals itself. However, impacts on too steep a slope for example, do have the potential to create new gully systems and increased sediment transport. Judicious trail placement and construction, particularly across some of the steeper terrain, would actually reduce erosion by stabilizing the trail and reducing sideslope disturbance. Where appropriate, small water bars or runoff diversions would assist in directing water away from creating ruts or channels which accelerate erosion and sediment production. Turnouts for such diversions should be carefully located to prevent gully formation. Managing the trail system by limiting and redirecting vehicular and other motorized traffic, and by closing many of the unnecessary trails, would reduce erosion and the sediment produced from those sources. Reducing vegetation cover loss caused by indiscriminate off-road traffic would also assist the inter-canyon areas to become more stable and lessen soil erosion in those areas. Appendix A lays out the criteria for trail/road development and management in the proposed management area, and would help to assure beneficial soils management with acceptable impacts.

Finding on the Public Land Health Standard for upland soils: Implementation of the Bangs Canyon Special Recreational Management Area Plan would be beneficial to overall soils health, and help meet Standard 1 for upland soils.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5: There are no changes to the analysis under Alternative 5.

VEGETATION (includes a finding on Standard 3)

Affected Environment: There are 5 upland vegetation types within the Bangs Canyon area boundary. Starting at the lower elevation vegetation goes from the salt desert shrub type to sagebrush to sagebrush/pinon-juniper to mountain shrub with scattered Ponderosa Pine at the higher elevations. Refer to the Bangs Canyon Management Plan for a more detailed description.

Environmental Consequences/Mitigation: In a general sense the more disturbance (trails, trail heads, parking areas) the greater the impact to vegetation. In most cases these activities result in the permanent removal of vegetation but mostly on a small scale except for trails. Trail systems can account for a substantial amount of area if considered accumulatively. Impacts to vegetation can be minimized from trail systems by proper placement and planning. Monitoring of adherence to planned activities is crucial to minimizing impacts. The prevention of invasive weeds including cheatgrass is important to sustain natural plant communities.

Impacts common to all the alternatives: Limiting travel to designated routes and trails would minimize the impact to vegetation. Construction and relocation of trails to be in conformance with “criteria for placement of trails” and Appendix A would help ensure that the impact to soil and vegetation is minimized. Location of trails on slick rock and rocky slopes would reduce disturbance to vegetation. Requiring fire pans should reduce the risk of wildfires to the area. Fire is not negative to the vegetative communities but unplanned fires from escaped campfires can occur in areas where fire is not wanted and may result in an increase in cheatgrass and other undesirable species. Monitoring of trails and recreational impacts such as dispersed camping would provide a means of correcting activities or trail locations that are having a negative impact

to vegetation. Closed routes or use areas should be reseeded to avoid an increase in unwanted weeds and annuals such as cheatgrass. Other disturbed areas should also be seeded.

Alternative 1: This alternative would have the most impact of any alternative for the management area due to the greater amount of trails to be developed. An additional 177 miles of newly constructed trail is proposed in this alternative, as well as a new vault toilet and the development of two new trailheads. Generally the more disturbance within a watershed the more impact to vegetation. Closure of 20 miles of trails would occur in the more unstable soils thus reducing the impact to vegetation in the long term if perennial vegetation is established rather than annuals.

Alternative 2: This alternative would have the second most impact of any alternative for the management area with the addition of 112 miles of new trails as well as a new vault toilet and the development of two new trailheads. Generally the more disturbance within a watershed the more impact to vegetation. Closure of 26 miles of trails would occur in the more unstable soils, thus reducing the impact to vegetation in the long run.

Alternative 3: This alternative would have less impact on vegetation than Alternative 1 or 2 due to the lower amount of trails and facilities proposed. Approximately 81 miles of new trails would be developed while 20 miles of trails would be closed. Closure of some trails would again have a positive long term impact to the vegetative community. No installations of trailheads or vault toilets are proposed with this alternative.

Finding on the Public Land Health Standard for Plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The proposed action and alternatives should allow for healthy plant communities as long as trails are constructed in proper places, disturbances are reseeded and the invasion of cheatgrass or weeds is minimal and monitoring results in changes to activities causing undesirable results to vegetation.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The Gunnison River supports numerous species of aquatic wildlife throughout the year. East Creek also has numerous species, primarily fish, depending on water availability, and supports spring sucker spawning runs, which supplement the fishery in the Gunnison River. Northeast Creek supports a rainbow trout fishery.

Environmental Consequences/Mitigation: The Gunnison River and East Creek should not be affected by this proposal. There is one proposed trail crossing Northeast Creek. This crossing would be either armored by placing a culvert at the crossing or building a bridge across the stream.

Finding on the Public Land Health Standard for Plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Application of mitigation measures would insure the Public Land Health Standard for Plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial) would be met.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The Little Park critical winter range for deer occupies the southwest part of Area 3 and the adjacent northern part of Area 6. Elk use is significant across much of the western half of the area. The Glade Park deer and elk DAU plans (DAUs D-18 & E-19) present herd objectives and rationale (CDOW 1999). The objectives call for increasing the deer herd and maintaining or reducing the elk herd as needed to hold it at the desired level. Desert bighorn sheep have yearlong range in Area 6 and likely will travel through the lower elevation zone along the Gunnison River. This is the hope for a gene flow between the two, Black Ridge and Dominguez, herds. The Gunnison River supports a sizeable winter population of waterfowl and a smaller population of nesting, molting, and loafing waterfowl through the warmer seasons. Small game species are relatively free from human impact here due to the difficult access. Non-game species include those mentioned under the T&E section above and many more typical of the wide range of habitats present.

Environmental Consequences/Mitigation: Alternative 3 is preferred for creating the most solitude for wildlife. Continuing to manage the backcountry primitive area in Area 5 and 6 is expected to give elk and possibly bighorn sheep important solitude. This single feature of the Proposed Action (Alternative 2) would place it nearly on a parallel with Alternative 3 for wildlife solitude. This would contribute to the RMP management objective of drawing big game winter use out of Glade Park and into this public land area. In Areas 2 and 3, the hike/bike trail west of Little Park Road of Alternative 1 and the additional hiking trails near the top of and on the rim of Rough Canyon and the alternative hiking area south of Little Park Road and connecting Ribbon Trail that are features of both Alternative 1 and the Alternative 2, which will increase the disturbance to wintering deer. During severe winters the snow that places a hardship on deer will likely attract cross-country skiers to the area although the trails are not designed for this use. All three management options apply the winter closure stipulation to construction activities (minerals and rights-of-way actions) within the Little Park critical winter range for deer. The first 3 alternatives propose no new construction within the critical winter range. Instead closure of redundant administrative access routes on Clarks Bench is planned. This can only improve the chances of maintaining the usefulness of this area for deer. Completing the main trail through to Highway 141, a feature of all alternatives, will create continual disturbance to elk on those benches and move more of the animals onto the higher elevation private lands. While this works in the reverse direction of the RMP management objective mentioned above, it assists the CDOW objective of increased access to allow for adequate elk harvests (see Wildlife Issue 2 above). Closing the Tabeguache trail to motorized use east of the main trail in Area 5 and rerouting the trail to Highway 141 is a desirable wildlife security feature of all alternatives. Several of the closures such as the closure of the access to Second Flats from Little Park Road, feature of Proposed Action and Alternative 3 have the value to wildlife of reducing the area of human impact. See also discussion under Threatened and Endangered Species above for further analysis that applies to most vertebrate wildlife species present. The water developments common to all alternatives would be attractive to most forms of vertebrate wildlife (see Wildlife Issue 1 above).

Finding on the Public Land Health Standard for Plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The Bangs Canyon management area meets this standard across most of the area. The Proposed Action and the alternatives other than the No Action Alternative would assist in its continued meeting of it, except in Area 2, where only Alternative 3 would maintain its meeting the standard by not increasing the trails in the critical winter range for deer. The use of seasonal closure is left as an option to provide mitigation for impacts to these critical winter ranges and would ensure this standard continues to be met.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5: The reduction in overall open routes in Alternative 5 relative to Alternative 2 (the original Proposed Action) would result in increased security and reduced disturbance of terrestrial wildlife species.

OTHER NON-CRITICAL ELEMENTS: For the following elements, those brought forward for analysis would be formatted as shown above

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access			X
Cadastral Survey	X		
Fire	X		
Forest Management			X
Geology and Minerals			X
Hydrology/Water Rights			X
Law Enforcement			X
Paleontology			X
Noise			X
Range Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics			X
Transportation			X
Visual Resources			X

NON-CRITICAL ELEMENTS SUMMARY

GEOLOGY AND MINERALS

Affected Environment: Bangs Canyon is open to oil and gas leasing, but the oil and gas resource potential is considered to be low. Rough, Ladder, Bang's and Northeast Creek are closed to mineral materials sales or free use permits. The Rough Canyon ACEC is withdrawn from locatable mineral entry, which includes the Mica Mine. The ACEC designation is based in part on the unique geologic processes and features which are present. Remaining portions of the area are open to mining claim location but have a low potential for locatable mineral occurrence. There is a small potential for recreational placer activity along the Gunnison River. The Little Park Road bentonite site is a community pit located within the area. Bentonite sales help to supply the local community with material suitable for lining ponds and canals. Approximately half of the area is closed to mineral material sales, including Rough Canyon ACEC and within Visual Resource Management Class II areas. There is some potential for decorative rock based on the geologic formations which outcrop in the area. Sand and gravel resource potential along

the Gunnison River is unknown, but any resource is likely to be small and have physical access limitations.

Environmental Consequences/Mitigation: Because the area has a low mineral resource and development potential, the proposed actions would not impact mineral development. The Little Park Road bentonite site would remain open for mineral material disposal. Demand for decorative rock in areas open for disposal is expected to be low based on terrain and access constraints.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

HYDROLOGY/WATER RIGHTS

Affected Environment: The hydrologic characteristics of Bangs Canyon are described in the water quality section above.

Environmental Consequences/Mitigation: Generally the removal of vegetation, the formation of trails, and the use of those trails modify the runoff characteristics within a watershed. The compaction of the soils reduces the infiltration and percolation rates and the runoff rate increases. If the trail is on a slope, the water accelerates and reaching the streams quicker. Reduction in timing and duration of runoff can increase stream scour. While localized areas could experience the change in hydrologic characteristics, the percentage of the watershed would not be adequate to result in a measurable change to perennial waters.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

ACCESS/TRANSPORTATION

All of the alternatives (except the no action alternative) would have positive impacts on public access. This analysis would contrast the differences between the three alternatives.

Central to the issue of access is the location and development of trailhead facilities. New or expanded trailhead locations are being considered in areas 1, 4 and 6. The following would describe the locations and extent of infrastructure improvements being considered for each location. The utility and impact of each potential trailhead is also discussed.

Trailhead Facilities

Area 1: Most of the proposed improvements at the Monument Road trailhead would occur on lands owned by the City of Grand Junction. Development would occur cooperatively between BLM and the City. In recent years, the Monument Road Trailhead has become an access point to the heavily used urban interface day use Area 1. The plan calls for an upgrade and redesign of the Monument Road Trailhead with installation of a closed vault toilet on site if use levels warrants. The BLM and City have determined that current use levels and associated impacts require the installation of a vault toilet, structured parking for maximum efficiency and expanded parking capacity.

Area 4: Little Park Trailhead. This existing trailhead would be expanded in Alternatives 1 and 2. The short term impacts from this expansion would include a temporary disturbance to wildlife and human use during the 2 to 3 week period necessary for construction. After this construction period, the long term impacts would be beneficial. Long term impacts include the protection of the adjoining meadow from vehicles, reduced safety issues from random parking along Little Park road, and structured parking to allow for maximum efficiency. The defined area would confine impacts from people and vehicles associated with recreational visitors. Further, the restriction of full-sized vehicles to the trailhead, and not on the adjoining trail system would reduce the litter and anti-social behavior associated with the dead end trails that over look the Grand Valley. If this trailhead is not improved, the anticipated increase in visitors would not be adequately accommodated and issues seen at other “at capacity” trailheads would occur here as well (parking on the adjacent road and associated safety issues, creation of new parking areas and concurrent resource damage, user conflict, sanitation issues). Expansion of the trailhead would also accommodate organized events and SRP activities associated with the looped trail system.

Area 6:

In Alternatives 1 and 2 a new trailhead located at North East Creek is proposed that would serve the proposed trail system to the south. A short term disturbance to wildlife would occur during the construction on the facility. The trailhead would have a beneficial long-term impact by containing impact associated with vehicles and short term occupancy by recreational visitors. The parking surface would be graveled to manage soil erosion and movement. A perimeter barrier would contain the extent of disturbed surface and impacts to vegetation. In alternative 1 and 2 a sanitation facility may be installed to manage the human waste issues. It is foreseeable that the proposed trail system would attract additional visitors. The trailhead is strategically located to accommodate these visitors and manage the expected impacts.

A second trailhead, the Unaweep Trailhead, would be developed at the intersection of highway 141 and the eastern end of the Tabeguache Trail. The present informal parking lot would be graded and graveled to accommodate 6 to 10 vehicles. The permitted would be defined. The impacts would be beneficial as traffic control on to highway 141 would be more predictable. Vehicles would be better managed reducing soil impacts near east Creek.

Other Access Points

Second Flats:

This presently undeveloped access point would be closed in Alternatives 1 and 2. The routes accessed from this location are on mesa tops and do not meet the criteria for the placement of trails. These routes are identified for closure in Alternatives 1 and 2. This access would not be needed if these alternatives are adopted. Eliminating this access would eliminate travel on the unsustainable routes and have a benefit to soil and vegetative resources. In Alternative 3 and the no action alternative, this access would remain open and unimproved. The roads that are accessed by this route would continue to be adversely impacted by vehicle travel during times when the clay soils are wet. The routes become impassible and off route travel is often the only way to leave the area.

Third Flats:

This existing access point is an important portal to the 4X4 trails in area 4 and the Magellan Loop trail. It is also a secondary access to the Billings Canyon Jeep Trail. No major changes are proposed for this site in any of the alternatives. Some additional post and cable barriers and signage may be needed to discourage off-trail travel in this area.

Transportation Systems

Alternative 1:

This alternative would provide the greatest access to public lands. In area 1, additional trails would help reduce the frequency of visitors encountering other visitors on the trail system. The proposed trails however, do not go outside of the area 1 boundaries thereby increasing route density. In area 2, additional opportunities to experience the slickrock canyons and dramatic vistas would be a benefit to visitors. In Area 3, the trail proposals would assist the visitors in accessing historic and prehistoric sites along Rough Canyon. A connection to the Mica Mine trail would provide a managed loop opportunity for visitors not familiar with the area. The proposed developments in area 4 would provide a managed trail recreation opportunity for urban dwellers near to home. When combined with the land exchanges and purchases now being pursued by BLM, area 4 would create access to the Gunnison River and a looped 4X4 opportunity as directed by the Plan. In addition, many highly valued viewing opportunities of desert canyons and tributaries to the river would become available to the recreation public. Area 6 would see a significant increase in public access opportunities.

In this alternative a 4X4 access would be created between the Tabeguache trail and state Highway 141. This is a long sought after connection that would provide motorized visitors a through connection to the rest of the Tabeguache trail that ends in the town of Montrose. Additional access gains would result from the connection of dead-end 4X4 routes in the middle of area 6. Specifically, through the connection of an unnamed road (6-3) which parallels east creek to a proposed new connector (6-12) to Northeast Creek road to a proposed new connector (6-13) to the Snyder Flats road to a proposed new connector (6-14) to Northeast Creek road, which connects to a proposed new connector (6-15) which would connect to the Tabeguache (see Map 1). The access gains include general public access to previously remote extremely inaccessible areas containing unique resource values. The proposed motorcycle and mountain bike trail development in the southern portion of area 6 would provide access between mesas separated by major cliff bands. The spectacular scenery that can be viewed from these locations would not be available to the public without these trails. The proposed trail system would provide a significant new recreational opportunity for trail based activities. These trails would be accessible at least 10 months of the year, but may see a shorter use season based on seasonal closures on routes. These types of trail opportunities are not available in the region. The motorized trail system in the nearby Forest Service system is unavailable due to snow and road closures all winter. The Forest Service system is mostly ATV trails, which are wider and not designed for motorcycles and mountain bikes.

Alternative 2:

This alternative provides significant improvement for the public to Bangs Canyon. The 4X4 connection between the Bangs Canyon trailhead and Highway 141 is an important connection. Additional access gains would result from the connection of dead-end 4X4 routes in the middle of area 6. Specifically, through the connection of an unnamed road (6-3) which parallels east

creek to a proposed new connector (6-12) to Northeast Creek road to a proposed new connector (6-13) to the Snyder Flats road to a proposed new connector (6-14) to Northeast Creek road, which connects to a proposed new connector (6-15) which would connect to the Tabeguache (see Map 2). The access gains include general public access to previously remote extremely inaccessible areas containing unique resource values. Improved hiking access to the canyons of Area 5 is a significant improvement to access. The proposed loop trails in areas 2 and 3 would increase access to these areas while improving the recreational experience and visitor safety. Several existing dead end roads to inholdings would be reclassified as administrative routes. This would help alleviate trespass misuses, and redirect visitors to appropriate locations on looped routes. The proposed motorcycle and mountain bike trail development in the southern portion of area 6 would provide access between mesas separated by major cliff bands. The spectacular scenery that can be viewed from these locations would not be available to the public without these trails. The proposed trail system would provide a significant new recreational opportunity for trail-based activities. These trails would be accessible at least 10 months of the year. These types of trail opportunities are not available in the region. The motorized trail system in the nearby Forest Service system is unavailable due to snow and road closures all winter. The Forest Service system is mostly ATV trails, which are wider and not designed for motorcycles and mountain bikes.

Alternative 3:

This alternative provides a modest increase in public access. As shown on map 3, this alternative would increase the access to Rough Canyon and to a limited degree the motorized routes in area 4. Area 6 would see only a modest improvement in access. Because the reroute of the Tabeguache through area 6 would be a motorcycle/mountain bike trail, access opportunities would be eliminated to full size off-highway vehicles. This action fails to meet the access/transportation objective (Little Park to Unaweep motorized connection) of the RMP.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:

The motorized recreational trail system would be located further to the south and at a greater distance from the residences on Little Park Rd. This would shield the residents from unwanted impacts from the trails and provide a desirable recreational trail network for the visitor. Elimination of delineated hike and horse trails in the eastern corner of Area 5 would create a more primitive opportunity for those uses in this area while reducing maintenance obligations.

ACCESS

The proposed new routes in the northern portion of Area 5 would increase access to scenic canyons and would allow legal motorized access near the Gunnison River. Less access would be available to the public in the northern portions of Area 4 as a result of fewer routes and the subsequent rule limiting all travel to designated routes in Area 1, 2, 3 and 4. This would further reduce potential for impact to resources from cross country travel by hikers and horsemen.

The recreational trail system as defined in the decision has fewer miles of routes available to the public than are presently available, however the recreation opportunities for access to backcountry experiences are enhanced. The deletion of the proposed routes in the east portion of Area 5 would help assure the backcountry experience and reduce human impacts to resources. The closing of the Old Tabeguache Trail east of the reroute to all public access would direct the public to a new system of routes designed and constructed to modern standards allowing access into previously inaccessible public lands. This action would also reduce the public access to the

Old Tabeguache trail to hiking and horses only, thereby enhancing the backcountry experience of the core of the area (south portion of Area 5 and north portion of Area 6).

PALEONTOLOGICAL RESOURCES

Affected Environment:

Geologic units in the area include Jurassic and Cretaceous rock layers, of which several are known to contain fossils. Among these is the Upper Jurassic Morrison Formation, which is known to produce small to large dinosaurs, tracks, petrified wood, and other fossils in the Bangs Canyon area. The Brushy Basin Member of the Morrison is the most often exposed member, and had produced known fossils above Rough Canyon and along the northern extent of the Tabeguache Trail area. At least 22 known dinosaur localities are known within the Bangs Canyon EA area. Most of these known vertebrate fossil localities are in Area 1, Area 2, Area 3, and Area 4. Also present are plant localities producing leaves and petrified wood, and some fragmented bone both within the Lower Cretaceous Burro Canyon Formation and Cretaceous Dakota Sandstone.

Due to an earlier discovery in the late 1960's of a juvenile mammoth tooth in Pleistocene gravels above No Thoroughfare Canyon, it may be possible that other fossils of Pleistocene fauna may be present in Bangs Canyon.

A records search of Bangs Canyon was conducted by the BLM CO Regional Paleontologist. To date, approximately 1,400 acres of the 58,000 acres (4.1%) of the project area has been professionally surveyed for paleontological resources. This has resulted in the recordation of approximately 27 localities. Most of these were found by the Museum of Western Colorado in the early 1990's during surveys in the northern part of the area.

Environmental Consequences & Mitigation:

Regardless of which alternative is selected, management measures are in place that preserve and protect paleontological resources for present and future generations (FLPMA, NEPA, Cfs, USC Codes, and BLM H-8270 Manual and Handbook for the Management of Paleontological Resources). Compliance with management measures for authorized actions, the identification and evaluation of paleontological resources, and adherence to procedures for resolution of adverse effects and mitigation of impacts. Preservation in place through avoidance is the most commonly applied mitigation measure. However, this mitigation strategy requires long-term, systematic monitoring of paleontological resources. Collection, excavation, or data recovery in those cases where avoidance is not feasible, is also an acceptable form of mitigation if conducted under an approved research design.

The paleontological resources of Bangs Canyon have already been subjected to significant adverse impact through erosion, grazing, off-highway vehicle (OHV) traffic, bike traffic, foot traffic, unauthorized surface collection of vertebrate fossils, and intentional vandalism. It is evident that impacts to the paleontological resources in the project area have increased over the past several decades and could escalate as a result of increased visitor use. In addition to recommendations for avoidance and future investigations relating to the identified resources, an intensified program of monitoring and patrolling of particular resources is advised. Monitoring plans should also be developed prior to the construction phase of each action.

Impacts Of Actions Common To All Alternatives Except The No- Action Alternative

The direct impacts would be from on the ground construction of new trails, re-routes and trailheads. OHV use could directly affect paleontological resources through direct disturbance, and erosion. The direct effects are loss of fossils and their host deposits and the information they contain. Route designations would help protect paleontological resources being impacted off of travel routes. The indirect impacts of increased access and visitation (i.e. surface collection, foot traffic, vandalism, etc) may be more harmful than the direct effects of trail and route building. Increased visitation and recreational use of the Bangs Canyon Implementation area constitute the greatest threat to paleontological resources. As noted above, the paleontological resources of Bangs Canyon have suffered serious degradation from surface collection and vandalism. Increasing recreation in general has an adverse affect on non-renewable resources. Impacts on known and unknown paleontological resources have cumulative impacts through incremental degradation of the resource base from a variety of sources reducing scientific information and interpretive potential. Cumulative impacts cannot be directly measured but because they are non-renewable resources, damaged or destroyed paleontological resources are a permanent resource loss.

Mitigation Common To All Alternatives Except The No-Action Alternative

Management measures are in place to identify and mitigate impacts from authorized projects and activities. Resources would be managed according to existing legislation and BLM policies, which include measures to identify and protect paleontological resources in planning and project activities. Paleontological resource surveys in Condition I areas (Morrison Formation) devoid of well-developed soils and vegetation, and for larger projects, some sampling of Condition II areas (all other geologic units) would be completed prior to all surface-disturbing activities, and mitigation measures would be taken to avoid or reduce impacts on resources. There would continue to be impacts on known scientific localities, as well as unevaluated and undiscovered paleontological resources associated with unregulated and unauthorized projects and activities. The rate of these impacts will increase with increases in the local human population. Current management actions that designate limited and closed areas for OHV use would enhance the protection of paleontological resources, as would designated lands for limited use areas. Some of the effects of increased visitation may be mitigated through education and interpretive programs and developing a monitoring plan for the area. Mitigation of impacts could preclude other desirable management options and future uses.

Alternative 1

Alternative 1 proposes the most new trail development with 177 miles proposed. This alternative would have the greatest adverse affect on paleontological resources as visitor use would increase throughout Bangs Canyon and in areas of specific paleontological resource concern such as Area 1, Area 2, Area 3 (the Rough Canyon ACEC), and Area 4. As an ACEC the paleontological resources within Area 3 should be managed in compliance with the management objectives of the 1992 ACEC Activity Plan and Environmental Assessment.

Alternative 2 (Proposed Action)

Alternative 2 proposes less new trail development with 112 miles of new trail being proposed. Continued management of Area 5 as a backcountry primitive area would enhance the protection of paleontological resources within this area. Less trail development is being proposed for Area 3 (the Rough Canyon ACEC), however, trails are being proposed that would extend visitor use in areas of Rough Canyon, and Area 1, Area 2, and Area 4, with a high potential for paleontological resources in the Morrison Formation, especially in these areas.

Alternative 3

Alternative 3 proposes the least amount of new trail development, except for the no action alternative, with 81 miles of new trail being proposed. This proposal would cause the least adverse impacts on paleontological resources in several ways. Limited re-routes would occur creating more sustainable trails that would hopefully decrease the creation of social trails that adversely impact paleontological resources. A moderate amount of new trails are proposed in areas known to be easily accessible to the public where increased use will occur as local human populations increase. This could lessen adverse impacts on paleontological resources from the creation of unauthorized trails where no paleontological resource inventories are completed. Less trail development is being proposed for Area 3 (the Rough Canyon ACEC), however, the new trail in Rough Canyon is carried through in this alternative also.

No Action Alternative

With the no action alternative no new trail development would occur. Although the no action alternative would have the least direct impacts on paleontological resources the indirect impacts of increased visitor use as local human populations increase, and the creation of unauthorized trails would have adverse affects on paleontological resources. Additionally, continuing current management which is often non-management does not take pro-active steps in monitoring, interpreting or protecting paleontological resources. The cumulative impacts on known and unknown paleontological resources have cumulative impacts through incremental degradation of the resource base from a variety of sources reducing scientific information and interpretive potential. Paleontological resources would continue to be adversely impacted under the no action alternative because of non-management resulting in a permanent resource loss.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:

There are no changes to the analysis under Alternative 5.

Mitigation

If the no action alternative is selected paleontological resources would continue to be adversely impacted by general visitor use resulting in foot traffic, surface collection, and vandalism as well as OHV use with the creation of unauthorized trails. Proactive management of known localities through interpretation, education, monitoring and excavation and of unknown localities through paleontological resource inventory would decrease adverse impacts.

NOISE

Affected Environment: *Noise* is defined by Colorado law as sound that is unwanted and causes, or tends to cause, adverse psychological or physiological effects on human beings. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. There are several ways to measure noise, depending on the source of the noise, the receiver, and the reason for the noise measurement. Environmental noise levels are typically stated in terms of decibels

on the A-weighted scale (dBA). Noise levels stated in terms of dBA reflect the response of the human ear by filtering out some of the noise in the low- and high-frequency ranges that the ear does not detect well. The A-weighted scale is used in most community ordinances and standards. Human hearing typically encompasses the sound range from just above zero dBA at the quietest end to approximately 140 dBA, where pain is produced in most listeners and permanent hearing loss would result.

The primary noise sources in Bangs Canyon are airplanes, highway and road traffic, city noises, voices, noise associated with Search and Rescue activities within the area, natural sources, such as wind, rain, thunder, and wildlife, and motorized recreational uses. OHV noise levels are variable, with older vehicles producing higher noise levels than newer ones. Almost all OHV noise in Bangs Canyon is generated in the Areas 4 and 6 and on the Tabeguache Trail in Area 3 which represents a small percentage of overall noise contribution. Colorado Noise Statute 25-12-106 requires that decibel levels (measured at 50 feet) for vehicles designed for off-highway use to be below the following measurements:

According to data and based on tests compiled by Oregon Dunes National Recreation Area, noise levels from all-terrain vehicles (ATV) with mufflers are in the range of 81 to 101 dBA per unit at a distance of 20 inches (Scharf 1999). A noise level of 96 dBA at a distance of 20 inches is the maximum level recommended by the American Motorcyclist Association for the type of environment found in Bangs Canyon (AMA 2005).

Environmental Consequences & Mitigation: Portions of area 4 are within ¼ mile of occupied residences near Little Park Road. Motorized trails in this location may have an adverse impact on nearby residents. Trails on the north aspect of the first ridge to the south of these residences are all non-motorized. The Gunny Loop trail is presently located in this same drainage, and no complaints have been received to date. All motorized trails would be located on the side hills and to the south of the ridge top closest to the residences. This location would mask noise and limit spread. In actions common to all alternatives a noise limit on motor vehicles would be established. This field enforceable regulation would significantly reduce noise impacts on adjoining residences and other public land visitors. Regulatory signs posted at all entrances to the motorized trail system would inform the public about the noise limits. BLM personnel would educate the public and actively enforce the regulation. The layout of trail systems and limiting use and occupancy from 11 p.m. to 5 a.m. would limit noise within the project area.

Due to the remote location of most of the project area, noise is not a major concern, with the exception of area 4 (see discussion, above). Trail locations in area 6 have been proposed so as to reduce noise impacts on neighbors. The portion of Snyder Flats Road near existing residences is an unavoidable situation. OHV sound limit of 96 db using the SAE 20" [SAE J1287] test would be applied throughout the management area and is the most stringent regulation of its kind in Colorado.

The "Criteria for the Placement of Trails" is the guideline for locating all proposed new routes and evaluating existing routes for suitability in the recreational trail system. All proposed routes would be located in areas where vegetation or geomorphology masks the route from key observation points. Existing routes that do not meet the criteria are closed or modified so as to meet the criteria. This significantly reduces the level of sound that could be heard by those not involved with the trail based recreation activity.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:

BLM received many comments from nearby residents about the noise potential of OHV trails near the urban interface. In response to these and other comments, a new alternative (alternative 5) was crafted. In alternative 5, proposed OHV routes were taken out of the northern portion of Area 4 and placed in the northern portion of Area 5. In addition, alternative 5 uses the existing Bangs Canyon trailhead as the primary OHV trailhead. Bangs Canyon trailhead is over 2 miles further from any private homes than is Little Park trailhead. These actions, in addition to the 96db sound limit, would insure that noise from OHV recreation would not be an issue for local residents.

RECREATION

Affected Environment: The introduction section of this EA describes issues stemming from recreation use of the area, anticipated demand on recreation resources and recreation objectives for the area. This information should be referenced when reading this section. The recreation use of the area is almost entirely trail based. As such, the transportation/access section of this document should also be referenced when reviewing this section.

The RMP created a limited to designated route prescription for motorized use. The Plan extended the designated route prescription to include mechanized travel (mountain bikes). In Areas 1 and 2 this prescription also applies to hikers and equestrians. BLM has seen an increase in use in Bangs Canyon and has implemented a number of actions to address issues stemming from this use.

Environmental Consequences:

Alternative 1

This alternative would provide the highest degree of development for a wide variety of trail based recreational activities. The trails and infrastructure improvements in Area 1 would provide a variety of trail options for visitors which would direct use to appropriate areas. Directing use and provision of additional trail opportunities would reduce social trailing and associated resource impacts, and would require all users to remain on designated trails. Some users may be reluctant to remain on designated routes and increased education and patrols on site may be required. Existing trails in Area 1 are currently intermediate to advanced. Implementation of this alternative would increase beginner to intermediate level trail opportunities. The variety of trail opportunities would appeal to a broader spectrum of the community while providing skills training for beginners. Designation of downhill/freeride trails would help these users from creating their own, unauthorized trails. Installation of a toilet and requiring dog owners to pick up and dispose of dog waste would prevent disease and other threats to public health. Parking of vehicles would be better organized to accommodate more vehicles which would lead to a safer parking setting for many users. Increased parking capability would also reduce the random parking that occurs along Monument Road. The trail development and reroutes would reduce erosion impacts and enhance the recreation experience. Closure of the motorized use on the Tabeguache in Area 1 would help reduce user conflicts and resource impacts.

Development of additional trail opportunities in areas 2, 3 and 4 would help satisfy the recreation demand of local residents for trail-based activities. The connection to the Old Gordon trail on the Colorado National Monument would provide users of that trail a safe parking area on Little Park and a hiking opportunity that is not impeded by private property. Creating loops trails and systems within these areas would give users alternate opportunities and prevent user created routes. Improvement of trailheads to these areas would accommodate current and future use within appropriate, defined areas. Development of motorcycle and ATV systems in Area 4 would provide these and other trail users a close to home trail based opportunity. Travel along Little Park road may increase due to increased access and provision of recreation opportunities.

Connection of the Tabeguache Trail to Highway 141 would implement a long standing decision from the 1987 RMP. Portions of Area 5 and 6 would continue to be managed for their backcountry primitive values. Access to portions of Area 6 would improve for many users leading to expanded recreation opportunities, appreciation for public land resources and increased stewardship. The proposed trailhead development would accommodate day use visitors to the trails on the south end of area 6, expanding legal parking access opportunities. The overnight restrictions and shooting regulations would help to reduce conflicts between visitors and provide for public health and safety. The motorized connection between the Tabeguache Trail and Highway 141 is a highly valued recreational access, and making this connection would allow additional use along the Tabeguache to occur. Capacity for a multi-day motorized trip from Grand Junction to Montrose would be restored. The proposed motorcycle and mountain bike in area 6 would help meet the demand for high-quality recreational experiences in a remote and scenic setting. In addition, the improved access provided by newly created trails in the southern portions of area 6 would provide needed access to elk hunters which would assist the DOW in meeting their herd management goals.

Alternative 2

The effects of Alternative 2 are similar to those of Alternative 1 with some important exceptions. Fewer trails would be proposed in areas 1, 2, 3, 4, and 6. These changes would not significantly reduce the recreation opportunity as looped trails and systems are a component of Alternative 2.

Alternative 3

This alternative would not fully satisfy the demand for recreation over an extended length of time. Trail development in area 1 would not keep up with the needs of the local citizens. Similarly, the trail development proposed for area 4 is not adequate to provide a quality experience. Portions of the area would continue to be managed for their backcountry primitive values. Area 6 would not provide adequate hunter access and DOW's elk herd management goals would remain unmet. The trail system in area 6 would be inadequate to provide a quality trail experience. Under Alternative 3, the lack of a variety of trail opportunities would contribute to continued creation of illegal routes.

Alternative 4 - No Action

Under this alternative, unplanned, unmanaged impacts would continue to occur and BLM would continue to react to their occurrence. Management would continue at its current level providing no additional opportunities or support infrastructure. Recreational demand would remain unmet. BLM would not meet the intent of the Plan or the expectations of those who helped craft the Plan. Motorized users would continue to be frustrated by the lack of a connection to Highway 141 and private property trespass would continue. Lack of loop opportunities and dead ends

have proven to frustrate users and this frustration can often lead to disregard for natural resources and route designations. The RMP objective of connecting Little Park Road to Highway 141 would remain unfulfilled. The Tabeguache would continue to be managed as motorized for its length through Bangs. Opportunities to achieve DOW's elk harvest goals in the area would be forgone.

Environmental Consequences Common to All Except the No Action Alternative:

Access to scenic resources and spectacular views would increase visitors' appreciation for the natural environment. Improved access to more remote areas would enable visitors to experience the desert landscape and the sense of wonder it instills. Other benefits include a strengthened sense of community and an appreciation of the quality of life offered in the Grand Valley. Additional benefits derived from each of the alternatives include opportunities for exercise, wellness, improved fitness and appreciation for natural resources and open spaces. Challenge through one's sport, skill building, recreational planning and problem solving, group/social affiliation, sense of common purpose, and a greater stewardship ethic are all benefits that could be derived from continued implementation of the plan.

Community assistance with monitoring, volunteerism, trail maintenance, visitor patrols and data collection (wildlife, plant, cultural resource inventories) would benefit the community and the BLM. Not only would communication be enhanced between and across communities, but combined efforts to achieve common purposes would unite these communities. Adherence to criteria for placement of trails and provision of managed trail opportunities should reduce occurrence of user-created trails. The proposed actions in each of the alternatives meet, to varying degrees, the Plan's stated intent "to become more responsive to both the visitors and the land." (Plan p. 5) The alternatives provide management options to accommodate public use and protect the area's popular resources and facilities. Updating informational and navigational maps would enhance visitors' experiences by increasing safety and understanding of opportunities in the area.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:

There are no changes to the analysis under Alternative 5. Although motorized trails have been relocated from the northern part of Area 4 to the northern portion of Area 5, this opportunity would remain available to the recreating public.

VISUAL RESOURCES

Affected Environment:

The practice of Visual Resource Management (VRM), in BLM land-use planning, inventories landscape character according to the four basic visual elements of form, line, color, and texture, and is used to analyze impacts of development. The planning area is first evaluated and then assigned values for several visual elements, based on a numerical point system. The total points assigned to a given area are then used to determine an existing scenic quality class.

A review of the RMP indicates that most of Areas 1, 2 and 4 are classified as Visual Resources Management (VRM) class II. The mesa tops typically are classified as class III. Area 3 is predominantly class III. Area 5 is primarily class III with the canyon drainages class II. Area 6 is class III except for the Northeast Creek drainage which is class II and the cliffs of the

Unaweep Canyon which are class II. The Highway 141 corridor is class III. Definitions of each class are as follows:

CLASS 2 OBJECTIVE - Change Visible but Does Not Attract Attention. The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

CLASS 3 OBJECTIVE - Change Attracts Attention but is Not Dominant. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences & Mitigation Common to All:

The Criteria for the placement of trails is the guideline for locating all proposed new routes and evaluating existing routes for suitability in the recreational trail system. All proposed routes would be located in areas where vegetation or geomorphology masks the route from key observation points. Existing routes that do not meet the criteria are closed or modified so as to meet the criteria. This significantly reduces the visibility of the trail by those not involved with the trail-based recreation activity.

All alternatives are similar enough that an analysis by area and alternative is not necessary. The only major construction that might have a VRM impact, other than routes, is the proposed trailhead in area 6. The site of the proposed trailhead has been selected so as not to be visible from Highway 141. The proposed routes in area 6 are sited to minimize impact on the view shed. The proposed 4X4 trail connecting the trailhead to Snyder Flats Road has been analyzed using VRM simulation. Minor realignments were made to shield the trail from view by observers on Highway 141. Portions of the trail proposed in the northern section of area 6 would be visible from Highway 141. The trail would normally be 2 feet wide. No cut banks greater than 1 foot are expected as the trail would be laid out on a geological bench that parallels the creek. Only short sections of the trail would be visible from the highway. This is consistent with VRM class III.

The proposed area 1, 2, 3 and 4 trails would not dominate the landscape from Little Park Road or Monument Road or neighboring private lands. The short portion of Gunny Loop that is proposed in area 4 may be visible to the neighboring residences along Little Park Road. Users of the trail systems would be visible from these locations, but would move through these areas and not be a long term visual impact.

The proposed upgrade of the Area 1 trailhead would be visible from Monument Road and adjacent private lands. This location is on land owned by the city of Grand Junction. The proposed upgrades would have a beneficial effect on the visual impact as parking would be orderly and facilities would be designed to blend in with the characteristic landscape.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

FORESTRY

Under all alternatives, with increased usage of an area there is the likelihood for increased illegal firewood cutting. There will also be increased damage to trees along travel routes and around any campsites. This impact should be minimal. Due to the roughness of the area the illegal firewood cutting should be minimal. Public use firewood cutting is not proposed at this time due to the roughness of the area and the use of the area for other types of recreation.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

REALTY AUTHORIZATIONS/LAND STATUS

Affected Environment and Environmental Consequences: The surface and mineral estates of the subject lands are owned by the federal government. A proposed land exchange (Mesa Mood exchange) is currently pending and if completed would result in the federal government acquiring 331 acres in four parcels within Bangs Canyon. BLM has also initiated discussion on the purchase of a parcel along the Gunnison River as called for in the RMP. Plan maintenance or an amendment would be initiated to take Area 1 out of the disposal category (RMP Land Tenure Adjustment, Decision One).

Environmental Consequences & Mitigation: Impacts associated with the pending land exchange were evaluated in CO-130-2004-017-EA. Purchase of the parcel along the Gunnison River would realize an RMP level decision and would provide legal public access on the Magellan Loop and along the river. Retention of Area 1 under federal ownership and management would allow for continued and enhanced management of a community trail-based recreation site in cooperation with the City of Grand Junction and other partners. The impacts of continued and enhanced management are further described in the Recreation section of this EA.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

RANGE

Affected Environment: There are 11 grazing allotments located within the boundaries of Bangs Canyon. The Bangs Canyon Management Plan stated that grazing management would continue as identified in the Grand Junction Resource Management Plan and Grazing Environmental Impact Statement. Areas 1 and 2 are within allotments that are in an unallotted status and are not grazed by livestock. The Plan called for the continuance of this unallotted status. Livestock grazing does occur within Areas 3, 4, 5 and 6. Generally, grazing occurs during the spring, fall or winter within these areas by cattle. A variety of range improvements exist within Bangs Canyon including fences, cattleguards, springs, reservoirs and a water catchment. Grazing permittees are responsible for the maintenance of these improvements as required by cooperative agreements. In most cases there is access to these improvements via a two track route. Each allotment also contains range study sites used to monitor vegetation trends related to livestock

management. The number of sites varies depending on the size of the allotment. Access to these sites is also via two track routes.

Environmental Consequences/Mitigation:

Common to all Alternatives: In general livestock management and recreation uses can occur in harmony if use levels are not excessive and range improvements are not damaged. The greater the trail system and the amount of users the greater the potential is for impacts to vegetation and overall livestock management. Potential impacts to vegetation that would be detrimental to livestock management is the reduction in cover of forage species, reduction in overall vegetative cover and an increase in undesirable species such as noxious weeds. Potential impacts to livestock include intentional harassment, unintentional disruptions especially during calving period and disruption of overall management. Potential impacts to range improvements include vandalism of a capital investment and actions influencing the purpose of the improvement which is to improve grazing management by improving livestock distribution and utilization levels of forage species. Gates left open by users can be an impact to livestock management by influencing pasture rotations and causing trespass issues. Trails and routes passing through fences should be equipped with a cattleguard of some type to prevent unwanted livestock movement. Based on this discussion Alternative 1 has the greatest potential for impact solely due to an increased amount of trails and anticipated users, Alternative 3 would have the least potential given the lowest number of trails and users. If mitigation measures are taken, in particular cattleguards at fence crossings and proper placement and construction of trails there should not be a significant difference in the impacts to range and livestock management between the three alternatives. The no action alternative would have the least amount of impact of the alternatives but again if mitigation measures are taken the difference is not significant.

Mitigation:

All the alternatives provide for administrative access on existing routes to range improvements and study sites by BLM employees and grazing permittees for livestock management purposes. These routes have been identified and would be incorporated into the grazing permit of the appropriate permittee. Access would be through the use of an ATV, 4X4 truck or heavy equipment needed to maintain or restore range improvements and perform range administrative duties. Also allowing cross country travel on horseback throughout the area during grazing use periods would allow the permittees to perform necessary functions required for livestock management.

As identified in the Criteria for Trail Placement guidelines, all new trail construction under each alternative should be designed and located in areas with the least amount of impact to soils, vegetation and livestock management.

Actions within Areas 1 and 2 under each alternative would not impact Grazing Management since there is no authorized grazing occurring within these areas.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:

There are no changes to the analysis under Alternative 5.

LAW ENFORCEMENT

The mission of the GJFO law enforcement program is to serve the public by protecting public lands that include the Bangs area from unauthorized uses that damage or abuse those lands; safeguarding the lives and property of the visiting public; protecting the lawful user against deception; protecting the visiting public against violence and/or interference; and respecting the constitutional and civil rights of public land users. BLM GJFO law enforcement officers enforce federal laws and regulations, patrolling Bangs Canyon as well as other public lands. Officers are tasked with a variety of services, including educating the public on rules and regulations, providing security at recreation sites, preventing theft of and damage to biological and cultural resources, assisting in emergency response situations – search and rescue, fire, enforcing the rules and regulations by issuing warnings and citations, and, if necessary, by making arrests, and assisting local agencies, such as the Sheriff's Departments, with tasks such as stolen property identification.

The proposed actions and related clarifications of policy and regulations described in the Actions Common to All Alternatives would be a significant help to law enforcement. The 1999 Plan specifies no overnight camping in several areas. This Plan clarifies the time of occupancy and makes this an enforceable regulation. Further, the no shooting regulations set up by the RMP and further defined by the 1999 Plan remain vague. This EA and the resulting Federal Register notice that would follow the signing of the EA define shooting so as to make the regulation enforceable. A portion of East Creek was identified as day use only in the 1999 Plan. This EA would provide defined boundaries so that the regulation will be enforceable after the Federal Register notice has been published. The addition of looped trails and expansion of mountain bike and motorized opportunities would provide opportunities to meet the public demand. The result will be fewer illegal user created trails. Establishment of times for public use and occupancy will provide for public health and safety of the public and appropriate uses of the public lands. Recreation and travel maps would help visitors orient themselves to the area and reduce the risk of getting lost and needing rescue services.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5: Changes as described in Alternative 5 would have additional beneficial outcome for law enforcement. The revision in night closure hours will be easier to enforce and identify on the ground. An active signing and visitor education program should reduce navigation issues for the public thereby reducing law enforcement response needs. However, the growth in area population and projected increase in use of public lands would counteract this benefit.

SOCIO-ECONOMICS

Affected Environment: The Grand Valley includes the lower elevations along the Gunnison and Colorado Rivers in central Mesa County. This area is surrounded by public lands managed by BLM, the U.S. Forest Service and the National Park Service. Public lands make up 74 percent of the county's 2.1 million acres. BLM manages 958,645 acres in the county, the Forest Service 547,850 acres. Although private property and human settlement are scattered throughout the county, the great quantity of public lands assures an abundance of open space, scenic vistas, and outdoor recreation opportunities. Historically an agricultural community with a great variety of irrigated crops, orchards and vineyards, the area has been strongly affected by periodic efforts in western Colorado to extract energy minerals. Uranium in the 1950s, coal off and on since the 19th century, oil shale in the late 1970s and early 1980s and oil and gas in varying degrees since the 1950s have all brought times of boom and bust to the economy of Mesa County. Today,

Mesa County is a regional economic center providing retail shopping, governmental services and health services to a large part of western Colorado and eastern Utah. It is the largest population center between Denver and Salt Lake City.

Grand Junction and Mesa County are typical of growing western communities. The population is expanding at a rate of 2 1/2 % per year, creating a healthy local economy and increasing demands on existing infrastructure within the county. Sales tax revenues increased by about 4 % last year (2004), a further indication of a growing local economy. The population growth is primarily attributed to new residents from out of the area relocating to Mesa County. One of the primary reasons for selecting Mesa County is the excellent outdoor recreation opportunities available year round. These new residents have a disproportionate amount of disposable income and often are retired or work part time.

Grand Junction is located on the I-70 corridor and attracts a significant number of tourists each year. The lodging tax receipts are increasing at a rate of about 2 % a year. The county contains over 130 small businesses catering to outdoor recreation. The Grand Junction Field Office reported almost 1,000,000 visitor days in FY 04, an increase of 7 % over the previous year. 72% of OHV recreation takes place on public lands. The OHV industry contributes in excess of \$200 million a year to the Colorado economy. OHV registration in Colorado has increased at an annual rate of 18% a year for the past 8 years. Mountain biking is estimated to contribute about \$3,000,000 a year to the local economy (CCNCA RMP, 2004). Hiking and backpacking use is also increasing (based on field observations, for example, use doubled from 2003 to 2004 on the Mica Mine/Ladder Canyon Trail from 3,383 to 8,167). Last year in Colorado experienced 3.77 billion dollars of recreation real estate sales. 94% of the states population engages in outdoor recreation, and over 90% of residents use trails. According to the Colorado Division of Wildlife, hunting, fishing and wildlife viewing contributed an estimated \$1.5 billion to Colorado's economy in 2002.

Outdoor recreation is a high value activity to the peoples of the west. Many of us identify ourselves primarily by our recreational interests. The opportunity to experience the primitive outdoors is central to the values of our western culture. Families and formative childhood experiences are based on small group excursions to undeveloped landscapes.

Environmental Consequences/Mitigation:

The impacts to the local economy are evident. The McInnis Canyons NCA socioeconomic analysis (2004) found that the total contribution of recreation use in the McInnis Canyons NCA is estimated at over \$4.5 million in annual income associated with 213 Mesa County jobs. The North Fruita Desert socioeconomic analysis (2004) found that the total economic impact of recreation use in the North Fruita Desert is estimated at \$689,607 annually, which is associated with 33 Mesa County jobs. Additional recreation opportunities in Mesa County would add to the diverse recreation opportunity base and increase economic impacts within the county. Availability of well managed recreation opportunities is important to the social and economic health of the Mesa County community.

Specifically, an important factor in the economics of recreation is access to outdoor recreation. The Grand Valley is surrounded by federal lands managed by BLM. This situation puts BLM in the position of providing urban interface recreation opportunities. Area 1, 2, 3 and 4 are planned to fulfill this important community need. The connection of the Tabeguache trail to Highway

141 is an important action, reconnecting an all-dirt backcountry route linking Grand Junction with Montrose. This is a historic long distance recreation opportunity valued by the off road community.

The continued management of the backcountry primitive area as described in Alternative 2 is an important recognition of the need for unconfined recreation and primitive settings. Area 6 is planned to provide motorcycle and mountain bike trail experiences for locals as well as destination vacationers. This niche is defined by season of use and scarcity of narrow motorized trail opportunities in the market area. All the current narrow bicycle trail opportunities are concentrated at lower elevations where summer heat discourages use in July, August, and September. Very little motorized trail opportunities are available near the Grand Valley. The trails (motorcycle, mountain bike, hiking) in the neighboring forests are at high elevations and are only available in mid-summer. The elevation of the proposed trails in area 6 would be useable 8 to 10 months a year although the use season may be shortened based on seasonal closure needs. The proposed area 6 trail development would also facilitate improved hunter access to the elk herd that flourishes in this area.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

CUMULATIVE IMPACTS SUMMARY

The BLM GJFO is comprised of 1.2 million acres of public lands. Multiple-use activities that occur in the local area include OHV recreation, mountain biking, hiking, camping, wildlife viewing, oil and gas development, and cultural and paleontological resource management. The GJFO has recently developed plans for two recreation areas – the North Fruita Desert and for the McInnis Canyons National Conservation Area. All areas are designed for multiple uses, and the plans identify appropriate recreational uses on various trails and aim toward minimization of user conflicts. All management plans are moving toward designation of roads and trails to minimize the adverse impacts associated with cross-country use.

The population of Mesa County increased by 2.5 percent in calendar year 2004. Visitation to the BLM public lands managed by this office increased 7 percent in the same time. A primary reason for moving to Mesa County is the availability of wild land recreation, abundant recreation opportunities and good climate. Visitor numbers have steadily increased since 2002. All of these factors indicate a growing need for managed recreation opportunities along the urban interface, and the protection of back country primitive areas for unconfined recreation. The proposed actions address these community needs.

The proliferation of user-built trails throughout the region has become a social and environmental problem. The Bangs Canyon Management Plan was developed to help meet the demands of the growing population and recreation visitors to our area in a sustainable way. The proposed trail developments are professionally designed sustainable trails that meet established criteria. These are preferable to the adoption and repair of user built trails. The Plan also affords protection to undisturbed backcountry primitive areas.

The 1987 RMP identified 3 OHV open areas and an area of about 115,000 acres of the North Desert for use by motorized recreation on existing routes. Mechanized recreation was not

mentioned as the RMP predates the popularity of mountain bikes. Our data indicates that about 300,000 visitors a year use the North Desert for motorized and mechanized recreation. The high content of salts and selenium in the Mancos soils, most coming from the irrigated ground below the Government Highline Canal, contribute to adverse impacts in the Colorado River water quality and the threatened and endangered fish that live in the river. In an effort to reduce salinity in the river, it is the long term strategy of this office to mitigate the impacts from the open areas by sediment detention and limiting the use by vehicles on the balance of Grand Valley to existing roads and trails. The proposed trail development in areas 1, 4 and 6 of Bangs Canyon may reduce some use in the Grand Valley resulting in a slight reduction in saline sediment.

The reroute of the Tabeguache trail through North East Creek and Snyder Flats Road fulfills a directive from the RMP. This is a connection that has been repeatedly brought up by the public. The resulting route is the missing portion of a historic primitive route connecting Grand Junction with Montrose. It would provide a high value off road opportunity. Due to its' length and difficulty it may provide a multi-day opportunity for motorized enthusiasts.

Resource areas that have some potential for adverse cumulative impacts would include soils, air and water quality, and cultural and paleontological resources. For these resource areas, management measures, including standard operating procedures, standard design practices, and best management practices, have been developed to identify and mitigate impacts resulting from authorized activities.

Geology, topography, noise, and climate would not be adversely impacted by any action within this implementation plan, or any other action foreseeable in the planning area.

Cumulative impacts on soil, water, and air from BLM actions, and actions from any other reasonably foreseeable action, would be minimized through adherence to local, state, federal, and agency regulations that exist. None of the actions discussed across the region have the potential to cause significant adverse impact to the quality of the air, water, or soil, and the addition of the actions discussed within the alternatives developed in this plan would have a slight additive effect.

Trail construction would cause some short term negative, direct impacts on soil, air, and water quality; however, construction would take place incrementally and would not result in a significant impact to vegetation at any point in time. All actions related to climate, air quality, and noise comprise implementation of regulatory requirements that are already in place and would result in minimizing the potential of any direct or indirect impacts to the environment.

Changes to analysis of environmental consequences/mitigation under RAPA/Alternative 5:
There are no changes to the analysis under Alternative 5.

PERSONS / AGENCIES CONSULTED:

Colorado State Parks- Regional Trails Program
City of Grand Junction
Colorado Division of Wildlife
National Park Service, Colorado National Monument

Northwest Resource Advisory Council
Bangs Canyon Advisory Committee
Bookcliff Rattlers Motorcycle Club
Colorado Rocky Mountain Trials Assoc
Colorado Environmental Coalition
Colorado Plateau Mountain Bike Trail Association
Colorado Mountain Club
Concerned Citizen Resource Association
Grand Mesa Jeep Club
Mesa State Cycling
Mesa Mood Ranch
Mesa Monument Striders
Mesa County Wilderness Coalition
Motorcycle Trail Riders Association
National Off Highway Vehicle Conservation Council
Sierra Club
Wilderness Society
Western Colorado Congress
Western Slope ATV Association

INTERDISCIPLINARY REVIEW

NAME	TITLE	AREA OF RESPONSIBILITY
Tom Bargsten	Surface Reclamation Specialist	Soils
Aline LaForge/ Meghan Murphy	Archaeologist	Cultural Resources, Native American Religious Concerns
Jim Cooper	Travel Management Specialist	Access & Transportation
Britta Laub/ Gene Arnesen Wade Johnson	Outdoor Recreation Planner Interpretive Specialist	Recreation, VRM, Wilderness, ACECs Wild & Scenic Rivers, NCA
Jim Dollerschell	Range Management Specialist	Range, Wild Horse & Burro Act
Bruce Fowler	Geologist	Geology, Paleontology
Alan Kraus	Hazard Materials Specialist	Hazardous Materials
Robin Lacy	Reality Specialist	Land Status/Reality Authorizations
Ron Lambeth	Wildlife Biologist	Migratory Bird Treaty Act, T&E Species, Wildlife-Terrestrial
Harley Metz	Ecologist	Range, Land Health Assessment
Lynae Rogers	Range Management Specialist	Range, Riparian, Flood Plains
Jane Ross	Planning & Environmental Coordinator	Air Quality, Environmental Justice, Prime & Unique Farmlands, Environmental Coordinator
Jim Scheidt	Hydrologist	Water Quality, Hydrology, Water Rights
David L. Smith	Fisheries Biologist	T&E Species, Wildlife-Aquatic
David P. Stevens	Natural Resource Specialist	Forestry
Mark Taber	Range Management Specialist	Invasive, Non-Native Species (Weeds)
Tim Foley	Fire Management Officer	Fire

APPENDICES:

- Appendix A: Criteria for the Placement of Trails
- Appendix B: Trail Management Objectives for Areas 1-6
- Appendix C: Mancos Shale
- Appendix D: Implementation Strategy

MAPS:

- Map 1: Alternative One
- Map 2: Alternative Two
- Map 3: Alternative Three
- Map 4: Bangs Existing Routes
- Gunnison Sage Grouse Habitat Map
- Map 5: RAPA Map/Alternative 5
- Map 6: Detail map of Areas 1 and 4
- Map 7: Recreation Trail System under RAPA

APPENDIX A:**Bureau of Land Management
Grand Junction Field Office****CRITERIA FOR THE PLACEMENT OF TRAILS**

The following criteria are used to determine suitable locations for new trails and trail reroutes within the Grand Junction Field Office management area. This document utilizes terminology from the “Recommended Standardized Trail Terminology for Use in Colorado.” (COTI 2005)

These criteria are to be followed as guidelines. Not all of the criteria can be met on every segment of every trail. Their purpose is to help create sustainable, low maintenance trails that provide quality recreation experiences based on predetermined trail management objectives (TMOs). Specialty trails requiring higher maintenance may be allowed in appropriate locations.

1. Know and understand trail management objectives. TMO’s provide the framework for what the trail will look like, who will be using the trail, and how the trail will be managed. Different TMO’s may allow different applications of the criteria below.

2. Create loops and avoid dead end trails. All trails should begin and end at a trailhead or another trail. A well-planned stacked loop trail system offers recreationists a variety of trail options. Easier, shorter loops are arranged close to the trailhead, with longer, more challenging loops extending further beyond the trailhead. Occasionally, destination trails to a point of interest will require an out and back trail, but only if they cannot be reasonably incorporated into a loop.

3. Identify control points and use them to guide trail design and layout. Control points are specific places or features that influence where the trail goes. Basic control points include the beginning and end of the trail, property boundaries, intersections, drainage crossings, locations for turns, and other trails.

Positive control points are places where you want users to visit, including scenic overlooks, historic sites, waterfalls, rock outcroppings, lakes, rivers and other natural features or points of interest. If the trail does not incorporate these features, users will likely create unsustainable social trails to get to them.

Negative control points are places you want users to avoid, such as low-lying wet areas, flat ground, extremely steep cross slopes or cliffs, unstable soils, environmentally sensitive areas, sensitive archaeological sites, safety hazards, and private property.

Knowing these control points provides a design framework. Try to connect the positive control points while avoiding the negative control points.

4. Use cross slope and avoid flat ground whenever possible. The trail tread should generally run perpendicular to the cross slope and should utilize frequent grade reversals. This is the best way to keep water off the trail. Use curvilinear design principles to create a trail that follows the

natural contours of the topography, sheds water, blends with the surrounding terrain, and provides fun recreation opportunities.

The following grade guidelines will help determine appropriate tread locations.

- **The Half Rule:** “A trail’s grade shouldn’t exceed half the grade of the hillside or sideslope (cross slope) that the trail traverses. If the grade does exceed half the sideslope, it’s considered a fall-line trail. Water will flow down a fall-line trail rather than run across it. For example, if you’re building across a hillside with a (cross slope) of 20 percent, the trail-tread grade should not exceed 10 percent.” (IMBA 2004) Steeper cross slopes allow more flexibility for sustainable tread grades while flat or low angle cross slopes can be problematic. There is an upper limit to this rule. Sustaining a 24 percent tread grade, even on a 50 percent cross slope is unlikely. Additionally, trail segments may break this rule on durable tread surfaces such as solid rock.
- **The Ten Percent Average Guideline:** The average trail grade over the length of the trail should be 10 percent or less for greatest sustainability. Short sections of the trail may exceed this, but the overall grade should remain at 10 percent or less.
- **Maximum Sustainable Grade:** This is the upper grade limit for those short trail segments that push the limits of the previous two guidelines. It is determined by a site-specific analysis based on TMO’s, environmental conditions, and observations of existing trails – what’s working, and what’s not?
- **Grade Reversals:** Frequent changes in the direction of tread grade (gentle up and down undulations) will ensure that water is forced off the trail at frequent intervals.

5. Locate trails in stable soils. Avoid clays, deep loam and soils that do not drain rapidly. Consider season of use and type of use. A trail on a south aspect will have greater usability and sustainability for winter use. The capabilities of motorized vehicles to function in wet/muddy conditions make it imperative to avoid unstable or poorly drained soils. Trails that are less likely to be used when wet may be located in less-desirable soils if necessary. In western Colorado’s arid environment, the best soil conditions for trails are those with high rock content. Utilize slick rock for trail tread when possible. Sand is acceptable in dry washes, but otherwise avoid sand.

6. Drainage crossings are key control points and should be selected carefully. Consider both the trail’s impact on the drainage (erosion and sedimentation), and the drainage’s impact on the trail (changing tread surface, water channeling onto trail). The trail should descend into and climb out of the drainage to prevent water from flowing down the trail. Avoid long or steep entries into drainages. Design grade reversals into the trail on each side of the approach to minimize water and sediment entering from the trail. Look for drainage crossings on rock.

7. Dry washes can be excellent travel ways. They are well defined, contain noise, and are periodically resurfaced by flowing water. As long as the wash does not support riparian vegetation and has no major safety problems, like water falls, they are well suited to be part of a recreational trail system.

8. Avoid switchbacks. Switchbacks are difficult, time-consuming, and expensive to construct, and require regular maintenance. Users often cut them, causing avoidable impacts. Utilizing curvilinear design principles eliminates the need for most switchbacks. Climbing turns are easier to construct and maintain and utilize natural terrain features (benches, knolls, rock outcrops) to change the direction of a trail.

9. Avoid ridge tops. Ridge tops are often primary transportation corridors for wildlife, and were often used by Native Americans as travel routes. Noise from ridge top trails is broadcast over a wide area. Locate trails on side hills, off ridge tops, using ridges and watersheds as natural sound barriers to isolate noise.

10. Use vegetation and other natural features to conceal the trail and absorb noise. This can be difficult in a desert environment. Try to minimize the visual impact of the trail by following natural transitions in vegetation or soil type. A trail near the base of a sideslope or on rimrock is usually less visible than a mid-slope trail. Denser vegetation will hide a trail, lessen noise transmission, and can dissipate the energy of falling raindrops on the bare soil of the trail tread.

11. Carefully design intersections to avoid safety problems. When locating a bicycle or motorized vehicle trail be aware of sighting distance and sight lines. Collisions can be avoided if riders can see each other. Avoid four way intersections. Offsetting the cross traffic helps reduce speeds and reduces the risk of collisions.

Sources:

Off Highway Motorcycle and ATV Trails: Wernex, 2nd edition, American Motorcycle Assoc. 1994

Off Highway Vehicle Trail and Road Grading Equipment, Vachowski, Maier, USDA Forest Service Missoula Technology and development Center 1998 Doc# 7E72A49

Mountain Bike Trails: Techniques for design, construction and Maintenance, McCoy Stoner, USDA Forest Service, Missoula Technology and Development Center

Recommended Standardized Trail Terminology for Use in Colorado, Colorado Outdoor Training Initiative (COTI). 2005

Tractor Techniques for Trailbed restoration, Hamilton, USDA Forest Service 1994

Trails 2000, Lockwood USDA Forest Service 1994

Trail Construction and Maintenance Handbook, Hesselbarth, Vachowski, USDA Forest Service (4E42A25-Trail Notebook) 2004

Trail Solutions, IMBA's Guide to Building Sweet Singletrack, International Mountain Bicycling Association (IMBA) 2004.

USDA Forest Service Travel Management Handbook, FS 2309.18

APPENDIX B:

The following trail management objectives (TMOs) are overall summaries of trail system management objectives. Detailed technical specifications are contained in trail management objectives for individual trails.

Trail Management Objectives: Bangs Canyon Area 1

The objective for the Area 1 trail system is a community-based, urban interface stacked loop trail system with a primary emphasis on hiking, running, and mountain biking trails. Another objective in the area is to provide opportunities for visitors to walk their dogs and to provide appropriate means for managing dog waste. The primary user group is local residents looking for a short ride or hike. Most visitors stay for less than 3 hours. Trails should provide loop opportunities with a wide range of length and difficulty. Trail density can be relatively high, using the area's natural topography to lessen the crowding effect of multiple trails in a relatively small area. The area is also popular with downhill and freeride cyclists because of the opportunity conduct vehicle shuttled rides between Little Park Road and Monument Road. Creating specific opportunities for this type of experience will be considered. Creating sustainable trails to meet the demand for diverse trail opportunities is the primary objective in this area.

All routes will comply with the "Criteria for the Placement of Trails". Routes that do not meet the criteria will be closed, rerouted, or reworked to meet the criteria.

Trail Management Objectives: Bangs Canyon Area 2

Area 2 is characterized by steep canyons and slickrock on the west and clay side slopes on the east. The objective in Area 2 is to provide semi-primitive non-motorized trail opportunities. Public access is limited to hikers, mountain bikers and equestrians. All travel is limited to designated routes. Trail densities will be lower than in Area 1. Managing recreational use along and between the BLM and Colorado National Monument boundary is a primary objective. This includes hiking-only connections to the Old Gordon Trail and clearly marking the Ribbon Trail to prevent incursion onto Monument property by mountain bikes. Creating some additional loop opportunities in the area will be considered as long as they retain the semi-primitive nature of the area.

All routes will comply with the "Criteria for the Placement of Trails". Routes that do not meet the criteria will be closed, rerouted, or reworked to meet the criteria.

Trail Management Objectives: Bangs Canyon Area 3

The objective in Area 3 is to manage for semi-primitive and primitive hiking opportunities. The Mica Mine trail would be managed for both hiking and equestrian use. These opportunities should include a variety of canyon bottom and canyon rim trails that expose visitors to the area's

scenic, cultural, and natural resources while simultaneously protecting those resources. Trails should limit human impacts on sensitive resources in the ACEC.

All routes will comply with the "Criteria for the Placement of Trails". Routes that do not meet the criteria will be closed, rerouted, or reworked to meet the criteria.

**Trail Management Objectives:
Bangs Canyon Area 4**

The primary niche is hikers, dog walkers, trail runners, motorcyclists, ATV riders, and mountain bikers. The secondary objective of trail development in area 4 is to provide a day use opportunity for motorized and mechanized recreation for local residents. The non-motorized trail system would be accessed from Little Park Trailhead. The motorized trails would be accessed from the Bangs Canyon Trailhead.

Trails would be developed using existing routes as a base. New routes would be designed to satisfy user demand for a partial day experience. Trails would be less demanding near the trailhead and would progressively become more technically challenging as they get further from the trailhead.

All routes would be evaluated for compliance with the "Criteria for the Placement of Trails". Routes that do not meet the criteria would be closed or reworked to meet the criteria.

**Trail Management Objectives:
Bangs Canyon Area 5**

The trail management objective of trails in Area 5 is to fulfill the plan requirement for the completion of the Magellan Loop trail, provide for shared use trail based opportunities (ATV, motorcycle, hiking and mountain bike) and to manage the core of Area 5 for its backcountry primitive values.

All routes would be evaluated for compliance with the "Criteria for the Placement of Trails". Routes that do not meet the criteria would be closed, or reworked to meet the criteria.

**Trail Management Objectives
Bangs Canyon Area 6**

The trail management objective for area 6 includes the creation of a sustainable motorized and mechanized recreational trail system (shared use). These trails should create a destination opportunity for trail based recreation by providing a full day experience for the public. In addition, as called for in the RMP, a connection between the Tabeguache Trail and Highway 141 may be located in area 6.

The trail system would also provide additional backcountry access for big game hunting. The Colorado Division of Wildlife has indicated that the elk herd in area 6 far exceeds the optimum size. Additional access would facilitate a more successful hunt and help DOW achieve their herd size goals. DOW supports enhanced motorized access from Hwy 141 to the Tabeguache Trail.

All trails and routes will be analyzed for conformance with the "Criteria for the Placement of Trails". Those existing routes not meeting this standard will either be upgraded, or closed. All newly constructed routes will comply with the criteria.

ADDENDIX B:

Mancos Shale

At present about 300,000 motorized visitors a year use the Grand Valley Area and adjoining desert landscape for motorized and bicycle recreation. The soils are generally highly erosive and average 3% salinity by weight. The recreation use of the Grand Valley area is resulting in off site impacts to the Colorado River including an increase in sediment and salinity. The Colorado River Basin Salinity Control Act (P.L. 93-320) was enacted in June of 1974. Title I of the act addresses the United States' commitment to the Water Treaty of 1944 with Mexico. The Colorado River Basin Salinity Control Act was amended in 1984 by P.L. 98-569 and included direction to the Bureau of Land Management (BLM) to develop a comprehensive program for minimizing salt contributions from lands under their management. Studies conducted on Mancos Shale in the Upper Colorado River Basin have demonstrated a positive relationship between sediment yield and salt production (Schumm, et al., 1986). Sediment yield increases as a result of either upland erosion or streambank and gully erosion. Upland erosion is attributed to rill and inter-rill flow. Salt and sediment yield are dependent upon storm period, land form type, and the soluble mineral content of the geologic formation. Badlands are the most erosionally unstable, with sediment yields as high as 15 tons per acre (US Department of Agriculture, 1976). Because salt production is closely related to sediment yield and the badland soils have not been leached of their soluble minerals, they produced the greatest amount of salt of the landform types. The SCS in 1977 estimated the Grand Valley annually contributed 2.9 million tons of sediment, and 600,000 to 700,000 tons of salt of which 80,000 tons results from erosion. The intense use of vehicles on the Mancos reduces the vegetative cover and increases the intensity of run off and the concentration of salts migrating to the river. Reduced vehicle use on the Mancos will allow surface vegetation to recover and sediment and salt migration to the river. By relocating the recreation activities to areas with stable soils, the sediment and salt concentration in the river is reduced, thereby meeting the goals of both the Clean Water Act and the Colorado River Basin Salinity Control Act

At present levels the total dissolved solids content in the Colorado River at the state line is within the recommended standards set by the Clean Water Act. However some tributaries to the river draining the Mancos shale are not. Our traffic counter information indicates that recreation traffic on the Mancos in the area is increasing at a rate of 7% a year. At this rate, contribution of salts to the river may exceed the allowable limits in the future. Relocation of recreation to soils that do not contribute to river salinity will help insure that the standards are not violated in the future. It is extremely important to address this issue proactively and voluntarily to avoid mandatory regulation under the Clean Water Act and meet the mandate of the Colorado River Basin Salinity Control Act.

ADDENDX C:

IMPLEMENTATION STRATEGY

The priority implementation actions are divided into three categories, Trails, Trailhead, Other Infrastructure. Implementation would occur according to the following priorities. Each category contains a highest and subsequent priorities as implementation can occur concurrently across categories.

TRAILS

Highest priority would be given to maintaining existing trails and trail systems to the Criteria for the Placement of Trails standards. This includes rerouting unsustainable sections of existing systems and the closure or relocation of un-sustainable routes.

The next highest priority would be development of new trails and trail systems to the Criteria for the Placement of Trails standards. Prioritization of individual trails and systems would be based on trail use monitoring data (overcrowding, user conflict, numbers of users), monitoring of use off site (overcrowding, user conflict and number of users at other recreation use areas off site) and on assistance given to the BLM through partners, clubs, community members or other organizations with maintenance of existing and development of new trails/trail systems.

The existing Adopt-a-Trail Program would be expanded concurrently with these priorities. Partners, community members, clubs, businesses and other organizations would be encouraged to participate in the construction, maintenance and monitoring of use on each trail/trail system. Partnership agreements would be sought between the BLM and these entities. Signs on the trails would recognize the entity who has adopted each trail. Monitoring information would be shared with the BLM. Based on this information, the BLM may increase Law Enforcement patrols or institute other actions to address issues found through monitoring.

TRAILHEADS

Highest priority would be given to maintaining existing trailheads and monitoring use. Monitoring components include at capacity parking at existing trailheads on high use weekends/evenings, increased utilization of existing trailheads for permitted events, increased use by vehicles towing trailers, evidence of human waste, reports of crowding and sanitation issues, increased parking and associated resource damage from vehicles pulling off and parking randomly along Little Park Road/Monument Road/Highway 141, and traffic counter data.

An Adopt-a-Trailhead Program would be developed concurrently with this priority. Partners, community members, clubs, businesses and other organizations would be encouraged to participate in the construction maintenance and monitoring use of each trailhead. Partnership agreements would be sought between the BLM and these entities. Signs at the trailheads would recognize the entity who has adopted each trailhead. Monitoring information would be shared with the BLM. Based on this information, the BLM may increase Law Enforcement patrols or institute other actions to address issues found through monitoring.

The next highest priority is, based on monitoring data, developing/expanding individual trailheads as described in this EA. Priority of trailhead development/expansion at this time are: Monument Road trailhead, Unawep trailhead, Little Park trailhead, Northeast Creek trailhead,

and East Creek Trailhead. Priorities for development/expansion may shift based on monitoring data. As trailheads are developed, highest priority would continue to be trailhead maintenance and monitoring use.

OTHER INFRASTRUCTURE

Highest priority would be given to maintaining and installing new signage, cairns, and other systems that direct users through the trail systems. This includes development of maps for navigation purposes which would also contain conditions of use information. This also includes maintenance and installation of new kiosks which provide information about allowable uses of the areas resources to the visitor.

The next highest priority would be maintenance and installation of new fencing, gates, cattleguards and other physical infrastructure needed to physically direct or restrict traffic or to protect resources.