U.S. Department of the Interior
Bureau of Land Management

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Environmental Assessment
November 2009

Uncompahgre Basin & San Juan/San Miguel Resource Management Plan Amendments

Location: The planning area is located throughout the Uncompahgre Field Office, with exceptions. See Map below

Project Name: Amendment of OHV Designations in the Uncompahgre Basin and San Juan/San Miguel Resource Management Plans

Planning Unit: Uncompahgre Field Office

Applicant: BLM

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ACRONYMS USED

ATV	All-Terrain Vehicle
BLM	Bureau of Land Management
EA	Environmental Assessment
NEPA	National Environmental Policy Act
OHV	Off-Highway Vehicle (Off-Road Vehicle)
RIZ	Road Influence Zone
RMP	Resource Management Plan
RMPA	Resource Management Plan Amendment
UFO	Uncompahgre Field Office

PURPOSE AND NEED FOR THE ACTION

Purpose for the Action

The purpose of the Proposed Action is to address:

1. Existing and future land health concerns relative to travel management expressed in recently completed Land Health Assessments (available at the Uncompahgre Field Office);
2. Issues raised during the scoping period regarding OHV management, especially the proliferation of user-created routes primarily caused by cross-country travel;
3. BLM's commitment to support the recommendations of the Southwest Resource Advisory Council to restrict travel to existing routes, and to later proceed with route-by-route travel management planning on selected areas in the UFO.

Need for the Action

Colorado has witnessed rapidly increasing demand for motorized access to Colorado's public lands. Since Colorado State Parks first began managing the Off-highway Vehicle Registration Program in 1991, registrations have increased 154%, from around 12,000 to nearly 68,000 in 2002 to close to 131,000 in 2007. According to Colorado's *2008 Statewide Comprehensive Outdoor Recreation Plan*, OHVs comprise nearly half of all registrations of the 254,000 total motorized recreation vehicles registered through Colorado State Parks which include OHVs, boats, and snowmobiles.

In addition, communities, towns, and cities surrounding the planning area are experiencing an increase in population and destination tourism primarily in response to year-round access to public lands, as well as the availability of a wide array of recreational opportunities. The Uncompahgre Field Office (UFO) has also seen an increase in requests for commercial, competitive, organized and event use Special Recreation Permits over the past several years.

New recreational opportunities on public lands managed by the UFO have resulted in increasing conflicts and impacts to vegetation, soils, wildlife habitat, and other natural, as well as cultural, resources. New equipment and technological advancements in modes of travel are enabling more people to reach areas that were previously inaccessible.

Public lands in the planning area are heavily utilized for a variety of purposes, including firewood gathering, Christmas tree cutting and other forest-related activities, decorative rock gathering, livestock grazing management, rights of way management, mineral resource activities, recreational opportunities, BLM administrative and maintenance activities, access to Forest Service lands, and numerous other uses. Public recreation uses include hiking, horseback riding, mountain bike riding, hunting, technical four-wheel driving, ATV riding, motorcycle riding, sightseeing, snowmobiling, photography, and non-motorized overnight and day-use recreation activities.

The critical need to balance increasing access and use demands with management and sustainability of the public lands within the planning area, has made it essential to amend the two Resource Management Plans (RMP) prior to the upcoming UFO Land Use Plan Revision and Dominquez-Escalante National Conservation Area (DENCA) RMP. The DENCA legislation requires BLM to manage the area in a manner that conserves, protects and enhances the resources and values of the NCA. Addressing travel management with the NCA will help achieve this mandate until an RMP can be completed for the area. Route by route travel management planning for the DENCA will be completed in conjunction with the RMP process. As for the rest of the planning area, the UFO will delineate Travel Management Areas for the "limited" designated areas throughout the planning area and to the extent possible produce a schedule to complete the route by route travel management planning. As per BLM's planning handbook guidance this should not exceed 5 years after the RMP revision has been completed.

Without this RMP amendment, the proliferation of user-created routes and increasing natural resource demands will continue to impact sensitive resources, including riparian zones, cultural values, and threatened or endangered species during the time it would take to do an RMP or RMP revision (about three to four years). The BLM has determined that OHV designations and travel management practices need to be addressed immediately in order to prevent further deterioration of land health while promoting responsible use through active management.

BACKGROUND\ INTRODUCTION

This Resource Management Plan Amendment/Environmental Assessment analyzes the impacts of two different alternatives that address motorized and mechanized modes of travel on public lands administered by the Uncompahgre Field Office. The UFO travel management planning area is located in parts of Montrose, Delta, Ouray, San Miguel, Mesa, and Gunnison Counties, Colorado, and contains approximately 460,567 acres of BLM-managed public land and approximately 2793 miles of existing routes (see Appendix A for maps). The action applies to BLM lands only, and not to private, state, or other agency-managed lands.

Two Resource Management Plans (RMPs) currently guide BLM actions within the UFO travel management planning area: the 1989 Uncompahgre Basin Resource Management Plan and the 1985 San Juan-San Miguel Resource Management Plan. Both RMPs are scheduled for revision beginning in early 2010 with completion anticipated in the fall of 2013 as well as a new Resource Management Plan for Dominquez-Escalante National Conservation Area (DENCA). Analysis and actions resulting from this amendment would be considered in the RMP revision and National Conservation Area RMP.

The UFO proposes to limit users to existing routes, with some seasonal closures. Seasonal closures would correspond to those areas identified in the RMPs as having limited designations from December 1 to April 30 or from May 1 to June 15, until further travel planning can be completed.

Route by route travel management planning for the DENCA will be completed in conjunction with the RMP process. As for the rest of the planning area, the UFO RMP revision will delineate

Travel Management Areas for the "limited" designated areas and to the extent possible produce a schedule to complete the route by route travel management planning. As per BLM's planning handbook guidance this should not exceed 5 years after the RMP revision has been completed.

The existing RMPs identify three categories of Off-Highway Vehicle (OHV) designations within the planning area: ***Open***, ***Limited*** and ***Closed***. The ***Limited*** designation includes further stipulations such as: "Limited to Designated Routes Yearlong," "Limited to Existing Routes Yearlong," "Limited to Designated Routes from May 1 to June 15," and "Limited to Designated Routes from December 1 to April 30." These designations are used by the BLM to establish where and to what extent motorized uses may occur on public lands.

Route designation within the planning area has not been implemented since the RMPs went into effect, which is a deficiency that hinders the UFO's ability to effectively enforce seasonal route designations and restrictions. Therefore, motorized and mechanized on-route and cross-country travel in the planning area has occurred yearlong in an "open" fashion. In recent years with increased public use and increased capability and popularity of motorized equipment, the miles of user-created routes in the planning area has expanded and the traffic on primitive roads has become more frequent.

The following lands are not part of the planning area and would not be affected by the proposed RMP Amendment:

- BLM-managed lands in the Gunnison Gorge National Conservation Area covered by the 2004 Gunnison Gorge NCA Resource Management Plan.
- North Delta OHV Play Area, which will be addressed in subsequent travel management planning.
- Gunnison Travel Interim Restrictions Plan Amendment Area, which will be addressed in subsequent travel management planning and includes the North Fork Valley east of Colorado Highways 65 and 92, and north or south of Colorado Highway 133 in Montrose, Delta, and Gunnison counties.
- Areas having designations of "Closed," "Limited to Existing Routes Yearlong" and "Limited to Designated Routes Yearlong" in the RMPs
- Private, municipal, state or other federal agency lands.

DESCRIPTION OF THE ALTERNATIVES

Table 1 compares public land area and miles of existing routes by OHV designation category for the Proposed Action Alternative and the No Action Alternative.

Table 1
Proposed Management Alternatives

OHV Designation Categories			
PROPOSED ACTION	**NO ACTION**	**ACRES**	**APPROXIMATE MILES OF ROUTES**
Limited to Existing Routes Yearlong	Open to Cross-Country Travel Yearlong	410, 351	2,520
Limited to Existing Routes 5/1 to 11/30; Closed 12/1 to 4/30	Open 5/1 to 11/30; Limited to Designated Routes 12/1 to 4/30,	46,842	265
Limited to Existing Routes 6/16 to 4/30; Closed 5/1 to 6/15	Open 6/16 to 4/30; Limited to Designated Routes 5/1 to 6/15,	3,374	8
PLANNING AREA TOTALS		**460,567**	**2,793**

Management Common to Both Alternatives

Travel Use Conditions

Travel on horse or by foot would be permitted yearlong on existing routes and cross-country on public lands throughout the planning area where available for public use.

Existing Laws, Regulations, Policy, Guidance, Land Use Authorizations and Valid Existing Rights

The BLM would manage the public lands in accordance with applicable laws, regulations, and BLM policy and guidance. Implementation of either of these alternatives would be subject to all valid existing rights at the time of the signing of the Decision Record.

Existing laws and protocols pertaining to the protection of cultural and historical resources would apply to known and discovered historic properties. Guidance can be found within the State Protocol Agreement Between the Colorado State Director of the Bureau of Land Management (BLM) and the Colorado State Historic Preservation Officer Regarding the Manner in which the Bureau of Land Management will Meet Its Responsibilities Under the National

Historic Preservation Act and the National Programmatic Agreement Among the BLM, Advisory Council on Historic Preservation, and the National Conference of state Historic Preservation Officers, dated April 29, 1998.

The use of motorized or mechanized modes of travel (including snowmobiles) during the execution of BLM-issued authorizations or permits would be subject to the terms and conditions or stipulations of each individual authorization on a case-by-case basis. Examples of authorizations or permits include construction of and access to rights-of-way, fuel wood and decorative rock gathering, special recreation permits, or grazing permit operations. Additional environmental documentation and analysis could be required for some authorizations.

In accordance with Code of Federal Regulations (CFR) procedure 43 CFR 8364.1, Closure and Restriction Orders, BLM has authorization to close areas and/or routes to public use when necessary to protect persons, property, and public lands and resources. This process is very time consuming and less effective in meeting Land Health Standards with the western Colorado's rapid growth rate and the increasing amount of route proliferation in vast Open designation areas within the Uncompahgre Field Office.

Any existing or future road use or maintenance agreements with counties would continue according to the terms and conditions of those agreements.

Proposed Action

Limit travel to existing routes. Prohibit cross-country travel by motorized or mechanized modes of travel. In addition to "Management Common to Both Alternatives", the following actions would be implemented.

OHV Designation Changes
OHV designations on BLM-managed lands within the planning area would be changed to "Limited to Existing Routes".

The UFO RMP revision will delineate Travel Management Areas for the "limited" designated areas and to the extent possible produce a schedule to complete the route by route travel management planning. As per BLM's planning handbook guidance this should not exceed 5 years after the RMP revision has been completed. The need for travel management support facilities, new routes, re-routes and closures would be evaluated at that time. Also at that time, the "Limited to Existing Routes" designation would be changed to "Limited to Designated Routes". During the Dominquez-Escalante National Conservation Area RMP, the designations will be changed to Limited to Designated Routes as part of the RMP process.

Travel Use Conditions
Travel use conditions describe allowed, restricted or limited travel uses on routes.

Travel using motorized and mechanized modes of travel would be limited to the use of existing routes. Thus, no cross-country or off-route travel using motorized or mechanized modes of travel would be permitted for any purpose, except as specifically allowed in this alternative.

No new routes may be created unless authorized by the BLM and covered by additional NEPA analysis.

Any emergency or administrative motorized vehicle or equipment use off existing routes on BLM-managed lands would require prior notification and approval. Should prior notification not be possible, contact with an authorized BLM official would have to be made within 72 hours following emergency entry.

Use of motorized or mechanized modes of travel on existing routes would not be permitted if the result would:

- Convert or upgrade a single-track route (maximum of 36 inches in width) to a two-track route, i.e. driving an all-terrain vehicle (ATV) or a full-size passenger vehicle on a route consisting of a single track used by hikers, horseback riders, motorcycles, mountain bikes, game or livestock.

- Convert or upgrade a route (with a maximum width of 50 inches) used by and established for use by an ATV to a wider two-track route, such as would occur if a full-size passenger vehicle were used to travel along a route narrower than its wheel base.

BLM administrative functions related to resource management objectives (e.g., wildlife habitat and species monitoring and management, noxious weed eradication, resource enhancement and restoration, and fence repair) requiring cross-country travel using motorized vehicles or equipment, would be addressed at the project level on a case-by-case basis, and additional environmental documentation and analysis could be required for certain administrative functions.

Implementation & Monitoring

An official agency map showing valid existing routes would be made available to the public and used to determine if motorized and mechanized travel is permitted on a particular route during any part of the year.

Informational/directional signs, as well as kiosks where appropriate, would be installed in sensitive areas and other locations where needed throughout the planning area including the Dominquez Escalante National Conservation Area. Not all routes may be signed or identified, as signing for routes would be implemented by the BLM over time and as funding allows. The BLM would work cooperatively with other agencies, organizations, clubs and individuals to determine appropriate sign locations.

Implementation would include a strategy of educating users and enforcing regulations, including the development of easily understood maps and other tools to effectively communicate that it is not permissible for operators of motorized or mechanized modes of travel to drive off of existing routes within the planning area.

The UFO would prepare and implement a public education program in a variety of formats to promote responsible use of public land. This would include educational information on BLM National Landscape Conservation Systems and the Dominquez Escalante National Conservation Area, “Stay the Trail” and “Tread Lightly” ethics, noxious weeds and best management

practices, and information regarding controlling noise levels while recreating on public lands. This includes the Colorado noise level standards pertaining to the operation of motor vehicles, including provisions in Colorado Senate Bill 08-063, and any pertinent regulations that would be promulgated.

Additional implementation would involve:

- Providing management presence and enforcing travel regulations
- Installing and replacing travel management signs
- Maintaining some existing routes based on priorities and funding
- Reconstructing or improving existing routes
- Maintaining existing trailhead facilities
- Preparing brochures
- Monitoring and evaluating use and implementing needed changes

Adaptive Management

The BLM would have the option to further restrict travel and use, by vehicle type or season, on any route in order to protect (natural or other) resources or infrastructure from being impacted by vehicle use in the event of extreme winters, wet conditions, to reduce safety hazards, or in other unforeseeable situations, or to better manage or protect other values, such as big game or nesting raptors. These actions could include permanent or seasonal route closures or relocations. These actions would be taken following appropriate emergency closure or other procedures, and/or after appropriate site-specific NEPA analysis.

Over time, changes to the route network may be necessary, including adding, designating, relocating, closing, maintaining, and/or changing seasonal or other use restrictions on routes, as well as adding necessary travel management support facilities. Such changes would be documented using appropriate BLM Land Use Planning regulations and NEPA procedures.

Enforcement

Users and motorists would be responsible for understanding and following area and route restrictions on official agency maps. The BLM would assign personnel, including law enforcement, recreation and other resource staff and volunteers to actively patrol existing routes. Actual enforcement would be conducted by BLM law enforcement personnel in accordance with 43 CFR 9268.0-3 and other applicable regulations.

Design Features

The following design features would be implemented and include mitigation measures intended to reduce or eliminate impacts to certain resources.

- Maintenance of routes would be performed according to BLM annual work plans and as funding permits.

- Impacts from travel on existing routes are expected to be greatest for the Colorado hookless cactus and clay-loving wild buckwheat. Therefore, to mitigate impacts on these species or other future listed species, the BLM UFO would systematically install roadside signs to indicate especially sensitive areas, where travel-related impacts on these species would be greater. Signs would be installed no later than one year from the signing of the

FONSI for this Environmental Assessment. Sensitive areas that would be signed include all travel routes within 25 meters of known populations (based on the Biological Assessment's habitat models and maps), and other potential conflict areas as determined necessary. Signs shall notify the public and other users that, to protect sensitive resources, motorized and mechanized travel in these areas is restricted to existing routes and that off-route travel is strictly prohibited. This regulation would be enforceable by law officers, and compliance would be monitored by the BLM.

- If impacts to listed species that were not analyzed in this consultation are expected to occur due to future geographic area travel management planning, further consultation will occur at that time.

- In accordance with information in the Biological Opinion (U.S. Fish and Wildlife Service, August 11, 2009), re-initiation of formal consultation with the Wildlife Service would occur if:

    1. New information reveals effects of the agency action that may adversely affect listed species or critical habitat in a manner or to an extent not considered in the BO;
    2. The agency action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in the BO; and/ or
    3. A new species is listed or any new critical habitat is proposed or designated that may be affected by this action.

No Action

The No Action Alternative would continue current management and policies, including the actions identified in the "Management Common to Both Alternatives" section above. This would include allowing open cross-country travel with no specific route restrictions or route designations, unless modified in the future by travel management planning processes on public lands.

ALTERNATIVES CONSIDERED BUT NOT BROUGHT FORWARD

Many comments were submitted by the public that suggested BLM not make any changes in the planning area at all involving existing routes or OHV designations. Since almost all the existing roads and trails on public lands, and all public lands in the planning area are now available for motorized and mechanized travel, the No Action Alternative in this document endorses and encompasses these suggestions. The No Action Alternative, however, did not meet the purpose and need for preparing this document.

Many public comments suggested that BLM should designate selected routes, now or in the future, for certain uses only, or close certain routes. These actions will be considered in future travel management planning. Public or internal scoping did not identify other alternatives, or the need for other alternatives.

SCOPING AND ISSUES

Scoping

The Bureau of Land Management Uncompahgre Field Office began work on the Uncompahgre Basin & San Juan/San Miguel Resource Management Plan Amendment/Environmental Assessment in March of 2007. The team defined the boundaries for the planning area and initiated the public scoping process, notifying the public through press releases, electronic mailings, and sending letters to individuals and groups who had expressed interest in participating in travel management planning efforts. Public meetings were held in Montrose, Delta and Naturita. An additional 60-day comment period was provided March to May of 2008.

By close of the public scoping period, the UFO received a total of 62 comment letters, cards, forms, and emails from the public. Of the 62 comment documents received, 40 were from individuals, and 22 were from organizations, businesses, or federal or state agencies. Comments received were from New Mexico, British Columbia, Illinois Denver, Ridgway, Telluride, Whitewater, Redvale, Cedaredge, Eckert, Ouray, Norwood, Paonia, Delta, Naturita, Nucla, Olathe, Grand Junction, and Montrose. Five comments were received with no mailing address. Of the 62 documents received, 24 support the OHV area designation changes in the Proposed Action, three individuals opposed the changes, eight felt that more time was needed to supply BLM with more up-to-date route information, and 10 support future OHV designation changes limiting travel to designated routes. Of the eight comments received desiring more time, three were from organizations or state agencies, and five were from individuals. Eighteen of the 24 comments in support of the Proposed Action were from individuals and six were from organizations or state agencies. Of the 10 comments in support of future OHV designation changes leading to designated routes, five were from organizations or state or federal agencies, and five were from individuals.

Some of the scoping comments recommended the BLM extend the comment period in order for the public to have more time to submit documents identifying existing routes not shown on BLM maps presented to the public during scoping. The BLM did subsequently postpone further action on this amendment because of higher priorities, and did receive submissions for new routes.

Issues and Concerns

Based on internal and public scoping results, the BLM has identified the following issues to be addressed through this analysis and Resource Management Plan Amendment:

- Historical use of routes and continued access for a variety of uses
- Environmental impacts
- Enforcing regulations
- Route conditions
- Safety
- Land Health
- Protect the resources and values of the Dominquez Escalante National Conservation Area
- Eliminating the proliferation of user-established off-route cross country motorized travel
- Discouraging erosion-causing activities

- Installing general signing
- Ensuring legal access to public lands for rights of way, managing grazing allotments, or to conduct mineral exploration.

PLAN CONFORMANCE REVIEW

The Proposed Action is consistent with the Uncompahgre and San Juan/San Miguel RMPs, which were amended to include the requirement that BLM management activities comply with the standards for land health. All the Public Lands in the Proposed Action have been assessed for landscape health under the BLM's Standards and Guidelines procedures.

The Proposed Action is not consistent with OHV decisions in either RMP; if the Proposed Action is approved, the RMPs would be amended.

RELATIONSHIP TO STATUTES, REGULATIONS OR OTHER PLANS

This RMP Amendment is being conducted in order to help meet *Standards for Public Land Health* within the Planning area and to comply with the *Federal Land Policy and Management Act*. Coordination was conducted with the US Forest Service for consistency with travel management occurring on adjacent Forest Service managed lands. In addition, coordination and consultation was conducted with US Fish and Wildlife, Colorado Division of Wildlife (CDOW), State Historical Preservation Office (SHPO), and the Southern Ute Tribal Council and the Ute Mountain Ute Tribal Council.

Other statutes, regulations or plans were also identified and reviewed for consistency with this RMP Amendments, including: Standards for Public Land Health in Colorado; Recreation Management Guidelines to Meet Public Land Health Standards on Bureau of Land Management Lands in Colorado; Executive Order 11644 – Use of off-road vehicles on public lands; Code of Federal Regulations (43 CFR Part 8340); H-1601-1, Land Use Planning Handbook – Appendix C, Section D; National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands; National Mountain Bicycling Strategic Action Plan; National and Colorado NLCS Strategies; Colorado BLM Travel Management Guidance; and 8550-Interim Management Policy and Guidelines For Lands Under Wilderness Review & BLM Handbook 8550-1, Interim Management Policy For Lands Under Wilderness Review. All other existing laws, regulations, and policies would be complied with.

Standards for Public Land Health: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. A finding for each standard will be made in the environmental analysis (next section).

Standard	Definition/Statement
#1 Upland Soils	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	Definition/Statement
#2 Riparian Systems	Riparian systems associated with both running and standing water, function properly and have the ability to recover from major surface disturbances 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.
#3 Plant and Animal Communities	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.
#4 Threatened and Endangered Species	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.
#5 Water Quality	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.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES:

This section summarizes the physical, biological, social, and economic environments of the planning area and the nearby lands and the direct and indirect effects of implementing each alternative on that environment. It also presents the scientific and analytical basis for the comparison of alternatives. The Uncompahgre Field Office has inventoried and mapped all existing routes for consideration. These include existing routes constructed by the BLM, and all existing motorized and non-motorized routes that have been created through public use. The terms "effects" and "impacts" are synonymous in this document. The term "existing routes" means routes that can be identified on the 2005 aerial photography or that have already been GPS'd and stored on the inventoried route data base file(s). Existing routes and existing and proposed OHV designations are shown on maps in Appendix A. Photos in Appendix B show examples of what would be considered existing routes.

Direct effects are those effects "…which are caused by the action and occur at the same time and place" (40 CFR 1508.8(a)). Indirect effects are those effects "…which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on water and air and other natural systems, including ecosystems".

The long-term effects are between 5-10 years, and short-term effects are within 5 years.

The area of consideration for the direct effects discussed includes the public lands in the planning area. The area of consideration for the indirect effects includes the Cities, Towns, and communities, and lands within and adjacent to the planning area.

Critical Elements

Elements specified by statute, regulation, executive order, or the Standards for Public Land Health are described and analyzed in this section.

The following critical elements are considered. Those that could be impacted are brought forward for analysis. Any element not affected by the proposed action or alternatives will not be analyzed in this document; the reasons for no impact will be stated.

Critical Element	Not Applicable or Not Present	Present, But No Impact	Applicable & Present; Brought Forward for Analysis
Air Quality			X
ACEC	X		
Wilderness	X		
Wild and Scenic Rivers			X
Cultural			X
Native American Religious Concerns			X
Farmlands, Prime/Unique			X
Soils			X
Vegetation			X
Invasive, Non-native Species			X
Threatened and Endangered Species			X
Migratory Birds			X
Wildlife, Terrestrial			X
Wildlife, Aquatic			X
Wetlands & Riparian Zones			X
Floodplains			X
Water Quality, Surface and Ground			X
Wastes, Hazardous or Solid			X
Environmental Justice			X

AIR QUALITY

Affected Environment

The quality and condition of the air within the planning area and as seen from nearby lands is influenced at any one time by the amount and intensity of vehicular traffic on dry, un-surfaced routes or those that do not receive dust abatement treatment. Wildfires, agricultural burning, vehicle emissions, energy extraction activities, industry, and other activities and processes also contribute to the quality and condition of air quality.

Air quality is defined by ambient air concentrations of specific pollutants determined to be of concern with respect to the health and welfare of the general public. Under the Clean Air Act Amendments of 1990, the US EPA-established National Ambient Air Quality Standard's six "criteria pollutants" are lead, ozone, sulfur dioxide, oxides of nitrogen, carbon monoxide, and particulate matter. Areas that exceed a federal air quality standard are designated as non-attainment areas. The Western Colorado Counties generally contain smaller towns located in fairly broad river valleys. Grand Junction is the only large city and the only location that monitors for carbon monoxide on the western slope. The other western slope monitors (PM10) in the planning area are located in the cities of Delta and Telluride. The monitoring data for 2008 from these stations shows that the air quality is in attainment with the National Ambient Air Quality Standards (http://www.epa.gov) for particulate matter (www.colorado.gov/airquality).

The air quality of the planning area is good and is believed to be typical of undeveloped regions in the western US; ambient pollutant levels are usually near or below measurable limits. Locations vulnerable to decreasing air quality from development include the population centers at Montrose, Telluride, Olathe, Ouray, Delta, Ridgway, Paonia, and Hotchkiss. Emissions from vehicle use and small engines used in a variety of construction, industrial and farm applications affect local air quality. On an individual basis off-road engines and OHV equipment emit much higher levels of criteria pollutants than passenger vehicles. Standards have been adopted to reduce the emissions from newly manufactured small non-road engines and OHV equipment (http://www.epa.gov).

Most counties in the planning area treat unpaved main county roads that carry the highest amount of traffic within and through the planning area with magnesium chloride to prevent excessive dust and to help prevent deterioration and wear and tear on the roads. This has had a positive effect on the amount of fugitive dust and particulates coming from the planning area.

Vehicle emissions include nitrogen oxides, hydrocarbons, fine particulate matter, and carbon monoxide. Travel on un-surfaced routes in the planning area, the focus of the analysis, does increase concentrations of fine particulate matter in the air. Vehicle emissions and fine particulate matter stirred up by vehicle travel over unpaved road surfaces have not been identified as a major air quality issue in the planning area. During winters with enough snowfall, motorized snow machines and other winter vehicle recreation use results in emissions such as nitrogen oxides, hydrocarbons, fine particulate matter, and carbon monoxide. To date, overall air

quality, visibility, or fine particulate matter in all nearby sensitive areas or population centers has not been affected as a result of vehicle emissions, or by dust created by travel on unpaved routes.

Road dust typically becomes an issue related to on-route motorized vehicular travel through the planning area to access Forest Service-managed or private lands on three main routes, or during agency resource management activities, land use permit implementation, mineral material and forest product gathering, livestock grazing management, hunting, or recreational uses, and especially when there is concentrated travel by large vehicles on unpaved roads. These situations conducted under agency permits or land use authorizations can be remedied through project-specified mitigation under the terms and conditions of permits.

Particulate matter concentrations are expected to be higher near towns because of local combustion sources and unpaved routes. Suspended particles are probably due to fugitive dust that is primarily windblown. Although there is no gaseous pollutant monitoring in the planning area, levels are estimated to be low and within standards. Ozone levels in the Rocky Mountain West are relatively high but of unknown origin. Occasional peak concentrations of carbon monoxide and oxides of nitrogen may be found in the immediate vicinity of combustion equipment. When prescribed burns or wild fires are burning in the vicinity of the planning area, air quality could be decreased during the short term.

Environmental Consequences

Impacts Common to All Alternatives

Magnesium chloride or other environmentally acceptable dust abatement chemicals would continue to be applied to major County roads in the planning area, helping maintain the air quality in the planning area.

Most effects of wintertime motorized recreation would be localized and temporary. Because of the anticipated reduction in vehicular travel during winter periods in the planning area due to weather constraints, overall air quality impacts from winter-motorized recreation would not change by alternative.

Current levels of fugitive dust would continue to be generated from travel on existing routes until future travel management planning is completed.

Impacts from the No Action Alternative

The impacts of road dust from unpaved roads depend on factors such as the amount of travel, size and speed of the vehicle, climatic conditions, and geology. Compared to the Proposed Action, the No Action Alternative would account for the greatest density and mileage of motorized routes and trails and the highest amount of anticipated traffic. Anticipated increases in motorized and mechanized cross-country travel would create new user created routes, and the growth in unrestricted cross-country traffic on dry soils could eventually result in generation of PM10 that could be seen from the Camelback Wilderness Study Area, the Gunnison Gorge National Conservation Area and Wilderness, Tabeuguache Special Area, and the Black Canyon National Park. Given the unconfined and incrementally increasing extent of user-created routes, and assuming growth in recreational use over a 5-10 year period, the risk of adverse impacts is increased due to greater cross country travel and disturbed soils. This is because of the

immediate short-term nature of the activities that would have a high potential for generating increasing amounts of fugitive dust and adversely impacting air quality over the entire planning area for part of the year. Under the No Action Alternative, fugitive dust and pollution would be expected to increase throughout the planning area, and could potentially reach intensities that impact air quality on or as seen from neighboring nearby sensitive areas and private, BLM-managed lands, and other federal lands.

Impacts from the Proposed Action Alternative
This alternative would reduce the risk of adverse air quality impacts from motorized and mechanized travel in the planning area. The decrease in this risk would come from preventing cross-country travel that would incrementally reduce the amount of surface disturbed that could result in fugitive dust. The other decrease in risk would occur due to no additional routes being established in the planning area unless approved by the BLM. Air quality impacts from roads and trails are based not only on miles but also on the amount of traffic each receives, surface composition, and moisture content of each route. When compared to the No Action Alternative, this alternative would result in increased protection of natural resources (i.e. soils and vegetation) and localize fugitive dust to existing roads and trails as cross-country travel would be prohibited.

Cumulative Effects

In addition to growth in recreational travel, reasonably foreseeable actions that may affect air quality over the next 10 years on private and public lands include continued residential growth, mechanical and prescribed fire fuels reduction/habitat projects, county road maintenance and upgrades, mining activities, oil/gas extraction, agricultural burning, utility corridor maintenance and upgrades, and new road rights-of-way. Future activities on public lands that could also potentially impact air quality and require mitigation, but cannot be specified in terms of time and place in current analysis, include special recreation events and vegetation treatments. Over the next 10 years, dust, smoke, and pollution from these and other sources, including local industries and from traffic on county roads, cumulative with recreational travel on BLM routes, are expected to have long-term, low intensity/impact to air quality.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment

There are currently no roads in areas of critical environmental concern within the planning area and none proposed or considered in this EA. There would be no environmental impacts or cumulative effects to any Areas of Critical Environmental Concern from implementing either alternative in this EA.

WILDERNESS

Affected Environment

This component of the environment is not present in the planning area. Nearby Wilderness and

Wilderness Study Area (WSA) includes the Dominguez Canyon Wilderness, Tabeguache Area, Camelback WSA, Adobe Badlands WSA, Dolores River Canyon WSA, and Sewemup Mesa WSA. There would be no environmental impacts or cumulative effects to any Wilderness or Wilderness Study Areas from implementing either alternative in this EA because these areas are closed to motorized and mechanized vehicles through the Wilderness Interim Management Policy.

WILD AND SCENIC RIVERS

Affected Environment

The Wild and Scenic Rivers Act (Public Law 90-542; 16 US Code 1271-1287) directs federal agencies to consider potential wild and scenic rivers in their land and water planning processes. The Uncompahgre Field Office is presently conducting an inventory and analysis of rivers and streams within the planning area to determine their eligibility for inclusion in the National Wild and Scenic Rivers System. The draft eligibility report will be included as part of the public scoping process for the resource management plan revision anticipated to begin in early 2010. The final eligibility report will detail the completed stream inventory and eligibility determinations for the Uncompahgre planning area. Protective management, once a river segment is determined eligible and given a tentative classification, shall provide adequate protection for its characteristics, subject to valid and existing rights, until a suitability determination is made.

To be eligible for WSR designation, a river or stream segment must possess one or more Outstandingly Remarkable Value (ORV). These values may be scenic, recreational, geological, fish related, wildlife related, historic, cultural, botanical, hydrological, paleontological, or scientific. ORVs are of a quality or scarcity that makes them unique, rare or exemplary within the region. To meet basic eligibility requirements, rivers must also have sufficient water quality to support those values, and be free-flowing.

Environmental Consequences:

Impacts Common to All Alternatives
All stream segments within the planning area that are determined to be eligible in the final "Eligibility Study Report" would be managed to not adversely affect the eligibility or the tentative classification. To achieve this level of protective management may require some modification to the travel routes as proposed under each alternative.

Impacts from the No Action Alternative
Under the No Action Alternative, leaving the area open to off-route travel and experiencing a potential increase in user created routes that receive little or no maintenance increases the risk of impacts to Outstanding Remarkable Values associated with potentially "eligible" stream segments.

Impacts from the Proposed Action Alternative
Under the proposed action alternative, protection of Outstanding Remarkable Values on potentially eligible stream segments would be sustained or enhanced by eliminating all cross country motorized and mechanized modes of travel.

Cumulative Effects

There would be no short term, long term or cumulative impacts to existing ORVs or Wild and Scenic Rivers.

CULTURAL RESOURCES

Affected Environment

Cultural Resources in the Planning area encompass a broad spectrum ranging from Paleo-Indian and Early Archaic archaeological sites to late historic period homesteads and farms. Geographically, historic properties in the UFO tend to be more common on the lower bench lands above the major river systems and less common in higher elevation zones.

The public lands in the Planning area are contained within the larger Uncompahgre Plateau archaeological context. The region is known for its high concentrations of recorded archaeological sites, with some of the highest concentrations seen in the entire larger Uncompahgre Plateau. Approximately 48,974 acres of public land in the Planning area have been intensively inventoried (or approx. 1% of total planning area). Over 3,140 individual historic properties are known with 197 sites or roughly 6 % of the known sites represented as eligible for nomination to the National Register of Historic Places. Aboriginal site types include, but are not limited to, open camps, chipped stone manufacture and processing sites, open and sheltered architectural locales, and isolated artifacts and features. The density of National Register Eligible and ineligible properties varies from 0 sites per section in some of the Mancos Shale lowlands to a high of 40 to 70 sites per section in more favorable bench lands above the major rivers. Eligible prehistoric site types include both open and sheltered occupations, rock art, lithic procurement sites and historic Ute encampments. Sites that date to the historic period include mines, homesteads and ranches, as well as many other locations of past human activity. Roads and trails themselves are often of historic age and are occasionally eligible for nomination to the National Register of Historic Places.

Historically, unregulated travel has left National Register and Register-eligible sites vulnerable to damage. Off road travel has, in many known cases, compromised the National Register character of sites, leading to irreversible, irretrievable loss of integrity and the destruction of valuable scientific data concerning the human past of the area. Route proliferation also continues to open previously less accessible areas.

There are 48 known National Register Eligible sites within or within 100 feet of existing roads and tracks, but the actual number is unknown since there may be many more sites in roads that still need inventory and National Register evaluation. Estimates of site density within roadways

may be from 50% to 150% higher than known sites, although tests of these figures during previous travel planning efforts revealed much lower densities than the estimates suggest. Thus, there are at least 48 known sites that are eligible and as many as 100 more potentially eligible historic properties within the current road corridors.

Cultural Resource inventories of all the existing routes have not yet been completed. There are potentially hundreds of archaeological sites in the vicinity of the known/existing routes. There are also known sites which may be susceptible to secondary impacts arising from accessibility. Any or all of these sites may be tested for National Register eligibility, and a recommendation would be made as to the potential for secondary impacts. BLM's preferred option, as recommended by the Cultural Resource Handbook and SHPO, is to avoid continued damage to cultural sites by designating roads as closed to vehicular traffic.

Authority for the methodology used herein is contained in Addendum 1 to the Colorado protocol executed on 19 October 2006. Addendum 1 outlines a phased cultural resource inventory process that can be completed after designation of existing routes. Restricting travel to existing routes will protect cultural resources outside the road corridors, thus protecting eligible and potentially eligible cultural resources as required by existing laws. Class III inventory is required on all new routes. Class III inventory may be required on existing routes, depending on such factors as limitations to travel, degree of potential for National Register eligible sites, or increases in travel usage. The phased cultural resource process will be fully completed during the route-by-route travel management planning and route maintenance.

Environmental Consequences

Impacts Common to All Alternatives

Potential National Register Eligible properties, and possibly other cultural resources located within existing routes would continue to be effected as a result of allowing motorized and mechanized travel on all existing routes.

Routes would be closed, if necessary, to help prevent impacts to known eligible archeological sites.

Impacts to currently known eligible cultural properties would be avoided, minimized or mitigated in consultation with State Historic Preservation Office (SHPO). Where National Register eligible sites are known to be in danger or are currently being impacted by travel activities, routes would be closed to travel if necessary until the appropriate mitigation has been implemented. Where existing inventories are sufficient, standard discovery stipulations would apply. Road segments known to contain National Register or otherwise eligible sites will be permanently or temporarily closed pending mitigation in order to protect and preserve cultural resource values. In those cases where road closures are impractical or undesirable, BLM would implement the appropriate mitigation measures after consultation with the appropriate agencies including SHPO and Tribal authorities.

Impacts from the No Action Alternative

There would be no reduction in off-road travel, and the existing increase of potential damage and impacts to historic properties would continue. Most existing routes would remain in full use for

a variety of types of motorized and non-motorized vehicles, and existing impacts would continue. In addition to known sites in existing roads, unlimited cross country travel has a high potential for impacting eligible properties situated in previously untraveled areas resulting in degradation of the resource value and long term irreversible, irretrievable impacts to archaeological sites. Route proliferation also continues to open previously less accessible areas, leading to increased secondary impacts to eligible properties, such as a potential for increased soil erosion, which can accelerate erosion of intact archaeological resources. This is a specific concern for prehistoric sites that occur in meadows or riparian zones. These sites are particularly vulnerable to severe impacts when soils are wet. Once these sensitive and nonrenewable resources or sites have been impacted through erosion or other causes, they cannot be restored to original quality. In the absence of route-specific information the extent of the impacts would remain unknown. The No Action Alternative would not meet BLM RMP direction for the protection of significant cultural resources. More intensive inventories would likely be required.

Impacts from the Proposed Action Alternative

The impacts would be similar to the No Action alternative, except that the level of potential impacts to National Register eligible properties would be greatly reduced by limiting travel to existing routes. Any OHV designations that impose limitations on cross country travel are likely to reduce adverse effects on cultural resources. Under the Proposed Action the potential impacts to both documented and undocumented historic properties throughout the planning area would be much less. Limiting travel to existing routes would reduce the potential for impacts to previously un-damaged properties.

Cumulative Effects

Cumulative effects on cultural resources and historic properties cannot be specifically identified until cultural resources inventories are completed and historic properties have been identified. In general, however, erosion caused by on-route and cross country vehicle travel, depending on its proximity to a site, could have long-term negative impacts on both buried sites as well as those with standing structures.

NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment:

Native American religious concerns center around the landscape concept and traditional cultural property, defined as:

> "....one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in the community's history, and (b) are important in maintaining the continuing cultural identity of the community" (NRB 38:1).

McBeth (1999) identifies traditional cultural properties as locations where wild foods or medicines are gathered, or are landforms associated with aboriginal traditions or beliefs, and also

notes that locations with "intangible spiritual attributes" and contemporary use areas are known in Colorado.

Unless specifically identified by Native Americans, many traditional cultural properties, intangible spiritual attributes and contemporary use areas are extremely difficult or impossible for a field archaeologist to recognize. Such sites, often considered sacred, include mountain tops, waterfalls, river and trail confluences, the headwaters of streams, ecotones, clay sources, "origin places", anthropomorphic and zoomorphic rock formations and springs. More readily identifiable are rock art, sweat baths, battle sites, sun dance arbors, vision quest sites, and medicine wheels (McBeth 1999: 342-345).

In compliance with regulations interpreting the National Historic Preservation Act of 1966, amended 1992, specifically 36 CFR 800.2(c)(3)(i)-(vi), BLM consulted Indian tribes that might have an interest in the planning area including the Northern Ute Tribe, the Southern Ute Tribe and the Ute Mountain Ute Tribe. Officials from the Northern Ute Tribe have an expressed interest in the Uncompahgre area, and the tribe's cultural office has been engaged in ongoing government-to-government consultation. In addition, BLM will consult with the tribes in determining appropriate mitigation and treatment procedures for adversely affected historic and traditional cultural properties.

Environmental Consequences

Impacts Common to All Alternatives

Impacts to traditional cultural properties and sacred sites as a result of access from existing routes would continue at current levels, and no special or overall inventory work would be scheduled to identify and/or mitigate potential impacts. Consultation and collection of information would occur when surface-disturbing activities are proposed on public lands, and mitigation conducted as appropriate. Sites of Native American Religious Concern are impacted in many different ways depending on their proximity to existing routes. In some cases, these properties correspond with known historic and prehistoric sites, though this correlation is by no means automatic. Until site specific surveys are completed, the extent of traditional cultural properties and impacts would remain unknown.

Stipulations contained in applicable existing laws and protocols would be applied to known Sacred Sites and Traditional Cultural Properties. Where such properties are known to be in danger or are currently being impacted by travel activities, routes would be closed to travel until the appropriate mitigation has been implemented.

Impacts from the No Action Alternative

Impacts to traditional cultural properties and Sacred sites would continue at current levels. Also, the potential exists for an increase in access and impacts due to the high likelihood for the creation of additional user created routes and increased off-route travel, and the indiscriminate use of narrow trails or routes by wider vehicle types.

Impacts from the Proposed Action Alternative

The potential impacts to both documented and undocumented traditional cultural properties and Sacred Sites would be greatly reduced due to the prohibition of all cross country motorized and mechanized travel. This would also reduce the potential for impacts to previously un-impacted properties, and reduce the impacts to sites currently being impacted.

Cumulative Effects

Cumulative effects on sites of Native American religious concern cannot be specifically identified until cultural resources inventories are completed and such locales have been identified. In general, however, erosion caused by vehicle travel, depending on its proximity to a site, could have long-term negative impacts on both buried sites as well as those with surface phenomena. The introduction of routes into an area might also increase the potential for vandalism and looting.

FARMLANDS, PRIME OR UNIQUE

Affected Environment

Four categories of farmlands are federally regulated by the United States Department of Agriculture (USDA) under the Farmland Protection Policy Act: (1) Prime farmlands, (2) Unique farmlands, (3) Farmlands of statewide importance, and (4) Farmlands of local importance (USDA, Soil Conservation Service and Colorado State University, 1980). Important farmlands are a distinction made by the USDA as soils that support the crops necessary for the preservation of the nation's domestic food and other supplies, specifically the capacity to preserve high yields of food, seed, forage, fiber, and oilseed with minimal agricultural amendment of the soil, adequate water, and a sufficient growing season.

There are no Farmlands of National or Statewide Importance within the planning area on public lands. However, Prime Irrigated or Irrigated (Not Prime) Lands of Statewide Importance (USDA Soil Conservation Service 1980) occur in the Uncompahgre, North Fork, Surface Creek and Smith Fork drainage basins, most of which are located topographically low in the valleys. In locations such as south of Montrose to Colona and adjacent to the Uncompahgre River, some of these farmlands can receive floodwater, runoff from tributary drainages that include public lands within the planning area.

Environmental Consequences

Impacts from No Action Alternative: Additional off-route travel and user created routes would result in more soil surface and stream channel disturbance. Consequently, both accelerated storm runoff and sediment yield could affect some of the off-site farmlands and irrigation facilities that receive drainage from public lands.

Impacts from Proposed Action Alternative: All off route travel would be prohibited except for horseback or foot travel. By limiting the proliferation of user created routes and off route travel, and implementing some travel route maintenance, accelerated rates of sediment and runoff would be minimized, along with potential impacts to downstream farmlands.

Cumulative Effects

Population growth and the associated development (residence and commercial) of farmlands would continue to occur throughout the region if past trends continue. In addition to farmland being lost to development, the expected increase in recreation and other surface disturbing activities on public lands could exacerbate flooding and sediment yields on downstream farmlands. The cumulative effects of limiting travel to existing routes to mitigate growing recreational and other demands will help alleviate potential impacts to downstream farmlands. Measures such as maps, informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and may lead many to adopt better travel practices which could further reduce impacts to farmlands. Overall cumulative impacts from the proposed action are expected to be a benefit to farmlands.

SOILS (includes findings on Standard 1)

Affected Environment

The soils on the planning area are largely a product of the local geologic parent material, climatic conditions, and the soils topographic position on the landscape. Sedimentary sandstone and shale formations occupy much of the surface geology of the area. The inter-bedded sandstone and shale units of the Dakota and Morrison formations, which dominate the surface over much of the planning area, weather to produce sandy and fine sandy loam textured soils.

The deeper soils with little rock content are mostly found on the interior portions of mesa tops and terraces adjacent to drainage channels. The shallower, rocky soils are found along mesa rims and canyon side slopes. The soils in the lower and more arid portions of the area are mostly classified in the soil orders Aridisols (soils of dry climate regimes) and Entisols (very limited soil development), and have little organic matter throughout their vertical profile. At the higher elevations, soils are commonly in the soil orders Alfisols (high level of subsoil development) and Mollisols (soils having darkened, organic matter enriched surfaces). The primary shale formation in the planning area is Mancos shale, which weathers to produce fine textured soils, commonly silty clay loams. Additionally, the Mancos shale formation is a marine-deposited, evaporite (sediment deposit resulting from the evaporation of ancient water bodies), and resultantly, often contain excessive levels of selenium (a non-metallic chemical element) and a variety of dissolvable salts, both of which can degrade water quality in receiving streams when mobilized by wind or water processes. The soils in the planning area are more specifically described in the Soil Surveys for Ridgway Area, Colorado, San Miguel Area, Colorado, and Paonia Area, Colorado (USDA, Natural Resources Conservation Service).

The local climate, landscape position, land uses, and soil properties largely dictate the density and composition of vegetation cover over most of the planning area. Vegetation cover and plant litter are important components for maintaining a healthy soil surface. At the higher elevations of the planning area, mountain shrub and ponderosa pine vegetation communities provide soil surface cover, usually at relatively high cover densities. At the lower elevations Pinyon-juniper

and sagebrush plants communities dominate the coarser textured, non saline soils, while salt desert shrub plant communities occur on the saline, shale-derived soils. On these lower elevation areas with sparse plant cover, another important soil cover component is biological soil crust. Biological soil crusts are comprised of a complex mosaic of cyanobacteria, green algae, lichens and mosses, and other bacteria (USDI, Bureau of Land Management, 2001).

Biological soil crusts serve many beneficial functions to protect and enhance soil productivity, including acting as a soil surface stabilizer to protect soils from erosive forces. It is most prevalent on the more arid portions of the planning area that receive less than 14 inches of annual precipitation and on slopes less than 25%. In areas receiving higher than 14 inches of annual precipitation, competition from vascular plants reduces the occurrence of biological soil crusts, and on slopes great than 25%, soil surface erosional forces act to minimize its establishment. Soil texture and chemistry can also be controlling factors in the density and composition of biological soil crust communities but field inventories to define these differences have not been completed, thus, these two variables were not used in delineating soils having a high potential. Accordingly, in the planning area there are 186,728 acres of soils with a high potential for supporting biological soil crusts.

Erosion of the planning area soils occurs from energy generated by blowing wind and/or moving water. The potential for wind erosion on these soils is mostly in the moderate category with a few soil units having a low potential. The soil erosion potential from water across the area is variable, and is dependent on the physical and chemical properties of the soil, land slope and topographic position, and rock fragment content in the soil matrix. Specifically for un-surfaced travel routes, a soil's erosion potential (slight, moderate, severe) is commonly estimated using a combination of the soil erodability potential (K Factor), degree of land slope, and volume of rock fragments greater than 75 mm in the top 30 cm soil (USDA, Forest Service, Rocky Mountain Region, Soils Group USDA Forest Service). Table 2 and Figure 1 show the area of three erosion categories using these criteria, for the planning area.

The planning area includes about 43,011 acres of salinity enriched geologic units (the Mancos shale and Paradox formations) Table 2. Selenium is also a common element found in excessive levels in the Mancos shale. For the most part, soils enriched with salinity and selenium are coincident with these geologic formations. However, salinity and selenium concentrations in these surface soils vary with site specific topographic position, the local climate, and the member of the Mancos shale that weathered to produce the soil. Steep, badland shale areas generally exhibit higher surface soil salinity concentrations than valley fill or outwash, shale derived soils. Within the badland areas, the southerly and westerly, hill slope aspects are higher in surface salinity levels compared to the more northerly aspects. Other factors being equal, soil surface salinity and selenium concentrations tend to be higher in the more arid portions of the planning area.

Table 2
Fragile Soil Acreage in the Planning Area[1]

Soil Attribute	*Low Potential*	*Moderate Potential*	*High Potential*
Wind Erosion	153,018	249,441	1,111
Water Erosion	211,798	94,263	62,213

Table 2
Fragile Soil Acreage in the Planning Area[1]

Soil Attribute	*Low Potential*	*Moderate Potential*	*High Potential*
Salinity/Selenium Enriched			43,011
Potential for Biological Soil Crust			186,728

[1] The total acreage under each soil attribute varies from each other and the total planning area acreage as a result of the specific set of soil units rated for each attribute by the Natural Resources Conservation Service.

The yield of both salinity and selenium to receiving water courses from Mancos shale derived soils is positively correlated with erosion rates. That is, the higher the rate of soil erosion, the greater the yield of both salinity and selenium. Both salinity and selenium are water quality issues in the planning area (see the Water Quality section for more specifics on this issue).

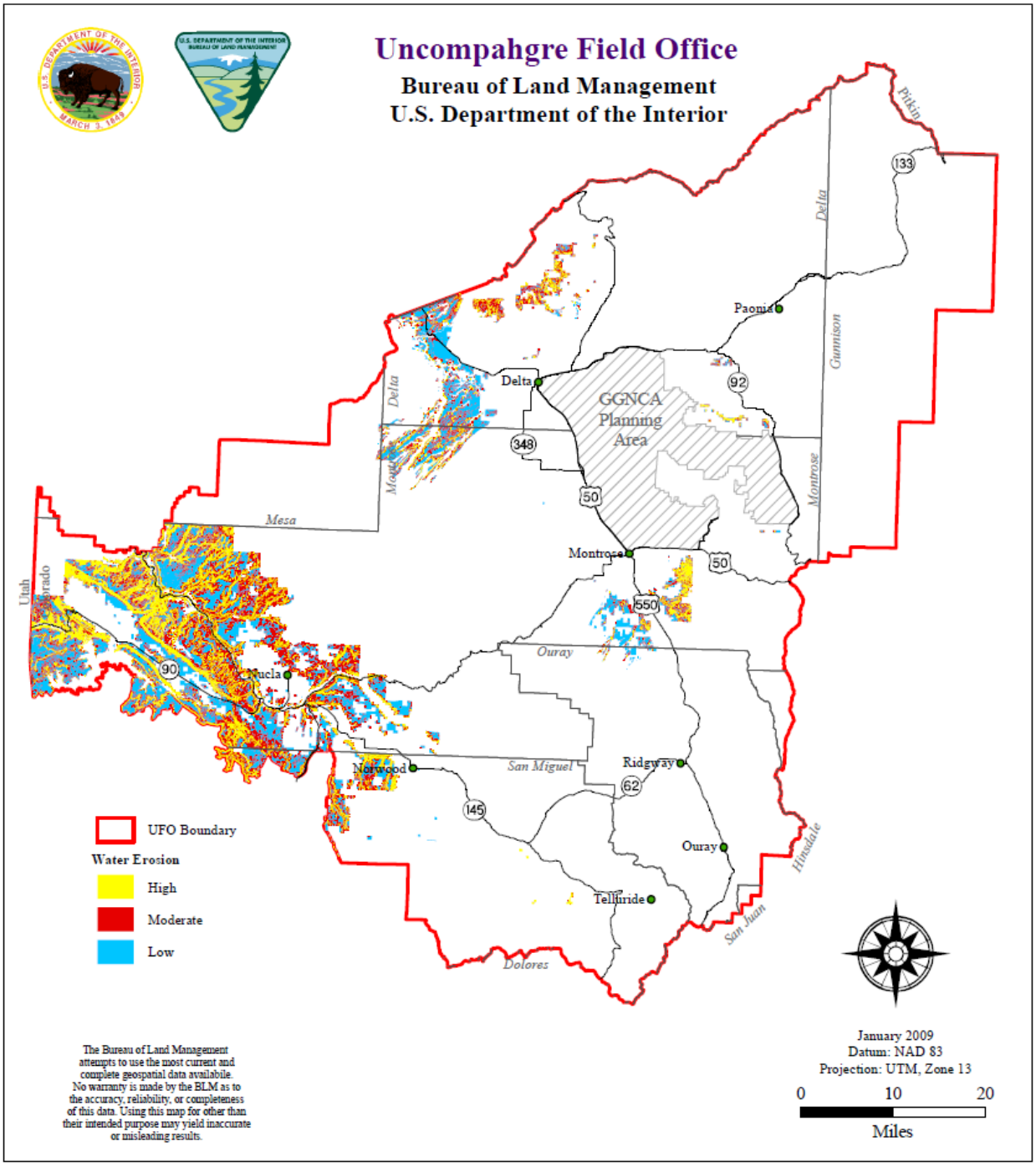


Figure 1 - Potential for Soil Erosion from Water on Un-surfaced Roads and Trails in the Planning Area

Environmental Consequences

Impacts Common to All Alternatives

Soil resources rarely benefit from un-surfaced travel routes. Commonly, travel routes alter and expand drainage patterns, and collect and concentrate runoff which can accelerate erosion rates above natural conditions. Travel routes across the planning area include locations in both uplands and channel bottoms, with variable soil conditions. Travel routes on areas dominated by either rock outcrop or high rock content in the soil matrix are somewhat resilient to surface impacts, while the finer textured soils containing little rock in the near surface horizons are more prone to accelerated erosion when disturbed. Travel routes crossing or running adjacent to stream channels have a higher potential of degrading water quality than routes on upland sites. Soil impacts from travel routes commonly include an increase in the soils bulk density from compaction, loss of vegetation and biological soil crust and destabilization of physical soil surface crusts and aggregates, all of which can accelerate soil loss from erosion. Overall, surface erosion from travel routes is dependent on physical soil factors, route grade and position on the landscape, traffic type and volumes, and the effectiveness of drainage maintenance.

Impacts from No Action Alternative

With the open travel status of the planning area under this alternative, the anticipated future increase in public land use would result in additional user created travel routes and diffuse off route use. This combined with no planned mitigation (i.e. travel route maintenance, seasonal and weather related closures, etc.) would result in a progressive increase in the amount and severity of soil disturbance, resulting in higher rates of accelerated soil erosion over time. Soil surface health would also decline, being able to support less vegetation and biological soil crust. Salinity and selenium yields would potentially increase on soils with excessive concentrations of these constituents. An increase of invasive plant species would potentially occur, as they commonly establish on disturbed soils.

> **Finding on the Public Land Health Standard for upland soils:** Under this alternative, soil productivity would be expected to decline over time as more user created routes and diffuse off road use increases. The lack of mitigation to keep travel route erosion at a minimum would also add to the decline of soil productivity. Consequently, ground surface disturbance would increase, decreasing the potential for healthy native vegetation communities and accelerating soil erosion. Thus, this alternative would not meet the intent of Public Land Health Standard #1.

Impacts from Proposed Action Alternative

Under the Proposed Action, travel would be restricted to existing routes, and all off route travel would be prohibited except for horseback and foot travel. Thus, soil surface impacts that result in reduced vegetation and biological soil crust cover and the resultant increase in soil erosion would be reduced compared to the present situation. Soil conditions would be expected to progressively improve over time compared to the no action alternative, as the expected increase in user created routes and open travel would not occur. Coincident with the expected improved soil surface conditions would be reductions in salinity and selenium yields from soils with excessive levels of these constituents.

Finding on the Public Land Health Standard for upland soils: Under this alternative, soil productivity and soil surface conditions would improve over time as off route travel and user created routes are eliminated. Thus, implementation of this alternative would meet the intent of Public Land Health Standard #1.

Cumulative Effects

The expected regional population growth over the coming decades will result in increased amounts of recreational and other types of surface disturbing activities on public lands, which could increase rates of soil erosion. Projected changes to the climate could also affect watershed, vegetation cover density in coming years which could also increase erosion from public lands. Measures such as maps, informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and may lead many to adopt better travel practices which could reduce soil surface disturbance and minimize accelerated rates of soil erosion. Overall cumulative impacts from the proposed action are expected to be an improvement to the health of soils compared to the no action alternative.

VEGETATION (includes a finding on Standard 3)

Affected Environment

Over 30 distinct vegetation classes occur at high levels on public lands in the planning area. These classes are tied to soil type as well as elevation and precipitation, and are characterized by various types and combinations of plant species. Upland vegetation communities are described below and riparian vegetation is described in the Wetland and Riparian section.

Drought tolerant vegetation classes described as saltbush and salt desert shrub communities occur at the lowest elevations of the planning area, and are found on saline soils derived from Mancos shale. These communities include the following shrubs: shadscale (*Atriplex confertifolia*), Gardner saltbush (*Atriplex gardneri*), mat saltbush (*Atriplex corrugata*), black greasewood, four-wing saltbush (*Atriplex canescens*), black sagebrush (*Artemesia nova*), winterfat (*Krascheninnikovia lanata*), snakeweed (*Gutierrezia sarothrae*) and prickly pear cactus (*Opuntia polycantha*) in varying amounts. Native grasses including western wheatgrass (*Pascopyrum smithii*), galleta grass (*Pleuraphis jamesii*), bottlebrush squirreltail (*Elymus elymoides*), Salina wildrye (*Leymus salinus*) and Indian ricegrass (*Achnatherum hymenoides*) are found on better condition sites. Many different forbs occur, but some of the most common are wild buckwheats (*Eriogonum* spp.), death camas (*Zigadenus venenosus*), and biscuitroots (*Lomatium* and *Cymopterus* spp.). Frequently, weedy exotic species are also present. Clasping pepperweed (*Lepidium perfoliatum*), filaree (*Erodium cicutarium*), burr buttercup (*Ceratocephala testiculata*), cheatgrass (*Bromus tectorum*), spreading wallflower (*Erysimum repandum*) and European madwort (*Alyssum simplex*) are among the most common.

With increasing elevation and precipitation, saline soils diminish, and the salt-adapted communities transition into the pinyon-juniper woodland class on rocky, steeper soils and the pinyon-juniper/sagebrush mix, sagebrush community, and sagebrush/grass mix classes on less rocky soils. The pinyon-juniper woodland is dominated by Utah juniper (*Juniperus*

osteosperma), with Colorado pinyon (*Pinus edulis*) in some areas. There is typically a sparse and variable understory that may contain remnant shrubs like Wyoming big sagebrush (*Artemesia tridentata wyomingensis*), birchleaf mountain mahogany (*Cercocarpus montanus*), Utah serviceberry (*Amelanchior utahensis),* snakeweed, yucca (*Yucca harrimaniae*), potato cactus (*Opuntia fragilis*), muttongrass (*Poa fendleriana*), Sandberg bluegrass (*Poa secunda*), and bottlebrush squirreltail. The sagebrush community is dominated by Wyoming big sagebrush or black sagebrush. Frequently snakeweed or four-wing saltbush is a secondary shrub in these communities, and there is an understory of the same native grasses found in the saltdesert shrub zone. Primary forbs in the area are western tansymustard (*Descurainia pinnata*), scarlet globemallow (*Sphaeralcea coccinea*), and numerous species of *Penstemon, Arabis, Astragalus, Lomatium, Erigeron, Phlox* and *Machaeranthera*. Nonnative forbs are widespread with filaree and burr buttercup among the most common. Nonnative grasses are very common with cheatgrass almost ubiquitous, and crested wheatgrass persisting in areas where it has been seeded.

In some areas, woodland (mainly juniper) occurs together with sagebrush at a higher level of canopy cover. These may be successional stages that follow fire or other major natural disturbance. Numerous fire scars of varying ages are evident in parts of the planning area. Grass-forb rangeland and grass dominated communities are also present in isolated areas in this zone. They contain the forb and grass species listed above, and are often the result of fire, mechanical treatment implemented to open the woodland canopy, or they occur on small inclusions of soil which are not suitable for tree or shrub growth.

At higher elevations the PJ/mountain shrub mix, mesic mountain shrub mix, sagebrush-mesic mountain shrub mix, PJ/oak mix, and Gambel oak classes are found. The pinyon-juniper community contains birchleaf mountain mahogany (*Cercocarpus montanus*), Utah serviceberry (*Amelanchior utahensis),* and Gambel oak (*Quercus gambelii*). With increasing elevation, Utah juniper and pinyon trees drop out of the community, and the mountain shrubs dominate the vegetation. In some areas Gambel's oak forms almost closed stands. Rocky Mountain juniper (*Juniperus scopulorum*) is present in some areas, while black chokecherry (*Prunus virginiana*) is found on more mesic sites intermixed with the other mountain shrubs. Roundleaf snowberry (*Symphoricarpos rotundifolius*) is common throughout most of these communities. Where there are openings between the typically dense shrub canopies, or in areas where the canopy is significantly above the ground surface, a productive understory of forbs and grasses exists. Commonly found species include elk sedge (*Carex geyeri*), Letterman's needlegrass (*Acnatherum lettermanii*), Kentucky bluegrass (*Poa pratensis*), muttongrass, Sandberg bluegrass, bottlebrush squirreltail, western wheatgrass, and nodding brome (*Bromus anomalus*). Forbs are numerous with many species. The most widespread and dominant include western yarrow (*Achillea millefolium*), lupine (*Lupinus* spp.), biscuitroot (*Lomatium* spp.), and aspen peavine (*Lathyrus lanzwertii*).

At the very highest elevations and in mesic drainages the Aspen, Douglas fir, and Spruce-Fir vegetation classes are found on BLM. The understory in the Douglas fir (Pseudotsuga menziesii) community is generally sparse but contains many of the same grasses and forbs found in the mountain shrub communities. The aspen (*Populus tremuloides*) understory typically contains snowberry and often black chokecherry, with a very productive understory of the grasses and forbs found with the mountain shrubs, in addition to mountain brome (*Bromus marginatus*),

Thurber fescue (*Festuca thurberi*), and slender wheatgrass (*Elymus trachycaulus*). The spruce-fir type contains Engelmann spruce (*Picea engelmannii*), and subalpine fir (*Abies lasiocarpa*), and has an understory typically dominated by whortleberry (*Vaccinium myrtillus*) and arnica (*Arnica cordifolia*)

Grass-forb rangeland is a vegetation class that occurs across the range of elevations. In some cases it is related to soil characteristics, in others it is a result of disturbance, and is a successional stage to other vegetation classes. The species are typically those grasses and forbs found in each of the different community types listed above.

In addition to the non-native species listed above, state listed noxious weeds are scattered in still isolated infestations across the unit. These are discussed in more detail in the Invasive Species section of this EA.

The current state of vegetation health has been determined by the various Land Health Assessments which have been carried out over the past 10 years (BLM 1999-2009). Vegetation across the area was subdivided according to soil types and grazing allotment boundaries, and then rated as meeting, meeting with problems, or not meeting Standard 3 for healthy plant and animal communities. The ratings for Standard 3 are shown in the following table by total acreage.

Std 3 Rating for Healthy Plant Communities	Total Acreage in Planning Area
Meeting	234,412
Meeting with Problems	155,700
Not Meeting	52,618
Unknown or Not Upland	14,104

Vegetation problems identified in the Land Health Assessments include low levels of perennial grasses, low perennial forb cover, poor shrub vigor and heavy hedging on shrubs, exotic plants, noxious weeds, and low vegetation diversity. These problems typically occur in some areas and not others. At the time of the Land Health evaluation, the problems were attributed to the following primary causes in order of prevalence: historic livestock grazing, the seral stage of the vegetation, noxious weeds, past vegetation treatments, roads, fire suppression, drought, nearby private lands and associated disturbance, wildlife use, current grazing, heavy browse use, harsh site conditions, mining, recent fire, rights of way, and OHV use. In addition to these, there were other causes for lands to have problems with vegetation, but they were more localized, or minor in nature. All Land Health Assessments are available for review in the UFO headquarters in Montrose.

Environmental Consequences

Impacts Common to All Alternatives

Routes generally degrade native vegetation. This has been well documented by numerous researchers in many locations (Forman and Alexander, 1998, Walker and Everett, 1987, Jones et al 2008, Trombulak and Frissell 2008). On public lands, vegetation degradation ranges from complete destruction on the route surface to impacts on the adjacent plant community. This

impact includes erosion and sedimentation associated with routes, introduction of weeds, depressed vegetation vigor due to production and deposition of dust, increased grazing levels from enhanced livestock and grazing animal access, and destruction or impacts from increased human presence, such as woodcutting, human-caused fires, dumping, and other activities. These off-route impacts often extend up to many feet on either side of a route in an effect researchers have termed "the road influence zone" (RIZ). In general, an area with more routes (expressed as higher route density) would have more degraded vegetation than an area with lower route density, if all other factors are equal. A route density of one route mile per square mile of land area is estimated to directly or indirectly impact approximately 1% of the vegetation within that square mile. These impacts will occur wherever there are existing routes.

Impacts from No Action Alternative

This alternative continues current travel management, which has contributed to the upland vegetation conditions in place today. If existing trends in community population growth, recreational use and increasing numbers of public land visitors continue, it is likely that there would be additional vegetation affected, and increased severity of impacts to the existing affected area. Increased RIZ impacts in the form of more dust deposition, weed seed introduction, route widening, and general human presence impacts could be expected to occur to vegetation where there are existing routes. In vehicle-accessible areas where there are currently no routes, it is likely that more vegetation will be damaged by new user-created routes that would develop after one or two initial off-road vehicle passes. Even where vehicle passage does not lead to new user created routes, vegetation damage would occur through physical disturbance, crushing, and possible deposits of weed seed into formerly undisturbed areas. Compared to the existing environment, impacts would be more weed infestations, loss of additional vegetation, depressed plant vigor through increased sedimentation onto vegetation, and in some places increased erosion that would affect vegetation. Anticipated damage to vegetation would be widespread throughout the planning area, moderate, and long term.

> **Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Invasive, Non-native Species): The No Action Alternative would result in no changes to land health in areas where vehicle access is limited by topography or vegetation. Modest declines in land health ratings for vegetation for Standard 3 would be expected in areas where vehicle passage is not constrained by topography, rocks, vegetation or the soil surface. This is not consistent with the intent of Standard 3.

Impacts from Proposed Action Alternative

This alternative represents a change from the No Action Alternative in that it stops the increase of routes across public lands, prevents routes from widening due to use of larger classes of vehicles, and it also prohibits use on some routes during some periods of the year. In addition, it prohibits all cross country travel. As a result, it would freeze or at least reduce the rate of growth of most vegetation impacts at their current levels, and might reduce some impacts in some areas where routes are closed for a portion of the year. The proposed action would result in a cessation of direct damage to vegetation through crushing and removal associated with off road driving and new route creation. While growth of population and recreational use is expected to trigger modest increases in RIZ impacts along existing routes, some vegetation damage would be mitigated in some areas by seasonal closures and vehicle class restrictions. Seasonal closures

would provide some "rest" to route-side vegetation and reduce levels of vegetation damage associated with human presence. On balance, impacts to vegetation are anticipated to be beneficial in comparison to the No Action Alternative, and very minor, localized and short term in comparison with the existing situation.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Invasive, Non-native Species): With the exception of slightly increased RIZ impacts from increased route use levels, the Proposed Alternative would largely freeze route impacts to upland vegetation, and would therefore have little influence on the existing status of upland vegetation relative to Standard 3. While some of the current vegetation problems are related to roads and OHV use, the Proposed Action represents an improvement over the No Action Alternative in that it stops a worsening trend for these parameters. As a result it is a first step toward correcting travel-related vegetation health problems and is consistent with the intent of Standard 3 of managing for healthy, native and desirable plant communities.

Cumulative Effects

Population growth and residential development of surrounding private lands, increasing infrastructure development and right of way approvals on BLM, would continue to occur throughout the greater region if past trends continue. This will result in increased amounts of recreational and other types of usage and disturbance on public lands. In addition, as large scale and regional events like climate change and weed invasions occur, the upland vegetation would be expected to degrade. The cumulative effects of limiting travel to existing routes to mitigate growing recreational and other demands will help alleviate impacts from the pressure of existing and new users. Measures such as maps, informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and may lead many to adopt better travel practices which would reduce vegetation impacts. Increases in the miles of routes from additional permitted activities would be analyzed in separate environmental assessments; however they would be expected to incrementally degrade vegetation. Seasonal closures will help mitigate weed spread and improve vegetation connectivity, which will be important for upland vegetation to be resilient to climate change. Overall cumulative impacts from the proposed action are expected to be favorable to upland vegetation in the planning area.

INVASIVE, NON-NATIVE AND EXOTIC SPECIES

Affected Environment

A noxious weed is any plant designated by a federal, state, or county government to be injurious to public health, agriculture, recreation, wildlife, or any public or private property (Sheley and Petroff, 1999). The state of Colorado has developed a noxious weed list which has been divided into three categories ("A", "B" and "C") that determines how noxious weed species will be managed. Along with this list there is a BLM National List of Invasive Weed Species of Concern. Both lists are available on the internet.

Within the planning area, there are approximately 10,000+ noxious weed infestations, and 2,526

of these are linear infestations, 420 are point (small infestations) and 7,031 are larger polygon infestations. These are conservative numbers as noxious weed surveys have not been completed for the entire planning area. These infestations are comprised of several noxious weeds that are on the Colorado Noxious weed list and the BLM species of concern list. The most prevalent across the planning area area include but are not limited to: tamarisk (*Tamarix ramosissima*), Russian knapweed (*Acroptilon repens*), Spotted knapweed (*Centaurea stoebe L. spp. micranthos*), Diffuse knapweed (C*entaurea diffusa),* Yellow starthistle (*Centaurea solstitialis*), Whitetop (*Cadaria draba*), Canada thistle (*Cirsium arvense),* Musk thistle (*Carduus nutans*), Bull thistle (*Cirsium vulgare*), Absinth wormwood (*Artemisia absinthium*), Dalmation and Yellow toadflax (*Linaria dalmatica and vulgaris*, respectively), Russian olive (*Elaeagnus angustifolia),* and Oxeye daisy (*Chrysanthemum leucanthemum*). Examples of other state-listed species from "List C" (where management emphasis is deferred to local governments) known to occur in the planning area are: cheatgrass (*Bromus tectorum*), halogeton (*Halogeton glomeratus*), jointed goatgrass (*Aegilops* cylindrical), and field bindweed (*Convolvulus arvense*). Herbaceous alien weeds are widespread and fairly common throughout the planning area including Jim Hill mustard (*Sisymbrium altissimum*), alyssum (*Alyssum* spp), and Kentucky bluegrass (*Poa Pratensis***)**, which are present at high levels in the native plant communities (BLM 2002).

Environmental Consequences

Impacts Common to All Alternatives

It is widely known and documented that weeds (invasive and/or noxious) tend to sprout first where people and animals travel most: roads, trails, fields, and riparian areas (waterways). Unfortunately, when noxious weeds are established along these introduction points they are often overlooked and spread into adjacent areas where they can compromise the native ecosystem. In the Western United States on federal lands weeds are spreading at the rate of approximately 4,600 acres per day and have invaded about 17 million acres (BLM). Noxious weeds affect the health of recreation sites and are often introduced at staging areas where there is disturbance and bare ground for rapid establishment. A study in Montana demonstrated a single ATV can disperse more than 2,000 invasive noxious knapweed seeds over a 10 mile radius (Montana State University Extension Service, 1992). Tom Rooney, University of Wisconsin 2002, noted that noxious weed seeds are commonly transported by ATV and that a single ATV could potentially spread over 200 million seeds in Wisconsin over the next 20 years. A number of infestations could be avoided with educational signing explaining best management practices at key locations. A few of the impacts common to all alternatives include: decline in wildlife habitat and livestock forage, compromising of native plant communities and threatened and endangered species habitat, and increases in soil erosion and sedimentation into lakes, streams, and river systems.

Impacts from No Action Alternative

This alternative has the potential to increase invasive noxious weed establishment through the proliferation of user created roads/trail and cross country vehicular travel.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Vegetation): This alternative would result in increased establishment of invasive noxious weeds with proliferation outside already disturbed areas. This would cause declines in land health ratings for Standard 2, which is not

consistent with the intent of Standard 3.

Impacts from Proposed Action Alternative
Under the Proposed Action, travel would be restricted to existing routes, and off route travel by motorized and mechanized means would be prohibited. However, foot travel and equestrian use would still be permitted off trail and cross country. Even though foot and equestrian use will still have the potential to introduce noxious weeds the distance these users travel and the soil disturbance associated is often much less than motorized and mechanized travel. The actions associated with this alternative would contribute to small decreases in noxious weed establishment in comparison to No Action Alternative. This is accomplished by allowing more effective inventorying and monitoring of noxious weeds along trails/roadsides which lend themselves more readily to early detection and rapid response.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic; Wildlife, Terrestrial; and Vegetation): This alternative would result in a slight decrease in invasive noxious weeds especially in areas that have not had significant soil disturbance. It would also make early detection and rapid response and possible eradication much easier. This would contribute to maintaining land health for Standard 3.

Cumulative Effects

The projected population growth in the region will result in increased amounts of recreational and other types of usage and disturbance on public lands. The cumulative effects of limiting travel to existing routes will help detection and treatment of invasive noxious weed establishment in all vegetation communities. Measures such as informational kiosks, education fairs, and enforcement of regulation will help educate the public land user about travel-related impacts and invasive noxious weeds, and would potentially lead to less disturbing travel practices. Overall cumulative impacts from the proposed action are expected to be a benefit to vegetation communities in the subject area.

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

Affected Environment

The Endangered Species Act (ESA), as amended (16 U.S.C. 1531-1534) mandates the protection of species listed as threatened or endangered of extinction and the habitats on which they depend. Section 7 of the ESA clarifies the responsibility of federal agencies to utilize their authorities to carry out programs for the conservation of listed species. In addition, federal agencies must consult with the U.S. Fish and Wildlife Service (Service) to ensure that any action authorized, funded or carried out by the agency is "…not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species…". The Uncompahgre Field Office refers to the most current Colorado county list provided by the U.S. Fish and Wildlife Service to analyze the effects of a proposed action on threatened, endangered and candidate species and designated critical habitat for these

species. In accordance with *BLM Manual 6840 Special Status Species Management*, the goal of management is to prevent a trend toward federal listing or loss of viability for sensitive species.

Appendix C lists potentially occurring federally protected species within the UFO and provides assessments for their occurrence within the planning area. A detailed description of each of these species, their distributions in the planning area and estimated habitat available are provided in the Biological Assessment for this project (BLM 2009). This document is available at the UFO headquarters in Montrose. In the Biological Assessment potential and occupied habitats were modeled, mapped, and quantified based on species' habitat descriptions and occurrence data. These habitat models are based on numerous sources including Uncompahgre Field Office files, Colorado Division of Wildlife data, Colorado Natural Heritage Program data, clearance survey reports, scientific journals, and others. This information was then used as a baseline to assess travel-related impacts on species and their habitats.

Appendix D and Appendix E lists BLM sensitive species that are known or have potential to occur within the UFO along with occurrence assessments for the planning area. Given the large scale of the planning area, most of these species or their habitats are present.

Environmental Consequences

Impacts Common to All Alternatives

Travel impacts on wildlife and plants depend on multiple factors (Table 3), and the interaction of those factors, and can result in any number of unique species' responses depending on the circumstances. Travel, spatial, temporal, species, and social variables all determine the level of impact travel has on a species and its habitat. Impacts on a species may include energetic costs, behavioral changes (feeding, breeding, sheltering), loss of fitness (survival, growth, reproduction rates), site avoidance, and others. Such impacts may be direct or indirect, and temporary or long-term. Refer to the Vegetation section in this document for a description of travel-related impacts on vegetation and habitats. Travel routes and travel activities can influence hydrology, surface and subsurface waterflows, sedimentation/ turbidity, and erosion rates and may also introduce or increase chemicals and other pollutants (e.g., salts, lead and other heavy metals, petroleum products, etc.) that may negatively affect aquatic species. Weed invasions are commonly associated with travel routes and may alter habitat composition, structure, and function. Also refer to the Riparian and Water Quality section in this document for more discussion on travel-related impacts on aquatic habitats.

Depending on the area and situation, authorization and use of existing routes may have ongoing and residual effects on species. This is particularly true for the endemic plants, Colorado hookless cactus (*Sclerocactus glaucus*) and clay-loving wild buckwheat (*Eriogonum pelinophilum*). Most impacts would be indirect—i.e., fugitive dust, chemical pollutants from dust abatement, etc. Some species, such as the clay-loving wild buckwheat, are known to occur on or near existing routes including routes identified in the 2005 road inventory, and may even colonize disturbed areas.

Impacts from No Action Alternative

Unrestricted travel and the proliferation of user-created routes will continue to affect federally protected and sensitive species and their habitats. When new routes are created by users, impacts

on a species may increase which might include energetic costs, behavioral changes (feeding, breeding, sheltering), loss of fitness (survival, growth, reproduction rates), site avoidance as well as others. Also, plants could be crushed, and fugitive dust could impact plants that are removed from currently established routes.

Finding on the Public Land Health Standard for Threatened & Endangered species: Under the No Action Alternative, habitat for imperiled, rare, or sensitive species would generally continue to be degraded and become less suitable as a result of unrestricted travel, cross-country travel, and route proliferation. This would indirectly impact species' productivity, resiliency, diversity, and vigor and their capability to reproduce and sustain natural fluctuations and ecological processes. Thus, in the future, it is possible that this standard would not be achieved in certain areas as a result of unrestricted travel.

Impacts from Proposed Action Alternative

Fourteen listed or candidate species occur or have potential to occur within the Uncompahgre Field Office (Appendix C). It was determined in the Biological Assessment that the proposed action "may affect" nine of these species. In general, the proposed action would benefit most species by limiting mechanized and motorized travel to existing routes, prohibiting cross-country travel, minimizing the creation of new routes, and concentrating activities in already disturbed areas. Travel impacts on species would continue to occur but would be reduced to a greater extent if the Proposed Action were implemented.

ESA sec.7 Consultation

In accordance with Section 7 of the Endangered Species Act, the BLM UFO prepared a Biological Assessment (BLM 2009) and initiated formal consultation for this project. The consultation package was received by the U.S. Fish and Wildlife Service (FWS) Ecological Services, Grand Junction, Colorado, on May 18, 2009. An updated Biological Assessment (BA) was sent by the BLM and received on June 4, 2009. The BA provides a detailed analysis of the impacts of the proposed action on federally protected species and quantifies those impacts based on the habitat models previously described. Also, the BA depicts a comparison of impacts of the Proposed Action and the No Action Alternative on threatened and endangered species. Final effects determinations for these species are provided in Appendix C.

The Fish and Wildlife Service issued a Biological Opinion on August 11, 2009. The Biological Opinion (BO) concurred with the BA's "may affect, is not likely to adversely affect" determinations for the Canada lynx (*Lynx canadensis*), Colorado pikeminnow (*Ptychocheilus lucius*) and its critical habitat, humpback chub (*Gila cypha*), bonytail (*Gila elegans*), and razorback sucker (*Xyrauchen texanus*) and its critical habitat. This concurrence is based on all of the conservation measures and rationale included in the BA.

The BO also determined that the proposed action is not likely to jeopardize the continued existence of Colorado hookless cactus (*Sclerocactus glaucus*) or clay-loving wild buckwheat (*Eriogonum pelinophilum*) in the planning area or the continued existence of the species. Although the proposed action did not meet the threshold of insignificant or discountable effects necessary in order to meet a "may affect, not likely to adversely affect determination", very few individual plants are expected to be negatively impacted. FWS's conclusions are based on the

following rationale and conservation measures, as provided in the BA (BLM 2009). (Conservation measures are also incorporated as Proposed Action Design Features.)

The BO also determined that the Gunnison's prairie dog (Cynomys gunnisoni) and Yellow-billed cuckoo (Coccyzus americanus) are not likely to result in a trend toward federal listing in the planning area.

- Overall, the proposed action will likely benefit the species by limiting travel to existing routes, prohibiting cross-country travel, and minimizing the creation of new routes. Travel impacts on species would continue to occur but would be reduced to a greater extent if the proposed action were implemented.
- To minimize impacts on the species, within one year of the signing of the FONSI for this project, the BLM UFO will systematically install roadside signs to identify especially sensitive areas, areas where travel-related impacts on these species would be greater.
- In the future, all travel routes would be analyzed in greater detail, by geographic area. Based on this information, specific routes would be proposed for designation. These areas would then be changed from Limited to Existing Routes (result of the current proposed action) to Limited to Designated Routes. If impacts to listed species that were not analyzed in this consultation are expected to occur due to the future geographic area travel management planning, further consultation will occur at that time.

In accordance with the BO, reinitiation of formal consultation would occur if:

1. New information reveals effects the agency action that may adversely affect listed species or critical habitat in a manner or to an extent not considered in the BO;
2. The agency action is subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in the BO; and/ or
3. A new species is listed or any new critical habitat is proposed or designated that may be affected by this action.

The BO also provided the following Conservation Recommendations for the Proposed Action:

1. In order to reduce ongoing impacts to listed species, implement the proposed action as soon as possible.
2. Develop a listed plant survey program. Focus future survey efforts in areas where higher road density occurs near known or suspected listed plant locations.
3. During future route by route planning, strongly consider closing travel routes that are within 20 meters of known listed plant occurrences.

Finding on the Public Land Health Standard for Threatened & Endangered species: Restricting motorized and mechanized to existing routes and minimizing route proliferation are expected to improve habitat for imperiled, rare, and sensitive species. Among other benefits, the proposed action would likely help reduce habitat degradation and fragmentation, minimize weed invasions, and minimize direct impacts on biological communities. In turn, species' productivity, resiliency, diversity, and vigor and their capability to reproduce and sustain natural fluctuations and ecological processes should benefit. Therefore, this Standard would be met under the Proposed Action.

Cumulative Effects

A variety of land uses occur within the planning area including recreation, irrigation and farming, ranching, residential development, hunting, and more. These activities will likely increase and continue into the future. To varying degrees, these activities are known to have a cumulative impact on federally protected species and habitats across the landscape. When viewed in conjunction with other past, ongoing, and future land uses, the proposed action is not anticipated to result in cumulative effects at a level that would appreciably impact these species. Overall, the proposed action should benefit species by limiting travel to existing routes, prohibiting cross-country travel, and minimizing the creation of new routes.

As it pertains to Sec.7 of the Endangered Species Act, "cumulative effects" are defined as "those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation." In other words, cumulative effects do not include any past or ongoing actions, but involve only future non-federal actions. A variety of land uses occur on private and state lands adjacent to public lands within the project area. Current uses on non-federal lands may include irrigation and farming, ranching, residential development, recreational vehicle use, and hunting. These trends will likely continue into the future. To varying degrees, these activities could impact federally protected species and habitats across the landscape. When viewed in conjunction with future non-federal activities, the proposed action is not anticipated to result in cumulative effects at a level that would appreciably impact these species. Overall, the proposed action should benefit these species by limiting travel to existing routes, prohibiting cross-country travel, and minimizing the creation of new routes.

MIGRATORY BIRDS

Affected Environment

Plant communities within the analysis area provide habitats for a variety of migratory bird species. Refer to the Vegetation section of this document for a more detailed description of vegetation types in the planning area. The U.S. Fish and Wildlife Service list of Birds of Conservation Concern was used as to complete this analysis (USFWS 2008, Table 14, p.32, BCR 16 [Southern Rockies/Colorado Plateau]). Appendix D identifies the species from this list which are known or have potential to occur in the UFO and which are protected under the Migratory Bird Treaty Act (MBTA). Their likelihood of occurrence in the planning area is evaluated in the final column of the table. Due to the large scale of the planning area, most species are present or are likely to occur.

Environmental Consequences

Impacts Common to All Alternatives

Travel impacts on wildlife and plants depend on multiple factors (Table 3), and the interaction of those factors, and can result in any number of unique species' responses depending on the circumstances. Travel, spatial, temporal, species, and social variables all determine the level of

impact travel has on a species and its habitat. Impacts on a species may include energetic costs, behavioral changes (feeding, breeding, sheltering), loss of fitness (survival, growth, reproduction rates), site avoidance, and others. Such impacts may be direct or indirect, and temporary or long-term. Refer to the Vegetation section in this document for a description of travel-related impacts on vegetation and habitats.

Table 3 **Examples of factors that determine travel impacts on biological resources**

Zone of influence (proposed action area)
Travel mode (hiking, OHV, equestrian, pets, etc.)
Route density
Travel volume
Travel frequency
Travel duration
Travel intensity (noise levels, speeds, etc.)
Travel timing/ season
Habitat type
Site characteristics (soil or vegetation type; site resistance, resiliency, etc.)
Species biology and behavior
Individual animal habituation
Peoples' perceptions, values, and behaviors

Impacts from No Action Alternative

Unrestricted vehicular travel and the proliferation of user-created routes will continue to impact migratory bird populations and habitats.

Impacts from Proposed Action Alternative

In general, the proposed action would benefit most species by limiting mechanized and motorized travel to existing routes, prohibiting cross-country travel, minimizing the creation of new routes, and concentrating activities in already disturbed areas. However, depending on the area and situation, authorization and use of existing routes may have ongoing and residual effects on species. This is particularly true for those species which rely on areas near roads that provide crucial habitats for breeding or nesting. Most impacts would be indirect—e.g., degradation of habitats through weed proliferation or fragmentation. Some species are known to occur near existing routes including routes identified in the 2005 road inventory, and may even prefer disturbed areas and edge, or transitional, habitats created by travel routes. Thus, there is also a risk of direct impacts as a result of the proposed action including mortality of individuals or inadvertent destruction of nests or eggs. However, it should be noted that some of these impacts are likely already occurring under No Action Alternative. Travel impacts on species would continue to occur but would be reduced to a greater extent if the Proposed Action Alternative were implemented. The proposed action would ultimately benefit bird communities by restricting motorized and mechanized travel to existing routes and trails. Continued use of existing routes by motorized and mechanized travel may impact individuals but would be unlikely to have a measurable impact on migratory bird populations or species, or their viability, on a landscape scale.

Cumulative Effects

A variety of land uses occur within the planning area including recreation, irrigation and farming, ranching, residential development, hunting, and more. These activities will likely

increase and continue into the future. To varying degrees, these activities are known to have a cumulative impact on migratory birds and habitats across the landscape. When viewed in conjunction with other past, ongoing, and future land uses, the proposed action is not anticipated to result in cumulative effects at a level that would appreciably impact these species. Overall, the proposed action should benefit these species by limiting travel to existing routes, prohibiting cross-country travel, and minimizing the creation of new routes.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment

The planning area supports a diversity of terrestrial wildlife species. Refer to the Vegetation section in this document for a description of vegetation communities and habitat types. Common species include deer and elk, bobcats, raccoons, rabbits, black bear, mountain lion, snakes, and lizards. The Colorado Division of Wildlife has identified numerous portions of the planning area as winter range, severe winter range, winter concentration areas, production areas, migration corridors, and highway crossings for mule deer, elk, pronghorn, and big horn sheep.

Environmental Consequences

Impacts Common to All Alternatives
Travel impacts on wildlife and other species depend on multiple factors (Table 3), and the interaction of those factors, and can result in any number of unique species' responses depending on the circumstances. Travel, spatial, temporal, species, and social variables all determine the level of impact travel has on a species and its habitat. Impacts on a species may include energetic costs, behavioral changes (feeding, breeding, sheltering), loss of fitness (survival, growth, reproduction rates), site avoidance, and others. Such impacts may be direct or indirect, and temporary or long-term. Weed invasions are commonly associated with travel routes and may alter habitat composition, structure, and function. Also refer to the Vegetation section in this document for more discussion on travel-related impacts on terrestrial habitats.

Impacts from No Action Alternative
Unrestricted travel and the proliferation of user-created routes will continue to impact terrestrial species and habitats

> **Finding on the Public Land Health Standard for plant and animal** communities (partial, see also Vegetation; Invasive, Non-native Species; and Wildlife, Aquatic): Under the No Action Alternative, terrestrial habitats would generally continue to be degraded and become less suitable as a result of unrestricted travel, cross-country travel, and route proliferation. Thus, in the future, it is possible that this standard would not be achieved in certain areas as a result of unrestricted travel.

Impacts from Proposed Action Alternative
In general, the proposed action would benefit most terrestrial species by limiting mechanized and motorized travel to existing routes, prohibiting cross-country travel, minimizing the creation of new routes, and concentrating activities in already disturbed areas. However, depending on the

area and situation, authorization and use of existing routes may have ongoing and residual effects on species. Most impacts would be indirect—e.g., degradation of water as a result of sedimentation or alteration of riparian vegetation due to weed invasion. However, it should be noted that these impacts are already occurring under the No Action Alternative. Travel impacts on species would continue to occur but would be reduced to a greater extent if the Proposed Action were implemented. The proposed action would ultimately benefit terrestrial communities and habitats by restricting motorized and mechanized travel to existing routes and trails. Seasonal closures for big game crucial habitats identified in the current RMPs would remain effective under the Proposed Action, but more restrictive than current rules (see Proposed Action section for more details).

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation; Invasive, Non-native Species; and Wildlife, Aquatic): Those areas currently meeting this standard are expected to continue meeting, and are likely to improve, under the proposed action. Those areas not currently meeting this standard may also improve under the proposed action.

Cumulative Effects

A variety of land uses occur within the planning area including recreation, irrigation and farming, ranching, residential development, hunting, and more. These activities will likely increase and continue into the future. To varying degrees, these activities are known to have a cumulative impact on terrestrial wildlife and habitats across the landscape. When viewed in conjunction with other past, ongoing, and future land uses, the proposed action is not anticipated to result in cumulative effects at a level that would appreciably impact these species. Overall, the proposed action should benefit these species by limiting travel to existing routes, prohibiting cross-country travel, and minimizing the creation of new routes.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment

A variety of aquatic wildlife occur in the planning area including fish, amphibians, and reptiles. Common species include brook trout, rainbow trout, brown trout, carp, various suckers, mottled sculpin, speckled dace, Woodhouse toad, and garter snake. Aquatic habitats are also seasonally important to numerous other animals such as insects, waterfowl, and songbirds. Refer to the Riparian and Water Quality sections for additional information related to aquatic habitats. Also refer to the Threatened, Endangered, and Sensitive section, Appendix C, and Appendix E for a discussion of special status aquatic wildlife.

Environmental Consequences

Impacts Common to All Alternatives

Travel impacts on wildlife and plants depend on multiple factors (Table 3), and the interaction of those factors, and can result in any number of unique species' responses depending on the circumstances. Travel, spatial, temporal, species, and social variables all determine the level of

impact travel has on a species and its habitat. Impacts on a species may include energetic costs, behavioral changes (feeding, breeding, sheltering), loss of fitness (survival, growth, reproduction rates), site avoidance, and others. Such impacts may be direct or indirect, and temporary or long-term. In general, travel routes and travel activities may influence hydrology, surface and subsurface waterflow, sedimentation/ turbidity, and erosion rates and may also introduce or increase chemicals and other pollutants (e.g., salts, lead and other heavy metals, petroleum products, etc.) that can negatively affect aquatic species. Weed invasions are commonly associated with travel routes and may alter riparian habitat composition, structure, and function. Also refer to the Riparian and Water Quality section in this document for more discussion on travel-related impacts on aquatic habitats.

Impacts from No Action Alternative
Unrestricted travel and the proliferation of user-created routes will continue to impact aquatic species and their habitats.

> **Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Vegetation; Wildlife, Terrestrial; and Invasive, Non-native Species): Under the No Action Alternative, habitat for aquatic species would generally continue to be degraded and become less suitable as a result of unrestricted travel, cross-country travel, and route proliferation. Thus, in the future, it is possible that this standard would not be achieved in certain areas as a result of unrestricted travel.

Impacts from Proposed Action Alternative
In general, the proposed action would benefit most aquatic species by limiting mechanized and motorized travel to existing routes, prohibiting cross-country travel, minimizing the creation of new routes, and concentrating activities in already disturbed areas. However, depending on the area and situation, authorization and use of existing routes may have ongoing and residual effects on aquatic species. Most impacts would be indirect—e.g., degradation of water as a result of sedimentation or alteration of riparian vegetation due to weed invasion. However, it should be noted that these impacts are already occurring under the current management scenario (No Action Alternative). Travel impacts on species would continue to occur but would be reduced to a greater extent if the Proposed Action were implemented. The proposed action would ultimately benefit aquatic communities by restricting motorized and mechanized travel to existing routes and trails.

> **Finding on the Public Land Health Standard for plant and animal communities** (partial, see also Vegetation; Wildlife, Terrestrial; and Invasive, Non-native Species): Those areas currently meeting this standard are expected to continue meeting, and are likely to improve, under the Proposed Action. Those areas not currently meeting this standard may improve under the Proposed Action Alternative.

Cumulative Effects

A variety of land uses occur within the planning area including recreation, irrigation and farming, ranching, residential development, hunting, and more. These activities will likely increase and continue into the future. To varying degrees, these activities may have a cumulative impact on aquatic species. When viewed in conjunction with other past, ongoing, and future land

uses, the proposed action is not anticipated to result in cumulative effects at a level that would appreciably impact these species. Overall, the proposed action should benefit these species and aquatic habitats by limiting travel to existing routes, prohibiting cross-country travel, and minimizing the creation of new routes.

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

Affected Environment

There are 193 miles of perennial and intermittent streams on public lands in the planning area. The majority of these streams are perennial (116 miles), while the remainder are intermittent in flow but still have enough water to support major amounts of riparian vegetation. The 193 miles is estimated to support 3,474 acres of riparian habitat.

These drainages contain riparian vegetation which can be subdivided into shrub-dominated, cottonwood and evergreen dominated communities. The cottonwood vegetation class includes Rio Grande cottonwood trees (*Populus deltoides ssp.Wislizenii*) at lower elevations and narrowleaf cottonwood (*Populus angustifolia*) at higher elevations with occasional hybrids between these two occurring in small stands. There are some areas of boxelder (*Acer negundo*) trees as well. Sandbar willow (*Salix exigua*), thinleaf alder (*Alnus tenuifolia*), and water birch (*Betula occidentalis*) are the main shrub species near the water's edge. On higher terraces, skunkbush sumac (*Rhus aromatica*), silver buffaloberry (*Shepherdia argentea*), wood rose (*Rosa woodsii*), seep willow *(Baccharis salicina*), New Mexico privet (*Forestiera neomexicana*) and clematis (*Clematis ligusticifolia*) are the most common species. Common reed grass (*Phragmites australis*) is present in some areas. Riparian vegetation at the highest elevations includes evergreens such as Douglas fir (*Pseudotsuga menzieseii*) and blue spruce (*Picea pungens*), often mixed with alder, dogwood, or higher elevation willow species. Ephemeral drainages are often dominated by tamarisk (*Tamarix chinensis*), greasewood (*Sarcobatus vermiculatus*) and seep willow.

Weeds are common in some of the riparian areas. Russian knapweed (*Acroptilon repens*), tamarisk, Russian olive (*Eleagnus angustifolia*), hoary cress (*Cardaria draba*) and Canada thistle (*Cirsium arvensis*) have invaded riparian communities in many areas resulting in degraded riparian habitat and community quality.

A major amount of the riparian area is associated with narrow, V-shaped valleys located at the bottom of steep canyons. This is particularly true of the higher elevation streams, where topography has isolated and protected them from route development and proliferation, and other direct human associated disturbances. Lower elevation streams tend to be in wider, flatter canyon bottoms which have traditionally served as access ways up into high plateaus or mountain areas.

Nearly all of the streams in the planning area have been assessed for Land Health within the past 13 years. One hundred ten miles of streams fully met the Standard 2 for healthy streams, 62 miles met Standard 2 with problems, and 19 miles were found to not meet Standard 2. Generally, stream health problems included one or more of the following: poor channel sinuosity and width

to depth ratios, exotic plant and noxious weed prevalence, inadequate vegetation and roots to protect streambanks, poor riparian plant vigor, riparian areas not reaching their potential extent, lack of riparian species where they would be expected, poor upland watershed condition affecting the riparian area, lack of diversity in vegetation age classes, and an imbalance between water and sediment. At the time of the Land Health evaluation, the problems were attributed to the following causes in order of prevalence: watershed condition, upland erosion, noxious or invasive weeds, water diversions, mining, regulated flow, road encroachment, grazing, roads, drought, augmented flows, upstream channel conditions, nearby private disturbed lands, irrigation tailwater, intermittent flow, stream channelization, flow regulations, channel erosion, current grazing, upstream water quality, geology, past vegetation treatments, and wildlife use.

There are very few lentic (non-riparian) wetlands which have been inventoried on BLM lands in the project area. Most are associated with stock ponds. These are low quality wetlands with little obligate wetland vegetation, and problems related to dewatering, irregular flow from irrigation water, heavy livestock use, and occasionally off road travel. It is likely that there are additional small naturally occurring wetlands associated with seeps and springs, however these have not been inventoried for wetland condition, and how the existing routes interact with them is not known.

Environmental Consequences

Impacts Common to All Alternatives

Routes generally degrade riparian and wetland areas. This has been well documented by numerous researchers in many locations (Forman 2008, Jones et al 2008, Trombulak and Frissell 2008). In addition to direct destruction of and impacts to riparian vegetation for the width of the route (estimated here as 6 meters in width including shoulder area), off-route impacts often extend up to many feet on either side of a route in an effect researchers have termed the "road influence zone" (RIZ). Riparian vegetation in this zone is at a greater risk of being degraded. Degradation includes weeds invading undisturbed riparian vegetation, overgrazing because of increased access for livestock and other grazers, sediment deposits onto the riparian vegetation, and increased erosion within the riparian zone. The amount of degradation varies depending on different route characteristics. These characteristics include the route's orientation within the riparian zone, its proximity to the stream, the substrate the route passes over, route width and the type and the level of use the route receives. In general, these impacts are additive, so that an area with more routes in and near riparian vegetation and wetlands would have more degraded riparian systems than similar areas with fewer routes.

Impacts from No Action Alternative

This alternative continues current travel management, which has contributed to the existing riparian conditions in the planning area. If existing trends in local population growth, recreational use and increasing numbers of public land visitors continue, it is likely that there would be additional riparian acreage affected, and increased severity of impacts to the existing affected area. Impacts could be expected to occur to wetlands and riparian zones in vehicle-accessible areas where there are routes, and where there are no routes, as a result of the unrestricted cross country travel. These impacts would be incurred by new user-created routes that would likely be developed after one or two initial vehicle passes. Even where vehicle passage does not lead to new user created routes, vegetation damage would occur through

physical disturbance, crushing, and possible deposits of weed seed into formerly undisturbed areas. In addition, the existing routes would be available for use with any type of vehicle, and many would likely increase in width and level of direct damage to riparian areas over time. Impacts would be more weed infestations, loss of additional riparian vegetation, increased sedimentation onto riparian vegetation, and in some places increased erosion within the riparian zone. In some cases, channel alteration would be expected, which could further degrade riparian vegetation and function. Anticipated damage to the riparian area would be localized and minor to moderate in a few places, and long term.

> **Finding on the Public Land Health Standard for riparian systems**: Alternative 1 would result in no changes to modest declines in land health ratings for Standard 2, particularly on lower elevation streams. This is not consistent with the intent of Standard 2.

Impacts from Proposed Action Alternative

This alternative represents a change from the No Action Alternative in that it stops the increase of routes in riparian areas, prevents routes from widening due to use of larger classes of vehicles, and it prohibits use on some routes seasonally. In addition, it prohibits all cross country travel within riparian areas. As a result, it would freeze most impacts at their current levels, and might reduce some impacts in some areas where routes are closed for a portion of the year. The proposed action would result in a cessation of direct damage to riparian vegetation through crushing and removal associated with off road driving and new route creation. In comparison with the No Action Alternative, it would also decrease the opportunities for weed invasion because of lower levels of disturbed soil and riparian vegetation. Riparian areas affected by routes which would be seasonally closed would be "rested" and the riparian species might incrementally recover from some of the vegetation damage associated with travel on those routes. Overall, anticipated improvements to the riparian area would be very minor, localized, and short term.

> **Finding on the Public Land Health Standard for riparian systems**: The Proposed Action Alternative would largely freeze route impacts to riparian areas, and would therefore have little influence on the existing status of streams relative to Standard 2. While some of the current stream problems are related to poor watershed condition, upland erosion, and roads, the Proposed Action Alternative represents an improvement over the No Action Alternative in that it stops a worsening trend for these parameters. As a result it is a first step toward correcting travel-related stream health problems and is consistent with the intent of Standard 2 of managing for streams in proper functioning condition.

Cumulative Effects

Population growth and residential development of surrounding private lands, increasing infrastructure development and right of way approvals on BLM, would continue to occur throughout the greater region if past trends continue. This will result in increased amounts of recreational and other types of usage and disturbance on public lands, including riparian areas and wetlands. In addition, as large scale and regional events like climate change and weed invasions occur, the riparian and wetland areas would be expected to degrade. The cumulative effects of limiting travel to existing routes to mitigate growing recreational and other demands will help alleviate impacts from the pressure of existing and new users. Measures such as maps,

informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and may lead many to adopt better travel practices which would reduce riparian and wetland impacts. Increases in the miles of routes from additional permitted activities would be analyzed in separate Environmental Assessments; however they would be expected to incrementally degrade riparian areas where they pass through or near to them. Seasonal closures will help mitigate weed spread and improve riparian connectivity, which will be important for riparian/wetland areas to be resilient to climate change. Overall cumulative impacts from the proposed action are expected to be neutral to riparian/wetland areas in the planning area.

FLOODPLAINS

Affected Environment

Floodplains along the planning area's watercourses are managed in accordance with Executive Order 11988 – "Floodplain Management". Floodplains along the higher order rivers such as the San Miguel, Dolores, Uncompahgre, North Fork of the Gunnison and Lower Gunnison Rivers are FEMA mapped, at least in some reaches. The remaining lower order streams have no delineated floodplains, but are commonly considered to include the extent of the riparian zone bordering the channel, in reaches that are not incised. The floodplain width on low order stream systems, common throughout the planning area, is partially determined by the degree of valley confinement, and they typically extend less than 50 feet from the active channel banks. The primary benefit of floodplains is to dissipate floodwater energy and attenuate the magnitude of high flows. Other benefits include sustaining healthy riparian plant communities, and recharging alluvial ground water systems.

Environmental Consequences

Impacts from No Action Alternative: Under the No Action Alternative, travel would remain open, both on and off travel routes. Consequently, additional user created routes would become established, some of which would occur in the floodplain influence zone. Travel routes in these locations can affect the functionality of floodplains and stream channels by physically disturbing vegetation and the soil surface. Travel routes in floodplains can also encroach on active stream channels, restricting the natural processes of channels dynamics and migration. Since floodplains dissipate stream flow energy during high flows, floodplain function can be compromised when travel routes encroach or isolate floodplains. Disturbance to vegetation on floodplains could also occur from spills of petroleum related products where motorized travel occurs. Thus, the potential impacts to floodplains would be expected to increase over time as more open travel use and user created routes occur.

Impacts from Proposed Action Alternative: Under the Proposed Action, travel would be restricted to existing routes, and all off route travel would be prohibited except for horseback or foot travel. These actions would result in less physical disturbance to stream channels and adjacent floodplains. Thus, floodplain function, stream channel stability, and water quality would be expected to improve under this alternative.

Cumulative Effects

The projected population growth in the region will result in increased amounts of recreational and other types of usage and disturbance on public lands, including both direct and indirect impacts to floodplains. In addition, continued climate change could result in invasive phreatophytic weed species, such as salt cedar that can affect the form and function of floodplains. The cumulative effects of limiting travel to existing routes to mitigate growing recreational and other demands will help alleviate direct impacts to floodplains from the pressure of existing and new users. Measures such as maps, informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and would lead to less disturbing travel practices which would reduce impacts to floodplains. Overall cumulative impacts from the proposed action are expected to be a benefit to floodplains.

WATER QUALITY/ HYDROLOGY (includes information related to Standard 5)

Affected Environment:

The planning area covers portions of seven, 4th level hydrologic units (Table 4). Most of the subject public lands occur at the lower to mid elevations in these hydrologic units, where the annual precipitation varies from less than 8 inches on lands around Delta, Colorado to more than 25 inches on some of the higher elevation lands in the headwaters of the Uncompahgre, and San Miguel Basins. Table 5 shows the public land distribution across the planning area by 4th level hydrologic unit and amount of annual precipitation. These data show that 74% of the area receives 15 inches of annual precipitation or less, and less than 1% of the area receives more than 25 inches annually.

The larger drainages that headwater at higher elevations experience high flows from the spring season snowmelt which can last for several weeks. Baseflow in these drainages occurs from late summer through February or March. In all of the areas drainages, high magnitude, short duration flood flows occur in the summer months from localized, high intensity, short duration precipitation events associated with southwest monsoonal air flow. The frequency and magnitude of these events is highly variable from year to year. Localized flooding from these events can be significant in ephemeral channels, as flood waters commonly contain large amounts of accumulated vegetation debris and sediment. Additionally, watershed characteristics such as size, shape, slope, orientation, watershed cover condition, and soils can affect the magnitude of flood peaks produced from localized summer storms.

Table 4 **4th Level Hydrologic Units in the Travel Plan Area**

Watershed	4th Level Hydrologic Unit[1]	BLM Acres	Percent of Planning Area
Lower Dolores Basin	14030004	53,783	11.68
Lower Gunnison Basin	14020005	94,958	20.63
North Fork Gunnison Basin	14020004	724	0.16
San Miguel Basin	14030003	167,632	36.41
Uncompahgre Basin	14020006	53,739	11.67

Watershed	4th Level Hydrologic Unit[1]	BLM Acres	Percent of Planning Area
Upper Dolores Basin	14030002	82,500	17.92
Upper Gunnison Basin	14020002	5,872	1.28

1 – HUC – Hydrologic Unit Code developed by the US Water Resources Council to delineate and catalog the drainage basins of the United States.

Table 5 **Table W-2 Annual Precipitation[1] in Planning Area (acres) by 4th Level Hydrologic Unit**

Watershed	Annual Precipitation (inches)				
	< 10	10 - 15	>15 - 20	>20 - 25	> 25
Lower Dolores Basin		41,253	8,749	3,507	
Lower Gunnison Basin	912	58,591	31,685	3,770	274
North Fork Gunnison Basin		724			
San Miguel Basin		144,353	21,602	1,593	-
Uncompahgre Basin		16,732	34,358	2,597	83
Lower Gunnison Basin		73,764	8,736		53
Upper Gunnison Basin		1,545	1,836	2,226	
Total Acres	**912**	**336,963**	**106,966**	**13,694**	**410**

1. PRISM Group at Oregon State University. June, 2006. United States Average Monthly or Annual Precipitation, 1971 – 2000. Corvallis, Oregon, USA

Water quality standards for the areas waters are set by the Colorado Water Quality Control Commission (CWQCC) and are applicable to all surface water drainages, including intermittent and ephemeral streams. The water quality classifications and standards applicable to the areas surface waters and downstream receiving streams are contained in the CWQCC's Regulation No. 35, Classifications and Numeric Standards for Gunnison and Lower Dolores River Basins (Colorado Water Quality Control Commission, July 2007).

In addition to the state's water quality classifications and numeric standards, all surface waters of the state are subject to the Basic Standards (Colorado Water Quality Control Commission, December, 2007), which in part read: state surface waters shall be free from substances attributable to human-caused point or nonpoint source discharge in amounts, concentrations or combinations that:

1. Can settle to form bottom deposits detrimental to the beneficial uses (e.g. silt and mud).
2. Are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.
3. Produce a predominance of aquatic life.

The intention of this narrative standard is to address and prohibit water quality degradation from excessive sediment, nutrients, or toxic compounds.

The sediment yield of the planning area's streams is largely associated with episodic, high flow events, resulting from intense precipitation events during the summer season. Sediment supplied to the area's streams during these events is from a variety of sources, including both in and near

channel, and upland sources. Unsurfaced roads and trails on soils most prone to erosion and accelerated levels of sediment production. Additionally, the existing network of travel routes in the area, as well as off route travel has the potential to intercept and concentrate storm runoff, which increases the sediment yield. High flow from snowmelt on the larger streams does transport sediment, but is mostly limited by the sediment supply in or near the channel.

Selenium loading of waters from sources on the planning area is primarily diffuse, non-point sources associated with natural runoff and erosion process. An assessment made by the local NRCS office determined that areas dominated by Mancos shale in its natural state contains up to 34 times the concentration of selenium compared to similar irrigated lands. On public lands, accelerated yields of selenium can occur from activities that result in soil surface disturbance and increased runoff and erosion.

Accelerated levels of salinity in surface waters are also an issue for the UFO. Table 6 shows salt loading for the higher order rivers with the planning area. The processes that cause salinity loading of waters are similar to those discussed above for selenium. And as with selenium, areas dominated by Mancos shale have the highest potential to yield dissolvable salts to receiving surface waters (Figure 2). Colorado has no state water quality standards for salinity but complies with Colorado River Basin-wide standards, promoted by the Colorado River Basin Salinity Control Forum. The BLM is also mandated by the Colorado River Basin Salinity Control Act (Colorado River Water Quality Office) to manage lands to minimize salinity yields to surface waters. Because of the semi-arid climate over much of the UFO, most of the salinity yielded from public lands is episodic, and only occurs during rainfall events that produce runoff. Thus, maintaining adequate watershed cover and healthy soil surface conditions are important for minimizing runoff, sediment and salinity from areas dominated by Mancos shale.

Table 6 **Salt Loading of High Order Rivers within the Planning Area**

River Station	Salt Load (tons/day)[1]		
	High Flow Season	Irrigation Season	Low Flow Season
Gunnison River above Uncompahgre River	3,310	1,630	2,370
Gunnison River near Mouth	5,150	2,540	2,090
Uncompahgre River at Ouray, CO	95	70	30
Uncompahgre River near Mouth	935	1730	760
San Miguel River at Uravan, CO	800	220	205
Dolores River at Bedrock, CO	930	175	70

1 -Data Source- USDI, United States Geological Survey, Salinization of the Upper Colorado River – Fingerprinting Geologic Salt Sources - Scientific Investigations Report 2009-5072

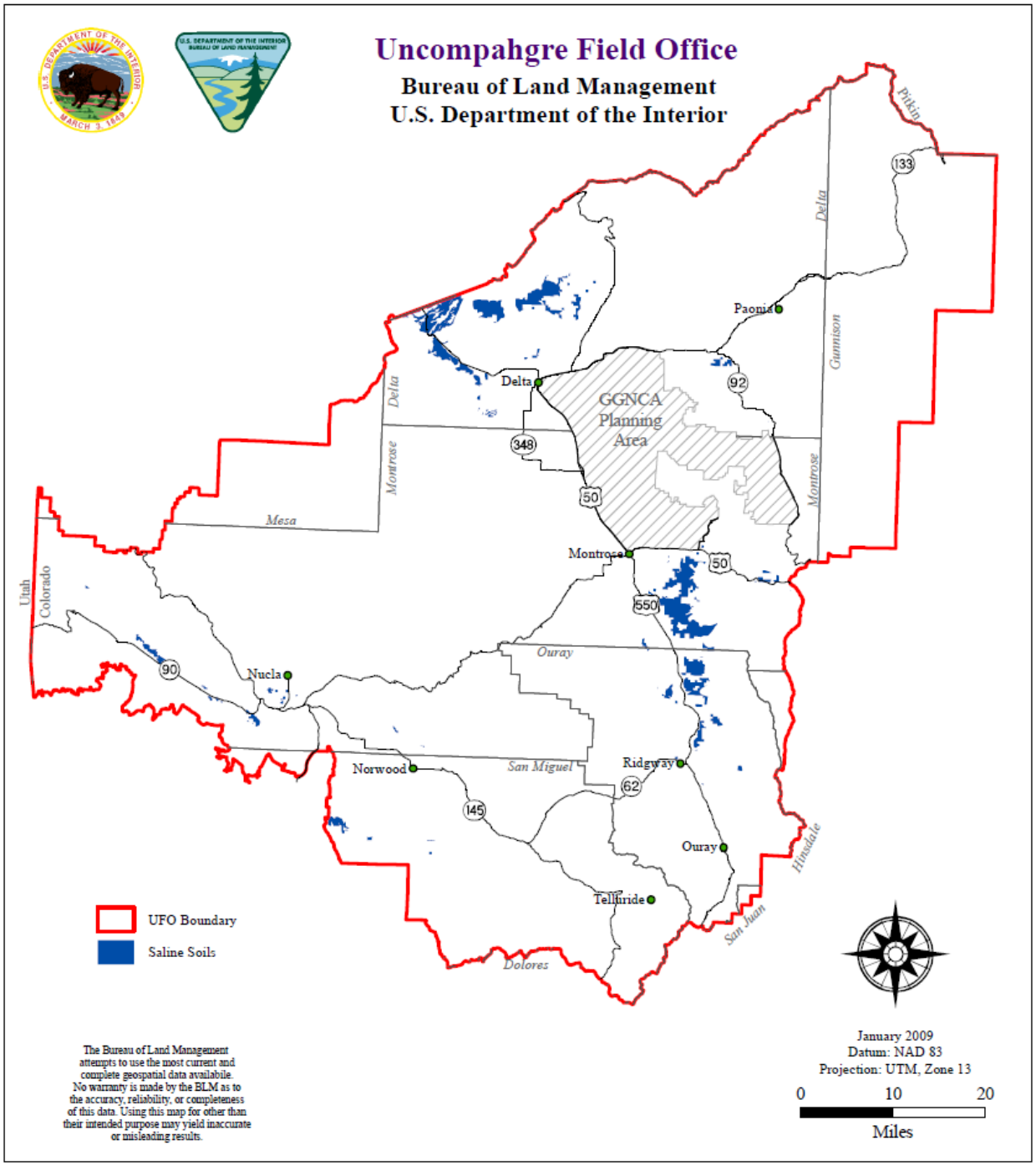


Figure 2 Public lands in the Planning area with Soils Containing High Levels of Salinity.

The stream segments in Table 7 are on the 2008 Colorado 303(d) list (Colorado Water Quality Control Commission, April, 2008, 303(d)) of impaired waters and either include reaches of, or receive drainage from the planning area. The most widespread impairment to the areas water quality is excessive selenium. Elevated levels of selenium have been shown to cause reproductive failure and deformities in fish and aquatic birds. The Dolores River exceeds the standard for total recoverable iron, the source of which is

believed to be, in part, the high sediment load delivered to this river system. High concentrations of total recoverable iron are believed to be impacting to aquatic life.

Table 7 **Colorado 303(d) List of Water Quality Impaired Waters in the Planning Area**

Water Source	Impairment	Priority
Gunnison River, Uncompaghre River to Colorado River	Selenium	High
Tributaries to Gunnison River, Crystal Reservoir to Colorado River	Selenium	High
North Fork of the Gunnison from Black Bridge above Paonia to the confluence within the Gunnison	Selenium	High
Big Creek, Short Draw	Selenium	High
Cottonwood Creek, Big Gulch	Selenium	High
Uncompahgre River, Red Mountain Creek to Montrose	Cadmium, Copper, and Iron	High
Uncompaghre River, La Salle Road to Confluence Park	Selenium	High
Uncompaghre River, Confluence Park to Gunnison River	Selenium	High
Tributaries to Uncompahgre River, South Canal to Gunnison River	Selenium	High
Dolores River from Little Gypsum Valley bridge to Colorado/Utah border	Iron	High

The stream segments in Table 8 are on the 2008 Colorado Monitoring and Evaluation List (Colorado Water Quality Control Commission, April, 2008) of waters that are suspected of being water quality impaired, and either include reaches on, or receive drainage from public lands within the travel plan area. As sufficient water quality data are collected and analyzed for these stream reaches, they will ultimately be either removed from the Monitoring and Evaluation List or transferred to the 303(d) of impaired waters. While on the Monitoring and Evaluation List, the BLM recognizes the potential water quality impairment and manages lands draining to these streams to minimize further water quality degradation.

Table 8 **Colorado Monitoring and Evaluation List of Waters with Suspected Quality Impairments, in the Planning Area**

Water Source	Suspected Impairment
Gunnison River from the confluence with the Uncompaghre River to the Colorado River	Sediment
Tongue Creek and Ward Creek	Selenium
Cottonwood Creek (tributary to the North Fork of the Gunnison)	Iron
Ridgway Reservoir	Dissolved Oxygen and Temperature
Uncompaghre River Highway 90 to confluence with Gunnison River	Sediment

Water Source	Suspected Impairment
Billy Creek, Onion Creek, and Alkali Creek (tributary to the Uncompahgre River)	Selenium

Environmental Consequences

Impact Analysis Common to all Alternatives

Few if any hydrologic (water quality, quantity, and timing of flow) benefits occur from unsurfaced travel routes. Commonly, travel routes alter natural drainage patterns, collect and concentrate runoff, and accelerate both runoff and sediment yield. However, the route location on the landscape, soil erodability and degree of soil compaction on the route surface, and route design and maintenance all factor into the magnitude that hydrologic function and water quality is influenced. Routes located in lower topographic positions, in close proximity to or in drainages, have the potential to have the greatest impact to drainage channel stability and water quality. The following are some of the more common impacts that occur when travel routes are located within or close to stream channels.

- At route/stream crossings, channel geometry is altered, affecting floodplain function and channel stability, resulting in accelerated sediment yield.

- Routes parallel to stream channels often disturb riparian vegetation, which is needed for channel stability and proper floodplain function. Travel routes within close proximity to streams also have a shorter flow path to deliver concentrated runoff and sediment to the receiving drainage channel.

- Routes in or close to channels can more easily convey chemical contaminants (e.g., motor and hydraulic oils, grease, fuel, antifreeze, and heavy metals from tire wear) to the water course.

- Routes close to channels also have the potential to intercept surface runoff from the land area upslope, concentrating the runoff and routing it to locations less capable of conveying the flow without eroding.

- Routes in channels diminish bank stabilizing vegetation, shear channel banks, and pulverize channel bed substrate decreasing the substrate particle size and increasing the transportability of these materials, which increases downstream sediment yield.

Travel routes located on the upper portion of watersheds have less direct influence on drainage channels, but still have the potential to capture, redirect, and concentrate runoff from upslope, often onto the road or trail surface. Surface runoff captured and concentrated on travel route surfaces can augment high flow peaks in receiving streams. Concentrated flow on travel routes located on soils that have a high capacity to erode, results in accelerated soil erosion and a higher sediment yield to local surface water ways.

Impacts from No Action Alternative
The No Action Alternative would essentially leave the planning area in the current status of being open to all forms of vehicular travel, yearlong or seasonally. Over time the area would be expected to experience a progressive increase in the number of user created travel routes and diffuse, off route travel. User created travel routes are often poorly located and designed and receive little or no drainage maintenance. Indiscriminant off route use disturbs soil surface vegetation cover and biological soil crust. The resultant water quality and quantity impacts would include accelerated sediment yield, the potential addition of petroleum based contaminants from motorized forms of travel, and augmented high flows from concentrated runoff. On soils derived from Mancos shale (Figure 2), salinity and selenium yield increases would be expected where surface soil disturbance occurs.

Accelerated sediment production could have both on and off site impacts. On site sediment impacts include excess deposition in stream channels and loss of aquatic life habitat in perennial streams, and more frequent maintenance of livestock water impoundments.

Off site sediment impacts include potential damage to farm or irrigation facilities that receive drainage from the plan area (see Farmlands, Prime and Unique), and accelerated sediment, salinity, selenium, and iron delivery to the streams on the 303 (d) and monitoring and evaluation lists.

> **Finding on the Public Land Health Standard for Water Quality:** The potential exists for an accelerated and progressive increase in levels of sediment, salinity and selenium from the planning area, which could be transported to waters presently on the Colorado Monitoring and Evaluation List and 303(d) list. Leaving the area open to all forms of travel would potentially result in more riparian areas not meeting the rating of "Proper Functioning Condition", and unstable stream channels. Consequently, the "no action" alternative would not, in the long term, meet the Water Quality, Public Land Health Standard.

Impacts from Proposed Action Alternative
The greatest change from present, in the proposed action that would benefit water resources, is restricting mechanized and motorized forms of travel to existing routes and prohibiting all cross country travel except by foot and horseback. These actions would prevent additional soil surface disturbance and the associated, accelerated levels of sediment and on soils derived from Mancos shale, salinity, and selenium. Additional impacts to stream channel stability from travel route crossings, and the nearby channel zone (within 100' of stream channels) would be avoided. This would benefit water quality by minimizing sediment availability and the potential addition of petroleum based contaminants to stream systems.

Other actions in this proposal that would benefit water resources are implementation of a public education program, providing maps of existing routes, seasonal restrictions, and having more law enforcement and other BLM staff patrolling the area to ensure plan compliance. These actions would help ensure that public use of travel routes is in compliance with the travel plan, which is designed to manage soil and water resources to meet the Public Land Health Standards. Additionally, allowing route use decisions to be modified based on changing resource, or climatic conditions (adaptive management) would also prevent impacts to water quality by avoiding disturbance to soil resources, stream channels, and riparian areas. Concentrated runoff

and augmented flood peaks, often a result of a high density of travel routes would also be avoided.

Finding on the Public Land Health Standard for Water Quality: With implementation of the proposed action, water quality would improve over time when compared to no action. Several actions with this alternative (discussed in Water Quality Impacts section above) would benefit water quality by managing the area to minimize soil and stream channel disturbance, thereby reducing accelerated runoff, sediment, salinity, and selenium. Thus, implementation of this alternative would meet the intent of Public Land Health Standard #5.

Cumulative Effects

The expected regional population growth over the coming decades will result in increased amounts of recreational and other types of surface disturbing activities on public lands, which could increase sediment yields to receiving surface waters. Projected changes to the climate could also affect watershed, vegetation cover density in coming years which could also increase sediment yields from public lands. Measures such as maps, informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and may lead many to adopt better travel practices which could reduce soil surface disturbance and minimize impacts to water quality. Overall cumulative impacts from the proposed action are expected to be an improvement to water quality compared to the no action alternative.

WASTES, HAZARDOUS OR SOLID

Affected Environment

Hazardous and solid wastes are not a part of the natural environment but are introduced into the environment either intentionally, through illegal dumping or in some instances as a by-product of commercial/industrial activities (i.e. mining), or accidentally, in the form of spills. Solid and hazardous waste issues are addressed as they are discovered. Response to the discovery of solid wastes (hazardous wastes are a category of solid wastes) is dictated by various State and Federal laws. Foremost among these is the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. 9601 et seq.) and Resource Conservation and Recovery Act (RCRA) (42 U.S.C. 6901 et seq.). CERCLA outlines a clear procedure for assessing and removing hazardous materials and repairing damage from these materials. RCRA defines which materials are hazardous wastes and regulates the transportation and disposal of those wastes. CERCLA also has a mechanism to identify hazardous waste sites and prioritize them for cleanup with the worst being placed on the National Priorities List (NPL.) There are no NPL sites in the area subject to this plan

Environmental Consequences

Impacts Common to All Alternatives

Hazardous materials and hazardous wastes are, almost exclusively, a by-product of human activities and the distribution of these hazardous materials follows the transportation network, which includes roads, rivers, and railroads. In this case, the more roads there are, the greater the

possible distribution there will be of illegal dumping and accidental spills. Illegal dumping generally is along or immediately off of improved roads. There is no record of illegal dumping from OHV's in the subject area. Accidental spills would be expected to involve commercial vehicles along improved roads. An accidental spill from an OHV would most likely be fuel, and limiting the OHV access would limit the areas subject to this occurrence. However, incidents of this nature are likely rare and most likely not of great consequence. Limiting the miles of roads and trails overall, will not likely reduce the instance of hazardous materials spilled or dumped on the public lands. It would only limit the instances to a smaller area. The argument might be made that since the purpose of limiting vehicle travel on public lands is to protect critical habitats and wildlife, either seasonally or year-round, limiting the likelihood of there being hazardous wastes either dumped or accidentally spilled in these areas at the critical times would have a positive effect. Still, overall, the impacts of regulating OHV use in the subject area will not likely affect the frequency or harmful impacts from dumping or spilling of hazardous materials as this activity is most likely to occur along, or immediately off of improved roads.

Impacts from No Action Alternative
Little or no impact other than described above.

Impacts from Proposed Action Alternative
Little or no impact other than described above.

Cumulative Effects

As a trail receives more use, it may eventually become a road and might provide an opportunity to be used for illegal dumping and thus, might increase the area available for this activity. However, as noted above, limiting the proliferation of trails and roads will not likely limit the occurrence of illegal dumping overall.

ENVIRONMENTAL JUSTICE

Affected Environment

While analyzing a federal action, BLM identifies and addresses, as appropriate, disproportionately high and adverse human health and environmental effects of program, policies, or activities on minority or low income populations. Environmental Justice involves the fair treatment, which means that no group of people, including a racial, ethnic, or socio-economic group, should bear a disproportionate share of the negative environmental consequences resulting from a federal action.

Census data from 2008 (estimated) shows that non-Hispanic whites comprised 82.3% of the population in Montrose, San Miguel, Ouray, and Delta counties, which is higher than the Colorado average of 71%. Native Americans represented 1.1% of the population in the same counties, similar to the Colorado average of 1.2%. The Hispanic population represented 14.6% of the counties, below the Colorado average of 20.2% (U.S. Census Bureau; Quickfacts.census.gov)

In 2007 (estimated), 11.8% of the populations in Montrose, San Miguel, Ouray, and Delta counties earned incomes below the federal poverty level compared to a Colorado average of 11.5% (U.S. Census Bureau; Quickfacts.census.gov)

Environmental Consequences

Impacts from No Action Alternative

This alternative would not change existing uses within the planning area. OHV designations would remain the same therefore recreational uses would not be altered. Although demands and impacts would continue to increase, it is not anticipated this alternative would result in a disproportionate impact on minority or low income populations.

Impacts from Proposed Action Alternative

The proposed action was developed based on the stated purpose and needs. The entire area (on any route and cross-country) would remain open to horse riding and hiking. The proposed action would not have a disproportionate impact on minority or low income populations because opportunities for recreation have still been maintained for both non-motorized and motorized travel.

Cumulative Effects

Cumulative impacts that would be measurable would not likely occur as a result of implementation of either alternative.

Other Elements

The following elements are considered. Those that could be impacted are brought forward for analysis.

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

TRANSPORATION AND ACCESS

Affected Environment

In preparing for this RMP Amendment, the BLM conducted an inventory of the existing routes. Whenever possible, the inventory utilized global positioning satellite (GPS) and geographic information system (GIS) technologies to accurately locate and accumulate information about the routes. In areas that could not be physically reached for utilizing GPS, other means were used to capture the routes, including aerial photo interpretation and the transference of existing transportation data from other reliable sources. During the inventory process all existing routes in the planning area, including those not under BLM jurisdiction (Non-BLM routes) were recorded. Non-BLM routes are not affected by BLM management other than cooperating with the jurisdictions for maintenance. Existing BLM RMP decisions do not affect these roads in any manner. These routes would remain available to the public under all of the alternatives and usage would be according to the managing jurisdiction statutes. Maps located in Appendix A shows the existing routes in the planning area.

Within the planning area, the existing BLM road network consists primarily of low standard dirt routes that are linked to county roads. Currently approximately 2,793 miles of existing routes are available for non-motorized use and motorized use with any type of vehicle.

Montrose, Delta, Ouray, Mesa, Gunnison and San Miguel Counties have several county roads (Non-BLM roads) throughout the Uncompahgre Field Office planning area which are open for public use.

Most of the existing routes were developed to provide access for specific activities, such as livestock grazing management, harvesting forest products, constructing power transmission and telephone lines, constructing flood control "check dams", constructing irrigation ditches and pipelines, performing "chaining" operations, hunting access, recreation activity travel, and suppressing wildfires. Many of the BLM routes were developed over time to serve needs for temporary or intermittent access and were not designed to serve sustained high levels of use.

Under the existing RMPs covering the Uncompahgre Field Office, the planning area contains four categories of OHV designations: Open, Limited to Designated Routes from December 1 to April 30, Limited to Designated Routes from May 1 to June 15, and Closed. These designations are used by BLM to establish where and to what extent motorized uses may occur on public lands. See the Introduction and Background section for definitions of these designations. However, since the RMPs have been in effect, no routes in the planning area have been designated on the ground as a result of travel management planning which is required to implement these seasonal route designations and restriction decisions. Maps in Appendix A show the existing and proposed off-highway vehicle designations and location of existing routes in the planning area. Table 1 shows the acreages of public land and miles of existing routes within existing OHV designations in the planning area.

In today's environment, BLM routes are needed to serve a variety of uses for many purposes in addition to recreation pursuits. Over the years, some routes have been improved to accommodate changes in the types of vehicles that become available and to respond to the growing use of the public lands for multiple use management activities. Routes are still needed for these purposes, such as access for power line maintenance and building and maintaining fences, but they are also used for a wide variety of recreational uses as well.

Environmental Consequences

Impacts Common to All Alternatives

Existing routes would continue to impact resources and values discussed in the various components of this Environmental Assessment to varying degrees. New BLM authorized routes would continue to be planned, designed, and located on appropriate sites with appropriate environmental documentation to minimize impacts to soils and watersheds. New access easements would be acquired as needed through cooperation with other landowners and managers.

Impacts from the No Action Alternative

Existing routes would continue to be available for the public for all non-motorized and motorized uses. New user created routes would continue to be established by a variety of users and for a variety of purposes through cross country travel and use throughout the planning area.

Existing OHV decisions that would restrict motorized or mechanized modes of travel in the current RMPs would continue to be under-implemented until further travel management planning was completed, resulting in continued, yearlong, on-route and cross-country travel throughout the planning area. A high potential exists for many new user-created routes to be developed. The current policies allowing the use of bicycles and other mechanized vehicles off existing routes and driving motorized vehicles off routes would be unchanged.

Environmental impacts from the increased use of poorly located and designed routes would steadily grow over time. New user created routes and conflicts resulting from the incompatible uses of routes would also steadily increase.

Impacts to the management of the transportation system would also steadily grow over time. An increasing need for route maintenance would result from this alternative. However, as recreation uses on Public Lands increase with frequency, the number of miles of routes that would require regular maintenance would also gradually increase. Increased reconstruction and maintenance efforts would be needed to mitigate the deterioration of new and existing routes that were not designed for sustained or high levels of use, but experience increased amounts of traffic. The eventual closure and rehabilitation of some routes could also be required where severe resource impacts or conflicts with other uses occur.

Impacts from the Proposed Action Alternative
Changing existing OHV designations and prohibiting all cross country travel using motorized and non-motorized vehicles would generally benefit the overall management of the transportation system for planning, construction, and maintenance needs. Closing certain areas seasonally to motorized and mechanized modes of travel would also benefit the transportation system in that traffic would be restricted during potentially wet periods.

Any new routes proposed would be planned, designed, and located to minimize impacts to resources in the affected areas and documented with the appropriate environmental documentation.

In the short term, this alternative could require additional maintenance efforts, particularly for replacing signs that are likely to be removed or vandalized during the first few years after implementation. In the long term, however, the removal and vandalism of signs should decrease as users become familiar with the changes in OHV designations and route restrictions. Also partnering with specialized user groups could result in cooperative route maintenance and construction.

None of the inventoried routes in the planning area would be closed yearlong in this alternative unless necessary to mitigate hazardous route conditions or excessive resource damage.

Cumulative Effects

In addition to growth in recreational travel, reasonably foreseeable actions that may affect transportation in the future on private and public lands include continued residential growth, mechanical and prescribed fire fuels reduction/habitat projects, county road maintenance and upgrades, utility corridor maintenance and upgrades, and new rights-of-way. Other future

activities on public lands in the travel planning area that could also potentially impact transportation and require mitigation include Forest Service planning and projects, local land use planning, soil research, BLM Uncompahgre Field Office Resource Management Plan revision and new RMP for Dominquez Escalante National Conservation Area, continued population growth, vegetation treatments, county road upgrades, special recreation permits and activities, and utility rights of way and corridors. The cumulative impacts to transportation from all action alternatives will be dispersed, long-term and require on-going monitoring and mitigation by BLM and partners. Future travel management planning would be conducted, which would, over time, decrease cumulative effects on public lands.

REALTY AUTHORIZATIONS

Affected Environment

The public lands throughout the planning area are generally made available to all types of land use authorizations. Typical authorizations in the planning area include: roads, gas and water pipelines, other water facilities such as irrigation ditches and canals, electric powerlines and substations, telephone lines, communication sites, energy related facilities such as compressors, film permits and reservations to other federal agencies. In recent years an average of 25 rights-of-way have been processed per year.

Environmental Consequences

Impacts Common to All Alternatives
All rights-of-way, existing or new, would be subject to the terms and conditions and stipulations specific to the authorization.

Impacts from No Action Alternative
There would be no impacts to realty authorizations under the No Action Alternative. New rights-of-way would be analyzed on a case-by-case basis and would be subject to additional NEPA analysis.

Impacts from Proposed Action Alternative
Under the Proposed Action Alternative there would be no impact to existing realty authorizations since they are considered prior existing rights, and they would continue to be subject to the stipulations of the existing authorization. New rights-of-way would be analyzed on a case-by-case basis and would be subject to additional NEPA analysis. They could be subject to the seasonal road closures of the Proposed Action.

Cumulative Effects

The proposed action would not add incrementally to the impacts of existing or future rights-of-way within the planning area since the proposed action allows holders to operate within the terms and conditions and stipulations of their authorization.

FOREST MANAGEMNT

Affected Environment

The planning area includes all of the forest types found throughout the Uncompahgre Field Office (UFO). (See the Vegetation section for additional information). The dominant forest cover types in the planning area are pinyon woodlands, juniper woodlands, and mixed pinyon-juniper woodlands.

Ponderosa pine, Douglas fir, aspen and some spruce-fir mix are found in the planning area, but are limited in extent and generally not in commercial quantities. The entire planning area, except for Wilderness, Wilderness Study Areas, and some ACECs are currently available for firewood and post and pole cutting and gathering by individuals. The BLM conducts no commercial sales of forest products in the planning area except where other resource objectives are desired, where stands are in need of restoration due to past management activities, or fire suppression has altered stand characteristics. Non-commercial Christmas tree and transplant harvesting occurs in designated locations within the planning area. Personal use firewood gathering is authorized by permit. Approximately 254 cords of firewood were sold under personal use firewood permits, 354 Christmas tree permits, 7 rail post permits, and 1 bough permit were issued in 2008. Stipulations for minimizing resource impacts are attached to each permit that is issued, including permitted off-route use of motorized vehicles. Forest product permits that are issued to the general public currently include a stipulation that limits parking to within 10 feet of existing open routes. Because of the close proximity of the public lands to the towns and communities, firewood cutting, post and pole cutting, and Christmas tree cutting are important uses of resources on public lands.

Some unauthorized firewood cutting and harvesting does occur in the planning area.

Very little recent forest management activity has been accomplished in the planning area on public lands. Numerous pinyon-juniper chainings were conducted in the past on the ridges and mesa tops within the planning area on approximately 15,900 acres. These chained areas are being re-vegetated naturally with shrubs and scattered pinyon-juniper communities. Most forest management related actions in the planning area have been conducted within these formerly chained areas to develop greater age class diversity and improve forest health and resiliency to disturbance.

There are approximately 319,315 acres of forested cover types within the planning area (see table below). Of the total acreage 93% of forested lands within the planning area are pinyon-juniper communities. Approximately 569 acres of these communities do not currently meet health standards while approximately 2,341 acres of forest cover type are meeting land health standards with problems that range from insects, disease, or presence of invasive species. (Uncompahgre Field Office Land Health Assessments 1999-2008, available in Uncompahgre Field Office).

Forest Cover Type	Acres
Aspen	324
Aspen-Spruce	79
Cottonwood	202
Douglas fir	305
Juniper	13,961
Oakbrush	540
Pinyon-Juniper (Non-Productive)	3,656
Pinyon-Juniper (Productive)	296,325
Ponderosa Pine	1,009
Spruce-Fir	2,394
Spruce-Fir-Aspen	519
Total	319,315

Historic photos and tree stand structure indicate that in some areas in the planning area pinyon-juniper woodlands have increased in density within the last century and have expanded into other plant communities. Recent long-term drought has brought on an Ips beetle epidemic in much of southwestern Colorado. Many other pinyon pathogens have also combined with these to create "pinyon decline" which kills the pinyon trees. Because pinyon are such an important part of the plant communities in the planning unit, pinyon decline has been used as an indicator of health during the Land Health Assessments, and captured by evaluating the vigor or pinyon trees. Pinyon decline was observed at many sites across the unit, and is especially prevalent in the southern part of the unit.

Approximately 1,885 miles of existing routes and trails traverse the forest cover types, and all the routes are available for motorized use. The more accessible routes are used to gather and cut firewood using full-size pickup trucks and small utility trailers. All the available public lands are currently available for motorized, cross-country access for this activity.

Environmental Consequences

Impacts Common to All Alternatives

Existing and future individual firewood permits and permits for gathering other forest products would be issued, with stipulations that address motorized vehicular access. Permits could contain stipulations regarding resource impacts or limiting the activity in wet weather. Public lands could be closed to the gathering of forest products in the event of fire danger or other safety concerns.

Impacts from No Action Alternative

As populations continue to grow in the area, the expected increasing demands for forest product gathering or cutting would result in an increase in the rate of creation of new routes from cross-country travel for this activity and continued loss of vegetation and additional soil disturbance.

Impacts from Proposed Action Alternative
Limiting all motorized travel for forest management activities to designated routes would not greatly affect the implementation of forest management programs.

Public forest product acquisition could become slightly less accessible as product removal, away from existing routes, will need to be with non-motorized or mechanized means. Product removal such as wood cutting would occur at greater concentration levels adjacent to approved routes, on those lands within proximity to towns or sub-divisions within the planning area, while the more rural routes will see very little forest product gathering activities.

Limiting route proliferation from all activities will greatly reduce the loss of vegetation, introduction of noxious weeds, and soil disturbance within the forest types in the planning area. Such reduced disturbances should result in greater opportunity for the forest cover types to meet public land health standards.

Cumulative Effects

The alternatives under consideration create no long-term adverse or beneficial cumulative effects to forest management in the travel planning area when considered with other reasonably foreseeable actions.

HYDROLOGY/WATER RIGHTS

This information and analysis was combined with the "Water Quality" section.

RECREATION

Affected Environment

The goal of recreationists using public lands is to obtain satisfying recreational activities in attractive settings. Resource managers have two goals in providing recreation opportunities. The first is to provide the recreational opportunities; the second is to minimize the impacts of recreational use on the natural resources. Recreation managers try to provide opportunities through management of natural resource settings, and the activities that occur within them. To obtain this goal, settings and probable opportunities have been set along a spectrum called the Recreation Opportunity Spectrum (ROS) (see Glossary). A broad spectrum of recreation opportunities are provided in the UFO, ranging from primitive to urban-interface settings. User-created roads and trails, and increases in off-route motorized and mechanized use, have changed the planning area to a semi-primitive motorized setting and, in some cases, even a roaded-natural setting.

Recreation opportunities in the UFO vary by season, topography, and vegetative cover. The diversity of settings defined by terrain, scenic beauty, and types of access available offers outstanding recreation opportunities to users of these public lands. The diverse types of recreation that occur in the UFO include hunting, fishing, hiking, dispersed and developed

camping, picnicking, horseback riding, mountain bike riding, motorcycle riding, ATVs and 4WD touring and extreme driving, rafting, and cross-country skiing.

Nearly all public land visitors use vehicles to get to their preferred activities and settings. For many people, their vehicle is just the mode of transportation used to access their recreational activity. For others, vehicle use itself is the activity.

More recreationists are using public lands today than 10-15 years ago. The technology of recreational equipment also advanced during this time to create ATVs and mountain bikes that were not used for recreation when previous travel management plans were completed. Changing values, attitudes and motivations of recreationists have resulted in changes in the way they use technology, especially new types of vehicles with which to enjoy public lands.

Environmental Consequences

Impacts Common to All Alternatives

The BLM has defined recreation activities in various categories such as big game hunting, motorized and mechanized use, horseback riding, hiking, fishing, camping, etc. Using these definitions, no recreation activities would be eliminated by either the proposed action or no action alternative. OHV use would still occur on roads and trails under both alternatives. Some of the recreation opportunities within an activity may change. Recreation users would not be eliminated from public lands, since access on roads and trails would remain the same.

Under both alternatives, disabled access will be allowed per the Rehabilitation Act of 1973. At the field office level, each request will be evaluated on a case-by-case basis as specified by the Rehabilitation Act.

Impacts from No Action Alternative

Under the No Action alternative, cross-country, off-route motorized and mechanized recreational opportunities would continue to be available on 460,567 acres in the planning area, resulting in the creation of unauthorized roads and trails through repeated use of the same portions of ground.

As new routes are created by users, there would be a continuing loss of opportunities for solitude for dispersed recreationists, and continued conflicts. Sportsmen, hikers, OHV enthusiasts, horse users, bikers, and hunters would be faced with more conflicts, less satisfying opportunities, and a degraded resource as off-route motorized and mechanized use continues to increase.

Conflicts with adjacent private landowners would continue due to off-route use creating an opportunity for trespass.

Impacts from Proposed Action Alternative

Restricting off-route motorized and mechanized travel to existing routes would help reduce the creation of future user-created roads and trails, and would help preserve the remaining semi-primitive non-motorized areas in the UFO. With the increase in motorized and mechanized use, semi-primitive non-motorized opportunities have decreased dramatically in the UFO over the last 10 to 15 years.

Because off-route travel would not be allowed under the Proposed Action, users would have to use existing roads and trails. Much of the planning area is still within one-half mile of an existing motorized or mechanized route. Hunting experiences for those who venture further from roads and trails would be improved.

People who hold the belief that public lands should be open to all forms of recreation without restrictions might feel their personal freedoms are being taken away by the proposed action. Conversely, recreationists who do not like to see or hear the impacts associated with off-route motorized or mechanized vehicle use feel their freedoms are currently being affected by these impacts.

Other effects associated with the Proposed Action include:

- Dispersed recreationists would have greater opportunities for solitude and fewer conflicts with other visitors. Sportsmen, hikers, OHV enthusiasts, horse users, fisherman, and hunters would have fewer conflicts, improved resources, and greater opportunities for solitude.
- Consistency of travel management restrictions would be improved. These restrictions would be much easier for the general visitor to understand and follow if motorized or mechanized use were restricted to roads and trails through consistent policy.

Cumulative Effects

Population growth and residential development of surrounding private lands, increasing infrastructure development and right of way approvals on BLM, would continue to occur throughout the greater region if past trends continue. This will result in increased amounts of recreational and other types of usage on public lands. Measures such as maps, informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and may lead many to adopt better travel practices which would reduce recreational impacts.

VISUAL RESOURCES

Affected Environment

The planning area offers a great diversity of landforms and vegetation. The public lands are highly valued by the public and local communities for their scenic quality, as emphasized in the recent Community Assessment conducted in the planning area. The landscapes in the planning area are characterized by rugged canyons, mesa tops, and 360 degree scenic vistas of the Grand Mesa and the San Juan, Uintah, West Elk, Sawatch, and other mountain ranges.

The BLM's visual resource management system was designed, and is used, to help ensure that as proposed man-made features or surface-disturbing activities on public lands are constructed, the existing landscape character and inherent visual resources are considered. The BLM Manual 8410-1 Visual Resource Management defines and categorizes visual resource management classes that provide objectives for these resources as projects are proposed and implemented in the landscape. These Visual Resource Management (VRM) classes are determined through an

inventory process described in the manual mentioned above, and are used to provide guidance to BLM and project proponents when contemplating proposed surface disturbing activities. Class I areas are intended to protect an area from visible change, Class II areas allow for visible changes that do not attract attention, Class III areas allow for visible changes that attract attention but are not dominant, and Class IV areas allow for visible changes that can dominate the landscape. The VRM Classes for the Uncompahgre Field Office can be found in the Uncompahgre Basin Resource Management Plan (RMP). A new inventory was conducted in 2009 in preparation for the RMP Revision process.

On public lands, existing man-made features in the planning area not considered part of the natural landscape include travel roadways and routes, fences, structures, utility lines, vegetation manipulations, such as land treatments (vegetative chaining, roller chopping, etc.), energy and mineral related facilities, and developed improvements. These man-made features are considered to be visual intrusions, including motorized and non-motorized roadways and routes, but these transportation elements also provide a means for the public to experience, benefit economically from, and enjoy the scenery. These features have become part of the existing landscape character. Many of the routes have been in existence for decades and were developed by ranchers, loggers, and miners.

Environmental Consequences

Impacts from the No Action Alternative

New user-created routes and soil and vegetation disturbances related to OHV use, including parallel routes, multiplicity of routes going to one destination, and routes that serve no known or obvious purpose, would continue to be established through vehicular or other uses, resulting in more visual contrast or impacts in some landscapes and terrain types that offer visual exposure over a wide area. Many existing routes would continue to be widened by the usage of larger vehicles on narrow routes, such as single track or ATV two-track routes, resulting in additional vegetation removal and soil disturbances

Over time, because of the increase in travel use anticipated for all purposes, the combined visual impacts from existing, and anticipated new, user created routes might not meet the VRM Class objectives in some locations in the planning area, as the routes would begin to dominate the landscapes. New user created routes would continue to create visual impacts in the landscape that might exceed the amount of allowable visual impacts and not meet VRM Class objectives, because of their location on the landscape.

Impacts from the Proposed Action Alternative 2

Changing existing OHV designations to “Limited to Existing Routes Yearlong”, and restricting all OHV travel to existing routes would result in a decrease or elimination of new user-created routes, preventing future visual impacts from occurring. Restricting cross-country vehicular usage for camping or other activities would prevent potential future surface disturbances and associated visual impacts from occurring as a result of the associated vehicular traffic and associated impacts. Maintenance of some existing routes could result in indirect improvements in the degree of visual impacts.

Planning, designing, and properly locating any new authorized routes for a variety of purposes would permit Visual Resource Management Class objectives to be met. Potential visual impacts from new routes would not exceed visual resource management objectives as a result of good design and site location within the landscape.

Cumulative Effects

In addition to growth in recreational travel, other reasonably foreseeable actions that could affect visual resources over the next 10 years on private and public lands include residential growth, new road construction on private land, fuels reduction projects, utility corridor maintenance and upgrades, and new buried utility rights-of-way. Activities on public lands in the travel planning area that could also potentially impact visual resources and require mitigation include, Forest Service planning and projects, Uncompahgre Plateau Project activities, local land use planning, soil research, BLM Uncompahgre Field Office Resource Management Plan revision, continued population growth, vegetation treatments, county road upgrades, special recreation permits and activities, and utility rights of way and corridors.

PALEONTOLOGY

Affected Environment

The planning area spans all five of the distinctive Potential Fossil Yield Classification (PFYC). Potential Fossil Yield Class designates geological units based on their expected or historically known potential to contain scientifically important fossils, and the unit's sensitivity to adverse impacts. Under the classification system, there are 5 classes, with a higher number indicating a greater potential for containing important fossils and/or a higher sensitivity to effect. Most of the planning area is contained in PFYC 2, 3 and 4, with several notable class five areas with known significant localities.

Notable paleontological locations within the area include the Dry Mesa dinosaur quarry, Bedrock and Paradox Dinosaur Trackways, the Young Egg Locality and outcroppings in various other areas. Scientific paleontological quarrying has been accomplished in many localities in the area. Continued paleontological resource inventories are being conducted and project-specific inventory would be required on those areas which rank in the Potential Fossil Yield Class (PFYC) 4 or higher. These inventories would identify those areas that require special attention or mitigation.

Environmental Consequences

Impacts Common to All Alternatives

The most serious type of impacts to this resource would be caused by dirt bikes and ATV's traveling over steep clay slopes where fossils are eroding from the shale layers. The potential for illegal digging is high due to the density of routes, and could result in major impacts to irreplaceable fossil resources. The degree and extent of impact would be unknown. Vandalism, damage, or removal of these resources would be the potential result of the impacts.

Impacts from the No Action Alternative
Current OHV designations and management would potentially impact some important paleontological localities in the planning area, and secondary impacts from fossil collection and erosion may also occur. This alternative would allow the current level of potential impacts to continue. In addition, development of new, user created routes would increase the potential for impacts to paleontological values in the form of vandalism, damage, or removal.

Impacts from the Proposed Action Alternative This alternative would result in an improvement to the further protection of paleontological values such as fossils and historic dinosaur quarries. Elimination of all cross country vehicular driving would prevent the use of motorcycle, passenger vehicles, mountain bikes, and ATV use on the steep clay slopes where sensitive fossils may be exposed and disturbed by the resulting erosion.

Cumulative Effects

Cumulative effects on paleontological resources cannot be specifically identified until inventories are completed and paleontological resources have been identified.

LAW ENFORCEMENT

Affected Environment

The planning area covers a large geographic area, which equates to a large area of enforcement responsibility for BLM law enforcement personnel. BLM law enforcement rangers enforce a variety of Class A misdemeanors to felony offenses on public lands. Relating to this proposal, BLM law enforcement rangers would enforce the restrictions pertaining to travel management violations and the pertinent Code of Federal Regulations (CFR) associated with travel and resource concerns.

Environmental Consequences

Impacts Common to All Alternatives
All Federal and Colorado State laws that apply to motorized vehicle use must be followed. BLM law enforcement rangers will continue to enforce 43 CFR 8341.1 and 43 CFR 9268.3, in addition to other applicable state regulations regarding motorized vehicle use on BLM land. BLM will continue to work cooperatively with local and state law enforcement, including the Division of Wildlife (DOW) and Colorado State Park Rangers, involving the enforcement of State OHV regulations on BLM land.

Impacts from No Action Alternative
Existing travel management would remain unchanged. Law enforcement would remain the same. Currently, restrictions in place do not regulate travel off roads and trails in open travel areas. Regulations and penalties for off-route travel on BLM-managed lands are found in 43 CFR 8340.0-7.

Impacts from Proposed Action Alternative
Implementation would involve the publication of a brochure explaining, through pictures and text, what constitutes an established route. A brochure could also provide travel management ethics, and information on what modes of travel are appropriate on routes (i.e., only single-track vehicles can operate on single-track trails). The photographs and language in the brochure would serve as information and education for users, and enforcement personnel would be better able to exercise enforcement and take appropriate actions when necessary.

Successful implementation of this element would be in direct proportion to the effort put forth through public education by the BLM, mountain bike, OHV, and related organizations. It is reasonable to assume that peer pressure would provide educational and citizen assistance to law enforcement.

Success would be dependent on the agency personnel to do a complete job of law enforcement. A complete job in law enforcement is an effort which includes all BLM employees, as well as enforcement personnel. To be successful on the ground, the three elements that must work together include:

1. Provide the public with consistent and up-to-date education and travel management information;
2. Prevention through complete and on-the-ground engineering (i.e., proper closures, proper signing, and on-going maintenance of closures, signs, etc.); and
3. Fair, consistent, and progressive enforcement by agency law enforcement, with support from BLM personnel. Key enforcement actions would include incident reports, warning notices, and violation notices.

The effects of implementing the Proposed Action would benefit law enforcement in several areas:

1. It would allow consistent and uniform enforcement of restrictions; and
2. It would provide clear regulation, so visitors would know when they are violating a regulation.

New routes would be closed if they were created.

Cumulative Effects

Population growth and residential development of surrounding private lands, increasing infrastructure development and right of way approvals on BLM, would continue to occur throughout the greater region if past trends continue. This will result in increased amounts of recreational and other types of usage and disturbance on public lands. Measures such as maps, informational kiosks, regulations and enforcement will help educate the public land users about their travel-related impacts, and may lead many to adopt better travel practices which would reduce law enforcement impacts.

SOCIO-ECONOMICS

Affected Environment

The planning area includes parts or all of Delta, Montrose, Gunnison, Mesa, San Miguel, and Ouray counties.

Population:
Between 1990 and 2008, the population of Delta County increased by 47%; Montrose County, 65%; Gunnison County, 47%; Mesa County, 53%; Ouray County, 98%; and San Miguel County, 106%. The average population in the counties in the planning area increased by 69%. The population in the state as a whole increased by 49% during that same period. (From State of Colorado Population Projections, State Demography Office).

Table 9
Population Growth between 1990 and 2008

Area	1990	2008	1990-2008 Percent Change
Colorado	3,294,394	4,939,456	49%
Delta County	20,980	30,923	47%
Montrose County	24,423	40,539	65%
Gunnison County	10,273	15,147	47%
Mesa County	93,145	143,171	53%
Ouray County	2,295	4,560	98%
San Miguel	3,653	7,552	106%

U.S. Census Bureau, 2008 Population Estimates, Census 2000, 1990 Census

Between 2005 and 2025, the population within Delta County is projected to grow 68%, and 100% within Montrose County, 33% within Gunnison County, 57.8% within Mesa County, 57.7% within Ouray County, and 75% within San Miguel County. The average population in the counties in the planning area is forecast to increase by 65%. Of note is that the population of Montrose County is expected to increase by 100%. The state as a whole is projected to grow 44.2% for the same period. (From State of Colorado Population Projections, State Demography Office). Part of this growth for both time periods can be attributed to the abundance of nearby public lands managed by the BLM and the US Forest Service, which is a desired value for many people.

Employment and Economy:
Between 1991 and 2001, the total number of employed people increased by 48.6% in Delta County, 49% in Montrose County, 55% within Gunnison County, 45% within Mesa County, 71% within Ouray County, and 89% within San Miguel County. The greatest increase in employment occurred under the construction and services sectors in all counties. See Table 10. According to a 1999 model of the distribution of tourism employment, 8% of total employment was generated by tourism in Delta County, and 9% of total employment was generated by tourism in Montrose County, 34% within Gunnison County, 8% within Mesa County, 38% within Ouray County, and 51% within San Miguel County. About 8% of total employment in

Colorado was reported to tourism (Tourism Jobs Gain Ground in Colorado page 3, Center for Business and Economic Forecasting, Inc., April 27, 2001).

Table 10

Sector Employment - Numbers of Jobs in the Planning Area,

Sector	Colorado		Delta County		Montrose County		Gunnison County		Ouray County		Mesa County		San Miguel County	
	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007	2001	2007
Agricultural	47,709	46,664	1,462	1,331	1,540	1,409	338	324	0	103	1739	1,600	111	105
Mining	14,866	27,935	0	368	0	143	0	781	0	3	524	3,362	25	131
Construction	219,474	226,097	911	1,275	2,016	2,675	1,298	1,485	416	534	6150	8,134	1075	1,299
Manufacturing	188,714	155,722	559	736	1,566	1,530	179	161	65	48	0	3,532	120	178
Transportation, Information and Utilities	198,446	174,734	326	365	952	1,185	249	350	28	49	2700	4,342	36	208
Wholesale and Retail Trade	393,146	408,211	1,782	1,981	448	3,261	55	1,247	195	296	11294	12,879	25	468
Finance and Real Estate	213,105	238,374	537	709	1,007	1,419	753	830	183	217	4626	5,549	806	858
Services	1,063,542	1,230,847	2,596	4,153	5,454	7,085	4,145	4,584	639	1,155	26093	31,232	2306	3,547
Government	391,531	439,016	2,133	2,460	2,863	3,040	1,605	1,853	295	373	8463	9,863	752	839
Total Employment	2,730,558	2,947,648	11,520	13,378	18,229	21,750	10,431	11,615	2128	2,868	66695	80,494	6435	7,998

Source: State of Colorado Jobs by Sector (NAICS based), State Demography Office 2001 and 2007

Community and County Socio-economic Indicators in the Planning Area:

Table 11 below shows values for certain socio-economic indicators for all counties, communities, towns, and cities in the planning area (Community Assessment Report, Uncompahgre Field Office, February 2009).

Table 11

Community and County Socio-economic Indicators in The Planning Area

Town, City, or County	County Located In	Popu-lation	Year Established	Governing Designation	County Seat?	Land Area	Number Housing Units	Unem-ployment %	Median. House Income	Primary Industry* (% Population)	Notes
Crawford	Delta	366	1910	Statutory Town	N	0.26 sq. mi.	179	2.9%	$23,281	2 (18.5), 11 (16.0), 5 (13.4)	
Hotchkiss	Delta	968	1901	Statutory Town	N	0.67 sq. mi.	451	4.3%	$28,056	5 (19.6), 10 (19.1), 1 (16.3)	
Delta	Delta	6,400	1882	Home Rule Municipality	Y	5.52 sq. mi.	2,749	2.5%	$27,415	10 (18.3), 5 (15.6), 11 (13.4)	
Naturita	Montrose	635	1951	Statutory Town	N	0.73 sq. mi.	314	8.6%	$28,977	2 (21.2), 5 (15.4), 10 (12.1)	
Nucla	Montrose	734	1915	Statutory Town	N	0.71 sq. mi.	369	3.0%	$28,466	11 (19.7), 10 (16.5), 2 (13.7)	
Maher	Montrose	1,486		Unincorporated Community	N						Zip Code (81415) Tabulation Area used for population from Census Bureau
Olathe	Montrose	1,573	1907	Statutory Town	N	1.33 sq. mi.	571	4.5%	$26,286	2 (14.9), 10 (14.6), 3 (13.2)	
Montrose	Montrose	12,344	1882	Home Rule Municipality	Y	11.47 sq. mi.	5,581	3.1%	$33,750	10 (16.1), 5 (14.7), 2 (13.3)	
Ridgway	Ouray	713	1891	Home Rule Municipality	N	2.0 sq. mi.	318	2.6%	$40,903	2 (21.6), 11 (14.5), 3 & 10 (13.0)	
Ouray	Ouray	813	1884	Statutory City	Y	0.84 sq. mi.	583	0.8%	$36,094	11 (23.4), 10 (15.6), 2 (12.8)	
Sawpit	San Miguel	25	1896	Statutory Town	N	0.03 sq. mi. (0.1km sq)	18	0.0%	$26,250	6 (35.7), 3 (21.4), 9 (21.4)	
Norwood	San Miguel	438	1903	Statutory Town	N	0.26 sq. mi.	258	4.5%	$39,375	2 (25.7), 11 (18.1), 10 (10.1)	
Mt. Village	San Miguel	978	1995	Home Rule Municipality	N	3.31 sq. mi.	1,022	4.5%	$30,663	11 (34.5), 2 (21.5), 8 (10.2)	
Telluride	San Miguel	2,221	1878	Home Rule Municipality	Y	0.71 sq. mi.	1,938	1.7%	$51,937	10 (31.1), 5 (13.2), 8 (13.1)	

Table 11

Community and County Socio-economic Indicators in The Planning Area

Town, City, or County	County Located In	Popu-lation	Year Established	Governing Designation	County Seat?	Land Area	Number Housing Units	Unem-ployment %	Median. House Income	Primary Industry* (% Population)	Notes
Ouray County		3,742	1877	County		542.21 sq. mi.	2,146	2.2%	$42,019	2 (18.6), 11 (14.1), 10 (13.7)	
San Miguel County		6,594	1883	County		1288.49 sq. mi.	5,197	2.2%	$48,514	11 (26.2), 2 (16.2), 8 (11.1)	
Gunnison County		13,956	1877	County		3259.75 sq. mi.	9,135	3.9%	$36,916	11 (21.8), 10 (17.5), 5 (14.3)	
Delta County		27,834	1883	County		1148.52 sq. mi.	12,374	3.1%	$32,785	10 (17.8), 1 (13.4), 5 (13.1)	
Montrose County		33,432	1883	County		2242.57 sq. mi.	14,202				
Mesa County		116,255	1883	County		3341.11 sq. mi.	48,427	3.7%	$35,864	10 (20.7), 5 (13.4), 2 (10.4)	

Sources: US Census Bureau 2000; Colorado State Archives 2004; Colorado Department of Local Affairs 2009; Colorado Department of Public Health and the Environment 2009.

*Industry

1 Agriculture, forestry, fishing and hunting, and mining
2 Construction
3 Manufacturing
4 Wholesale trade
5 Retail trade
6 Transportation and warehousing, and utilities
7 Information
8 Finance, insurance, real estate, and rental and leasing
9 Professional, scientific, management, administrative, and waste management services
10 Educational, health and social services
11 Arts, entertainment, recreation, accommodation and food services
12 Other services (except public administration)
13 Public administration

Income:
Between 1990 and 2005, total per capita personal income for the state increased 92%. During this same period, total per capita personal income increased 84% in Delta County, and 91% in Montrose County, 115% within Gunnison County, 88% within Mesa County, 117% within Ouray County, and 127% within San Miguel County (From US Department of Commerce, Bureau of Economic Analysis), possibly due to increases in the number of jobs in several Sectors. In 2005, in all counties in the planning area, per capita personal income was below that for the state as a whole (See Table 12).

Table 12
Per Capita Personal Income for 1990 and 2005

	1990	2005
Colorado	19,575	37,510
Delta County	12,843	23,612
Montrose County	14,393	27,402
Gunnison County	13,419	28,795
Mesa County	15,324	28,872
Ouray County	16,785	36,398
San Miguel	19,146	43,476

Source: US BEA 2007

Uses:
The *Longwoods International Colorado Travel Year 2006* report stated that Colorado is ranked 9th in the country for outdoor trips and that outdoor trips now comprise the largest segment among those visiting Colorado on marketable leisure trips. The report illustrates the importance of the outdoors and public lands to the experience of Colorado visitors who cite mountains, wilderness, and lakes/rivers as important elements of their vacation experience. Montrose, the Gunnison Gorge National Conservation Area (NCA), the Black Canyon of the Gunnison National Park, the Uncompahgre Plateau, Telluride, Ouray, and Gunnison are among the most popular destinations for overnight pleasure trips within or near the planning area. The Gunnison River and Gunnison Gorge in the NCA are regional and national recreation destinations – primarily because of the popularity and variety of the heavily marketed whitewater boating opportunities and gold medal trout stream fishing. In addition to these major tourist attractions, the routes on the public lands also provide opportunities for various types of motorized, mechanized, and non-motorized recreation uses.

Off-highway vehicle (OHV) registrations, which includes all-terrain vehicles (ATVs), dirt or dual purpose motorcycles, and 4-wheel drive vehicles, has increased 145% between 2000-01 season and the 2007-08 season and the 2007-08 season direct economic contributions of OHV use in Colorado was reported to be $784 million with an addition $243 million in indirect economic contributions (*Economic Contribution of Off-Highway Vehicle Recreation in Colorado, July 2009*).

Tourism has grown in the Southwest Region fairly steadily since 2000 based on total travel impacts as measured by direct travel spending, tourism-related employment wages, and state and local taxes.

Environmental Consequences

Impacts Common to All Alternatives

Both alternatives would basically maintain the social and economic status quo. Multiple use activities on public lands would continue according to the current Resource Management Plan and BLM policy, regulations, and guidelines, including realty actions, mineral and energy development, livestock grazing, recreation management, and other programs, which could result in slight economic improvements throughout the planning area. A potential slight increase in the local economies of some of the towns and cities near the planning area could occur if more commercial, competitive, or other recreation permits were to be issued for motorized or non-motorized mechanized events. No great changes to the area's population and employment would result from implementing these alternatives. User behaviors, however, would evolve under varying lesser degrees of management intensity, intensive management, and few cross country vehicular travel restrictions.

Impacts from the No Action Alternative

Behaviors would evolve under less intensive management and travel restrictions, such as cross-country use, trespass, creation of new routes, and uncontrolled motorized/mechanized play would increase in intensity and scale. User behaviors would evolve with few cross country vehicular travel restrictions, and could influence the frequency of unauthorized trespass, creation of new routes, and uncontrolled motorized/mechanized play in some areas, as a result of cross country vehicular travel occurring throughout the planning area.

Impacts from the Proposed Action Alternative

Some users may feel that they are being restricted too much and their experience has been diminished. However, BLM expects this alternative to improve the overall experience for most users by restricting vehicular travel to existing routes, which would have a positive effect on the social component of recreation and travel, as seen by some users. Behaviors would evolve under more intensive management and more travel restrictions that would mitigate increased cross-country use, trespass, creation of new routes, and uncontrolled motorized/mechanized play. Alternative 2 would allow development of some additional BLM-authorized, planned, and designed routes in proper locations for a variety of uses.

Cumulative Effects

Measurable cumulative impacts would not likely occur as a result of implementation of either alternative.

CUMULATIVE IMPACTS SUMMARY

Introduction

This section discloses the cumulative effects from all alternatives. Cumulative effects were analyzed above for each resource. This section will analyze additional known cumulative impacts that may not have been identified above.

The Council on Environmental Quality (CEQ) regulations defines cumulative effects as "…the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions". The cumulative effects are the direct and indirect incremental effects of the impacts from implementing the proposed changes and projects in each of the alternatives, when added to other past, present, and reasonably foreseeable actions (40 CFR Part 1508.7). Past activities are those activities whose effects are still present on the landscape. These activities will continue into the future. Future activities are those reasonably foreseeable actions that may add to the cumulative effects on resources and social impacts. Guidance for implementing NEPA (Public Law 91-190, 1970) requires that federal agencies identify the timeframe and geographic boundaries within which they will evaluate potential cumulative effects of an action and the specific past, present, and reasonably foreseeable projects that will be analyzed. For this EA, the timeframe is five to 10 years, from approximately 2009 to 2020. This encompasses a range within which data are reasonably available and forecasts can be reasonably made. The geographic boundary of the analysis area is the planning area and the surrounding Forest Service-managed and private lands, and the nearby communities.

Major specific actions and activities with the potential to cumulatively affect the resources evaluated in this document are identified below. These actions are generally summarized in the narrative following the table below. Some resources would be affected by several or all of the described activities, while others would be affected very little or not at all.

Alternative 1 would result in the continuation of existing OHV designations and additional cross country vehicular routes being established, and increases in already occurring impacts to a variety of resource values. Since the existing RMPs have been in effect, travel management planning has been under-implemented in the planning area, resulting in on-route and cross-country motorized and mechanized travel occurring yearlong. New user-created routes established since the RMPs were approved have increased to the point that about 2,793 miles of routes of all kinds now exist on public lands within the planning area. Implementing the No Action Alternative, would continue this practice.

Alternative 2 – Proposed Action, if implemented, would prohibit all cross country motorized and mechanized vehicular travel, change all existing OHV designations such that all motorized and mechanized travel would be limited to existing routes except for hiking and horseback riding, and maintenance of some OHV routes would occur to mitigate existing impacts. By implementing the alternative, the public would be aware of the routes that would be available

for use and what travel use conditions would be in effect. Reductions of cumulative impacts would occur throughout the entire planning area as a result of this alternative.

Major specific actions and activities with the potential to cumulatively affect the resources evaluated in this document are identified below. These actions are generally summarized in the narrative following the table below. Some resources would be affected by several or all of the described activities, while others would be affected very little or not at all.

Planned BLM vegetation treatments, UP biological treatments, upgrading some county roads, and the growth in applications for rights of way and special recreation use permits could add to impacts from the demand of access onto or through public lands, along with potential transportation elements to facilitate implementation of local master plans.

Past, Present, and Reasonably Foreseeable Actions Considered in Determining Cumulative Effects

Past, Present, and Reasonably Foreseeable Actions	Past	Present	Future
Local Land Use Planning	✓	✓	✓
BLM-USGS Soil Research	✓	✓	✓
BLM Uncompahgre Field Office & San Juan-San Miguel Resource Management Plans and Revision			✓
Continued population growth		✓	✓
Uncompahgre Field Office Vegetation Treatments	✓	✓	✓
Possible Upgrading Of Some Major County Roads In Or Through The Planning Area			✓
BLM Special Recreation Permits	✓	✓	✓

Local Land Use Planning

The BLM completed a community assessment process in 2009, in which meetings were held with all planning area City, Town, and County leaders and partnering organization leaders. The goals and plans for these communities, counties, and organizations were utilized during the preparation of this document. The local master plans collected were of varying ages, from just beginning, to just completed, to those being updated. However, the meetings conducted captured the desires of the leaders and were considered. Delta County completed its current master plan in October 1996. The city of Delta completed a comprehensive plan in March 1997, the city of Montrose completed a comprehensive plan update in March 2008, and Montrose County is currently updating their master plan. The Town of Olathe has discussed updating their Master Plan. These plans will continue to provide tools for growth and outline management direction for projected land use, transportation planning and elements, planning policies, and zoning surrounding the majority of the planning area.

Local master plans could impact public lands by authorizing new subdivisions, open space identification, needs for travel element updates, relocations, or new construction. The cumulative impacts of combining additional new uses on private land and open off highway vehicle designations, as written in Alternative 1, is significant. In some cases, the lack of adequate local land use planning could result in increases in cumulative impacts to all resources due to the increased number of people and vehicles accessing private lands. These impacts would be mitigated by BLM conducting travel management planning in the planning area over time, in order to arrive at efficient travel plans that provide public needs and enhance or improve the health of the land.

BLM - United States Geological Survey Soil Research

The BLM is working with the United States Geological Survey on Mancos soil research on public lands east of Montrose and other similar adobe watershed areas.

They are analyzing impacts from surface-disturbing activities on the adobe hills and the alluvial bottoms in the Mancos Shale areas. The studies are intended to provide information on how off highway vehicle use, grazing, and other surface-disturbing activities on these highly erosive soils need to be managed to meet the BLM's public land health standards.

Research could result in improvements in outcomes for projects that otherwise would create undesirable effects to sensitive resources, such as soil and water, and could hasten rehabilitation.

BLM Uncompahgre Field Office & San Juan-San Miguel Resource Management Plans and Revision as well as Dominquez Escalante National Conservation Area Resource Management Plan

Under the existing resource management plans covering the existing Uncompahgre Field Office (1989 Uncompahgre Basin Resource Management Plan and the 1985 San Juan-San Miguel Basin Resource Management Plan), the planning area contains four categories of off highway vehicle decisions OHV designations: Open, Limited to Designated Routes from December 1 to April 30, Limited to Designated Routes from May 1 to June 15, and Closed. Among the issues addressed in these documents were coal leasing, salinity, forestry, recreation, cross-country vehicles, wilderness, and lands. Decisions were made in most resource management programs that affected travel management in the planning area. Over time, several amendments have been made to the existing resource management plan, including for fire management, lands management, newly designated Dominquez Escalante National Conservation Area (DENCA) and the Gunnison Gorge National Conservation Area land use plan. The resource management plan and amendments include many actions that have already been implemented, some of which have taken place within the planning area, and also decisions that have not been implemented. Route by route travel analysis has not been done for the planning area. The BLM Uncompahgre Field Office plans to revise the Resource Management Plans beginning in the winter of 2009 and a new resource management plan will be completed for the DENCA with an anticipated completion date of March 2012.

Not conducting travel planning as a follow up to implement off highway vehicle decisions regarding limiting travel to designated routes has resulted in cumulative impacts. A large number of the existing routes were established as a result of the under-management of off highway vehicle travel. Therefore, it can be assumed that cumulative impacts for Alternative 1 would also continue to increase. The RMP revision will set schedules for travel planning on the public lands and the RMP for DENCA will include route by route decisions, which will contribute to long term improvements in Alternatives 1 and 2.

Travel management planning after the completion of the revision and during the RMP for DENCA would help to modify and reduce the impacts to a multitude of resource values discussed in this document by selecting designated routes that would be available and establishing use conditions, such as seasonal closures and restrictions on the types of use that can occur on a route.

Continued Population Growth

Between 2005 and 2025, the population within each of the six counties in which the planning area is located will vary in different degrees, depending on the economic and resource demand growth. For instance, Delta County is projected to grow 72%, and 77% within Montrose County. Other counties in the planning area will also grow in population. This growth is expected to result in more private agricultural or undeveloped land being converted into residential or commercial uses. A great deal of the public lands in the planning area is adjacent to private lands. With this growth, new management challenges including travel management will face the land management agencies surrounding the communities, private land owners, and the nearby communities themselves. In addition to population growth, growing awareness about the area due to area designations (Dominquez Escalante National Conservation Area and Gunnison Gorge National Conservation Area) lead to higher visitation. Greater awareness may contribute to additional outdoor recreation related services in the community and more pressure on public lands in the area.

Population and visitation increases in and around the planning area would result in more demand for public land access for a variety of purposes, both motorized and non motorized. As motorized, mechanized, and non-motorized quiet recreation use demand escalates and increases, there would be more requests for routes throughout the planning area. This would lead to widespread on-site and off-site impacts on nearby federal lands and private lands and potentially a loss of the values for which visitors come to the area to seek.

Routes established as a result of increased population growth and increases in volume of motorized uses contribute to surface runoff which ultimately reaches perennial and intermittent steams, ponds, riparian habitat, and wetlands and affects the physical and biological components of these areas. Urbanization near the planning area has contributed in the development of user created routes that contributes to cumulative soils, vegetation, and watershed impacts. Cumulative effects on aquatic and riparian resources can be mitigated through the application of watershed conservation practices to all well-designed and located agency routes during their construction, reconstruction, and maintenance as outlined in Alternative 2.

Cumulative actions considered include regional and local growth entailing additional vehicle traffic within and through the planning area. Although vehicular travel on unpaved roads can be heavy during the late spring, summer, and the fall, the most heavily used major county roads receive magnesium chloride treatments which "holds" soils and road base in place and abates erosion and fugitive dust. Sustained and heavy traffic use on the existing dirt routes and trails in the planning area does create erosion and fugitive dust, noise, and other significant disturbance factors throughout the planning area.

Population growth, private land development adjacent to or near the planning area, and the increase in popularity of recreational activities, combined with the extremely high number of existing route miles in the planning area and the likelihood of the continuation of user created routes being created, incremental increases in impacts would occur to soils, cultural properties, water quality, air resources, floodplain functions, riparian and wetland habitat, sensitive plant and animal species and habitat, vegetation (removal, impacts, or weed invasion increases), and aquatic and terrestrial species and habitat. At the heart of these impacts is the likelihood of an exponential increase in the rate of establishment of new, user created routes from the existing routes as discussed in Alternative 1. Any additional limitations to the transportation system could cause crowding of users and may increase safety concerns and conflicts as discussed in Alternative 2.

Alternative 1 considered in this analysis might result in violations of air quality standards during the next five to 10 years due to the continuation of new user created routes and the increase in use volume as a result of population growth.

Uncompahgre Field Office Fuel Reduction Projects

Several projects have been implemented in the past, and several projects have been proposed and evaluated in the Field Office that have or would reduce the amount of standing and downed wildfire fuel in the planning area. These projects have and would make the public lands, where this activity occurs, less likely to incur wildfires, and land health conditions could be improved. Use of roads or need to travel cross country with motorized vehicles to accomplish projects would be analyzed for each case however cumulative use of roads to accomplish projects would be negligible. Overall land health conditions could be improved.

Implementation of treatments can affect wildlife solitude and habitat forage, fragment migration routes, and add sediment to waterways on a short term basis, and require more temporary new routes, but mitigation and design features in project plans would mitigate these impacts to vegetation (wildlife habitat, sensitive species and habitat, potentially more weeds introduced), soils, and potentially to water courses.

Cumulative effects for implementing the projects would be similar for all alternatives, but with the additional mitigation outlined for Alternative 2, effects would be minimized through rehabilitation of roads and trails that are needed for the project.

Possible Upgrading of Some Major County Roads in or Through the Planning area

Several major county graveled roads located within and that pass through the planning area could be upgraded, partially relocated, and or paved during the next 10-15 years in order to provide better and quicker access to private and public lands. Private high-scale developments on the Ouray and Montrose County roads have generated increased traffic by construction, visitor, and resident uses. Property owners and users are requesting the counties to pave and improve the roads. This upgrading could require some BLM right of way actions or modifications, reconstruction, and relocating in segments to eliminate dangerous curves or poorly located segments, which could also directly impact public lands adjacent to these roads.

Routes established as a result of increased population growth and increases in volume of motorized uses contribute to surface runoff which ultimately reaches perennial and intermittent steams, ponds, riparian habitat, and wetlands and affects the physical and biological components of these areas. Urbanization near the planning area has contributed in the development of user created routes that contributes to cumulative soils, vegetation, and watershed impacts. If county roads passing through the planning area or within the planning area are upgraded in the life of this analysis, easier and quicker access to the lands in the planning area would be available, adding to the cumulative effects from increases in use of motorized vehicles for all alternatives but especially Alternative 1.

BLM Special Recreation Permits

BLM issues and manages Special Recreation Permits to groups or individuals for organized, commercial, or competitive purposes and events. The BLM has had a growing number of requests for consideration of all types of Special Recreation Permits. In FY2008 within the UFO, approximately 60 Special Recreation Permits were being used and active. These permits were issued for a variety of activities and events including 4-WD vehicle tours, hunting (big game and mountain lion), mountain bike, running and archery events, rafting and fishing. The recreation opportunities provided by commercial and special recreation uses produce important benefits for visitors, businesses, communities, and the environment. The road and trail system on public lands is essential to all of these commercial and special recreation uses, and the impacts of travel management decisions to these activities was considered in developing the alternatives. Each of the alternatives would allow the activities and events currently authorized by Special Recreation Permits to be considered in the future, under certain circumstances. New applications would be evaluated through the National Environmental Policy Act process and with public input to determine conformance with travel management decisions and to develop potential stipulations for operation, maintenance, and monitoring of permitted activities.

In Alternative 1, requests for these permits for competitive, commercial, or organized events would continue, possibly resulting in more disturbances in the planning area to soils, water, vegetation and opportunities for solitude due to the fact that areas would be designated as open. While Special Recreation Permits requests will probably increase in the next 15 – 20 years for all alternatives, decisions on these permits will conform to travel management policy and decisions at the time of applications for permits, thus mitigating cumulative effects from this activity.

Proposed Action – Alternative 2

Alternative 2 would result in reductions in the incremental cumulative effect that would occur from continuing with Alternative 1. This alternative would result in incremental decreases in existing and potential effects by prohibiting all cross country off highway vehicle use, rehabilitating routes, and implementing the travel use conditions and other measures in this alternative. The land health of the planning area would be improved, air quality standards would not be violated, and other resources would realize the benefits of this alternative.

Effects from prohibiting potential new cross country routes alone include reductions in impacts from applying conditions of use, education and information, and implementing travel management design features. Cumulative physical effects from past, present, and future action relative to Alternative 1 would be reduced on sensitive biological soil crusts and erosive soils, in streams, riparian and wetland habitat, vegetation types, on visual resources, to terrestrial and aquatic wildlife species and habitat, special status plants and animals and their existing and potential habitat, migratory bird habitat, and other related resources.

The cumulative effects from reasonably foreseeable actions above and the effects of Alternative 2 would, when combined, not result in adverse impacts to those resources managed by BLM in the planning area.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time such as the temporary loss of wildlife habitat in a right of way linear clearing.

The implementation of any of the alternatives, including the no-action alternative, would have no irreversible commitment of resources. The alternatives define the road and trail system. Some limited new route construction could be implemented, which could be rehabilitated if necessary.

Irretrievable commitment of resources would occur under all alternatives. Irretrievable commitments of resources from roads and trails exist because routes change the natural landscape to a non-natural, out-of-vegetative-production landscape. The limiting off highway vehicle designation of Alternative 2 would create temporary losses associated with maintenance of roads and trails. Resources affected would be scenery, vegetation (including rangeland, riparian area vegetation, and woodland stands of pinyon and juniper, and associated wildlife or other animal or plant habitats. Implementation of any of the alternatives would commit these resources over the life of the road or trail.

Alternative 1 would also cause irretrievable commitments of the most resources due to the increase in new user created routes that would occur.

Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The National Environmental Policy Act (NEPA) requires the consideration of the relationship between the short-term uses of man's environment and the maintenance and enhancement of long-term productivity which would be involved in implementing any of the alternatives being considered in an environmental document. As declared by Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101). Alternative 2 will have the potential to improve long-term productivity by reducing the potential for new user created routes in the planning area and implementing the measures in this alternative. Any routes that might be closed for resource protection reasons will have the potential to revert to vegetated conditions.

PERSONS / AGENCIES CONSULTED

Southwest Resource Advisory Council (SWRAC)
U.S. Fish and Wildlife Service
Colorado State Historical Preservation Officer
Southern Ute Tribal Council and the Ute Mountain Ute Tribal Council
Colorado Division of Wildlife (CDOW)
San Miguel, Ouray, Montrose and Delta County Commissioners
State Historic Preservation Office (SHPO)

INTERDISCIPLINARY TEAM

Areas of Responsibility	Preparers
Air Quality	A. Worstell
Cultural Resources, Paleontology	G. Hadden
Environmental Justice	B. Krickbaum
Farmlands (Prime and Unique)	D. Murphy
Floodplains	D. Murphy
Invasive, Non-Native Species	L. Rogers/D. Stindt/ K. Kubik
Migratory Birds	C. Sharp
Native American Religious Concerns	G. Hadden
Threatened, Endangered, and Sensitive Species, Wildlife (Aquatic and Terrestrial)	C. Sharp
Wastes, Hazardous or Solid	A. Kraus

Areas of Responsibility	Preparers
Water Quality, Surface and Ground, Soils, Hydrology/Water Rights	D. Murphy
Wetlands & Riparian Zones, Vegetation	A. Clements
Wild and Scenic Rivers, Wilderness, Access and Transportation, Recreation, and Visual Resources	J. Jackson/A. Sharp/ E. Franz
Realty Authorizations and Geology and Minerals	T. Pfifer/L. Reed/R. Ernst
Fire	D. Huisjen/K. Holsinger
Law Enforcement	J. Maloney
Forest Management	K. Holsinger
Socio-Economics	B. Krickbaum

LITERATURE CITED

Bureau of Land Management (BLM) 1999-2009. Annual Land Health Assessments. Each of these analyzes approximately 10% of the lands in the Uncompahgre Field Office annually.

Bureau of Land Management (BLM). 2009. Biological assessment for federally protected species and designated critical habitats: an amendment to the Uncompahgre Basin and

San Juan-San Miguel Resource Management Plans, limiting motorized and mechanized travel to existing routes. Available at BLM Uncompahgre Field Office, Montrose, CO.

Colorado Water Quality Control Commission, July, 2007. Classification and Numeric Standards for Gunnison and Lower Dolores Basins – Regulation # 35 (5CCR-1002-35)

Colorado Water Quality Control Commission, December, 2007. The Basic standards and Methodologies for Surface Water – Regulation # 31 (5CCR – 1002-31)

Colorado Water Quality Control Commission, April, 2008. Colorado Monitoring and Evaluation List – Regulation # 94 (5CCR 1002- 94)

Colorado Water Quality Control Commission, April, 2008, 303(d). Water Quality Limited Segments Requiring Total Maximum Daily Load (TMDL's), Regulation # 93(5CCR 1002-93)

Forman, R.T.T., and Alexander, L.E., 1998, Roads and their major ecological effects: Annual Review of Ecology and Systematics, v. 29, p. 207–231.

Jones, J. A., F. J. Swanson, B. C. Wemple and K. U. Snyder. In press. A perspective on road effects on hydrology, geomorphology, and disturbance patches in stream networks. Conservation Biology.

Louis Berger Group, Inc, July 2009. Economic Contribution of Off-Highway Vehicle Recreation in Colorado.

Trombulak, S. C. and C. A. Frissell. In press. Review of ecological effects of roads on terrestrial and aquatic communities. Conservation Biology.

USDA, Forest Service, Rocky Mountain Region, Soils Group, Interpretations Rating Guide, page 66.

USDA, Natural Resources Conservation Service, Soil Surveys of: Paonia Area, Colorado (Parts of Delta, Gunnison, and Montrose Counties), Ridgway Area, Colorado (Parts of Delta, Montrose, Gunnison and Ouray Counties), and San Miguel Area, Colorado.

USDA, Soil Conservation Service and Colorado State University, 1980. Important Farmlands of Colorado, State Summary and Map, Special Series 17.

USDI, Bureau of Land Management 2001. Biological Soil Crusts: Ecology and Management, Technical Reference 1730-2, 2001.

Walker, D.A. and K.R. Everett. 1987. Road Dust and Its Environmental Impact on Alaskan Taiga and Tundra**.** *Arctic and Alpine Research* 19: 479-489

U.S. Census Bureau; http://quickfacts.census.gov/qfd/states

GLOSSARY

All-Terrain Vehicle (ATV): Motorized mode of travel 50 inches or less in width and weighing no more than 800 pounds.

ATV Route: Travel lane intended for use by modes of travel less than 50 inches wide and weighing no more than 800 pounds, such as an ATV.

Existing route: Road or path that has been inventoried and mapped and that existed on the ground as of 2005.

Full-size Vehicle Route: Travel lane intended for use by modes of travel greater than 50 inches wide.

Mechanized Travel: Movement by means of a mechanical device such as a bicycle; not powered by a motor

Motorized Vehicle: Any vehicle propelled by a motor, including cars, trucks, all-terrain vehicles, sport utility vehicles, motorboats and snowmobiles; synonymous with **off-road vehicle** and **off-highway vehicle.**

Non-Motorized Use: Employs foot, stock or pack animal, boat or mechanized vehicle, such as a bicycle.

Off-Highway Vehicle (OHV): A contemporary term synonymous with **off-road vehicle (ORV)** and referring to any motorized means of transportation capable of or designed for travel on or immediately over land, water, or other natural terrain, excluding: (1) any non-amphibious registered motorboat: (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer, or otherwise officially approved; (4) any vehicle used for official business; and (5) any combat or combat support vehicle when used in times of national defense emergencies. Off-road vehicle is used in the Code of Federal Regulations.

OHV Area Designations: The BLM utilizes three major OHV classifications:

- ***Open*** refers to an area where all types of vehicle use is permitted at all times, anywhere in the area subject to the operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342.
- ***Limited*** refers to an area where access is restricted at certain times, in certain areas, and/or to certain vehicle use. These restrictions may be of any type, but can generally be accommodated within the following type of categories: Numbers of vehicles; types of vehicles; time of season of vehicles use; permitted or licensed use only; use on existing routes; use on designated routes; and other restrictions.
- ***Closed*** refers to an area where off-road vehicle use is prohibited. Use of off-road vehicles in closed areas may be allowed for certain reasons; however, such use shall be made only with the approval of the authorized officer.

Planning Area: Geographic area within which the BLM makes decisions during a planning effort. While a planning area boundary may contain lands with a variety of jurisdictions, the BLM only makes decisions regarding lands within the BLM's jurisdiction.

Resource Management Plan (RMP): BLM planning document prepared in accordance with Section 202 of the Federal Land Policy and Management Act, that establishes resource conditions, goals and objectives to be attained, allocates resources and identifies allowable uses, identifies land areas for limited, restrictive, or exclusive uses, provides guidance for implementation of decisions made in the plan, and that best meets multiple use and sustained yield mandates.

Route: Group or set of roads, trails, and primitive roads that represents less than 100% of the BLM transportation system. Generically, components of a transportation system are described as "routes."

Single Track Route: Travel lane intended for use by modes of travel less than 36 inches wide.

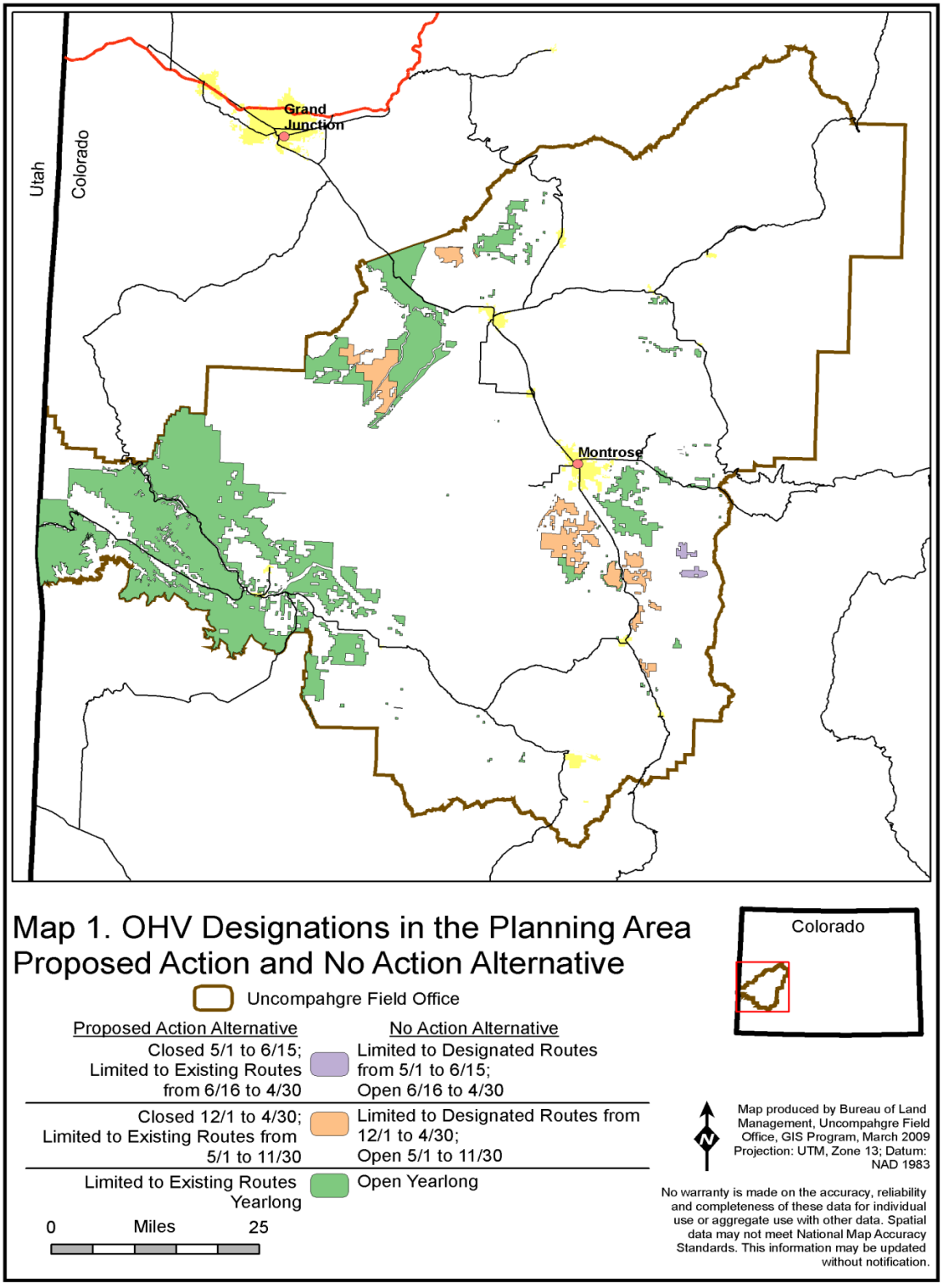
Standards for Public Land Health: Set of guidelines for maintaining ecosystems in an optimal state on public lands throughout Colorado.

Transportation Management Plan: Document that focuses on all aspects of transportation within a land area. Transportation planning can also be accomplished within Integrated Activity Plans and Coordinated RMPs, in which multiple resource programs are planned concurrently.

APPENDIX INDEX

Appendix A

Maps of the Alternatives



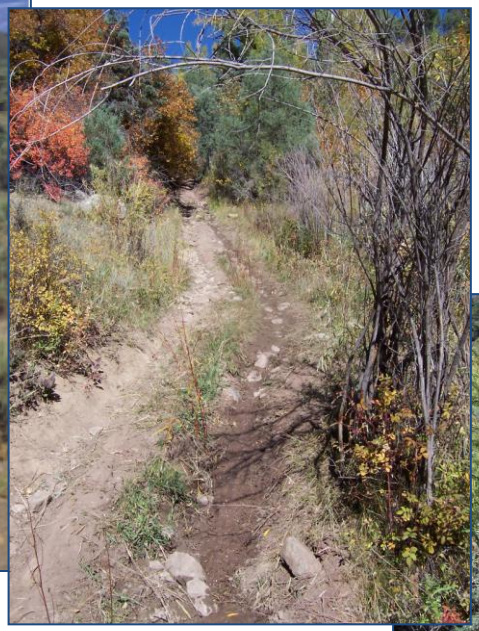
(Existing Route Maps are located on CD or BLM web site as separate PDFs if reviewing the document electronically)

Appendix B

Photographic Examples of Single-Track, Two-Track, and Full-Size Vehicle Routes

Examples of single-track routes used by motorcycles, mountain bikes, hikers, or horseback riders.

Examples of ATV routes, also available for use by motorcycles, mountain bikes, hikers, or horseback riders, but not full-size passenger vehicles.



Examples of routes used by full-size passenger vehicles, also available for use by ATVs, motorcycles, mountain bikes, hikers, or horseback riders.

Appendix C

Species Considered and Evaluated [5]

Species	Status	Habitat Description	Potential and/ or Known Occurrence in Planning Area[1]	Designated Critical Habitat in Planning Area?	Effects Determination[2]
Bonytail *Gila elegans*	E	Warm-waters of the Colorado River mainstem and tributaries, some reservoirs; flooded bottomlands for nurseries; pools and eddies over rocky substrates with silt-boulder mixtures for spawning	No known occurrences; suitable and historical habitat present	No	May affect, is not likely to adversely affect
Colorado pikeminnow *Ptychocheilus lucius*	E	Warm-waters of the Colorado River mainstem and tributaries; deep, low velocity eddies, pools, runs, and nearshore features; uninterrupted streams for spawning migration and young dispersal; also floodplains, tributary mouths, and side canyons; highly complex systems	Known occurrence; suitable habitat present	Yes	May affect, is not likely to adversely affect
Humpback chub *Gila cypha*	E	Warm-water, canyon-bound reaches of Colorado River mainstem and larger tributaries; turbid waters with fluctuating hydrology; young require low-velocity, shoreline habitats such as eddies and backwaters	No known occurrences; suitable and historical habitat present	No	May affect, is not likely to adversely affect
Razorback sucker *Xyrauchen texanus*	E	Warm-water reaches of the Colorado River mainstem and larger tributaries; some reservoirs; low velocity, deep runs, eddies, backwaters, sidecanyons, pools, eddies; cobble, gravel, and sand bars for spawning; tributaries, backwaters, floodplain for	Known occurrence; suitable habitat present	Yes	May affect, is not likely to adversely affect

Species	Status	Habitat Description	Potential and/ or Known Occurrence in Planning Area[1]	Designated Critical Habitat in Planning Area?	Effects Determination[2]
		nurseries			
Greenback cutthroat trout *Oncorhynchus clarki stomias*	T	Cold water streams and lakes with adequate spawning habitat (riffles), often with shading cover; young shelter in shallow backwaters	No known occurrences; suitable and historical habitat present	No	No effect
Gunnison's prairie dog *Cynomys gunnisoni*	C	Level to gently sloping grasslands, semi-desert shrublands, and montane shrublands, from 6000'-12,000 in elevation	No known occurrences; suitable and historical habitat present	No	May affect, is not likely to result in a trend toward federal listing
Black-footed ferret *Mustella nigripes*	E	Prairie dog colonies for shelter and food	No known occurrences; suitable and historical habitat present	No	No effect
Canada lynx *Lynx canadensis*	T	Spruce-fir, lodgepole pine, willow carrs, and adjacent aspen and mountain shrub communities that support snowshoe hare populations	Known occurrence; suitable habitat present	No	May affect, is not likely to adversely affect
Mexican spotted owl *Strix occidentalis*	T	Mixed-conifer forests and steep-walled canyons with minimal human disturbance	No known occurrences; suitable habitat present	No	No effect
Southwestern willow flycatcher [3] *Empidonax traillii extimus*	E	For breeding, riparian tree and shrub communities along rivers, wetlands, and lakes; for wintering, brushy grasslands, shrubby clearings or pastures, and woodlands near water	No known occurrences; suitable habitat present	No	No effect
Yellow-billed cuckoo *Coccyzus americanus*	C	Deciduous riparian woodland including cottonwood and willow communities with dense understories	No known occurrences; suitable habitat present	No	May affect, is not likely to result in a trend toward federal listing
Colorado hookless cactus *Sclerocactus glaucus*	T	Salt-desert shrub communities in clay soils on alluvial benches and breaks, toe slopes, and deposits often with cobbled, rocky, or graveled surfaces; 4500' – 6000' in elevation	Known occurrence; suitable habitat present	No	May affect, is likely to adversely affect

Species	Status	Habitat Description	Potential and/ or Known Occurrence in Planning Area[1]	Designated Critical Habitat in Planning Area?	Effects Determination[2]
Clay-loving buckwheat *Eriogonum pelinophilum*	E	Mancos shale badlands in salt desert shrub communities, often with shadscale, black sagebrush, and mat saltbush; 5200' – 6400' in elevation	Known occurrence; suitable habitat present	No	May affect, is likely to adversely affect
Uncompahgre fritillary butterfly [4] *Boloria acrocnema*	E	Restricted to moist, alpine slopes above 12,000' in elevation with extensive snow willow patches; restricted to San Juan Mountains	No known occurrences; no suitable habitat	No	No effect

[1] Species occurrence and habitat assessment information are described in the Environmental Baseline section of the Biological Assessment (BLM 2009).
[2] Rationale for effects determinations are provided in the Biological Assessment (BLM 2009).
[3]Southwestern willow flycatcher not known to occur in UFO, but species retained on USFWS 2008 species list.
[4] Uncompahgre fritillary butterfly is not known to occur in UFO, but species retained on USFWS 2008 species list.
[5] DeBeque phacelia is not known to occur in UFO, and this species was removed from USFWS 2008 species list.

Appendix D

Birds of Conservation Concern of the UFO

BIRDS OF CONSERVATION CONCERN OF THE UFO [1]			
SPECIES	HABITAT DESCRIPTION [2]	RANGE AND STATUS IN THE UFO [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PLANNING AREA [4]
Gunnison sage grouse *Centrocercus minimus*	Sagebrush communities (especially big sagebrush) for hiding and thermal cover, food, and nesting; open areas with sagebrush stands for leks; sagebrush-grass-forb mix for nesting; wet meadows for rearing chicks	Year-round resident, breeding	
American bittern *Botaurus lentiginosus*	Marshes and wetlands; ground nester	Spring/ summer resident, breeding confirmed in the region but not within the UFO	
Bald eagle [5] *Haliaeetus leucocephalus*	Nests in forested rivers and lakes; winters in upland areas, often with rivers or lakes nearby	Fall/winter resident, no confirmed breeding	
Ferruginous hawk *Buteo regalis*	Open, rolling and/or rugged terrain in grasslands and shrubsteppe communities; also grasslands and cultivated fields; nests on cliffs and rocky outcrops	Fall/ winter resident, non-breeding	
Golden eagle *Aquila chrysaetos*	Open country, grasslands, woodlands, and barren areas in hilly or mountainous terrain; nests on rocky outcrops or large trees	Year-round resident, breeding	
Peregrine falcon [5] *Falco peregrinus*	Open country near cliff habitat, often near water such as rivers, lakes, and marshes; nests on ledges or holes on cliff faces and crags	Spring/summer resident, breeding	
Prairie falcon *Falco mexicanus*	Open country in mountains, steppe, or prairie; winters in cultivated fields; nests in holes or on ledges on rocky cliffs or embankments	Year-round resident, breeding	

BIRDS OF CONSERVATION CONCERN OF THE UFO [1]			
SPECIES	HABITAT DESCRIPTION [2]	RANGE AND STATUS IN THE UFO [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PLANNING AREA [4]
Snowy plover [6] *Charadrius alexandrines*	Sparsely vegetated sand flats associated with pickleweed, greasewood, and saltgrass	Spring migrant, non-breeding	
Mountain plover *Charadrius montanus*	High plain, cultivated fields, desert scrublands, and sagebrush habitats, often in association with heavy grazing, sometimes in association with prairie dog colonies ; short vegetation	Spring/ fall migrant, non-breeding	
Long-billed curlew *Numenius americanus*	Lakes and wetlands and adjacent grassland and shrub communities	Spring/ fall migrant, non-breeding	
Yellow-billed cuckoo [7] *Coccyzus americanus*	Riparian, deciduous woodlands with dense undergrowth; nests in tall cottonwood and mature willow riparian, moist thickets, orchards, abandoned pastures	Summer resident, breeding	
Flammulated owl *Otus flammeolus*	Montane forest, usually open and mature conifer forests; prefers ponderosa pine and Jeffrey pine	Summer resident, breeding	
Burrowing owl *Athene cunicularia*	Open grasslands and low shrublands often in association with prairie dog colonies; nests in abandoned burrows created by mammals; short vegetation	Summer/ fall resident, breeding	
Lewis's woodpecker *Melanerpes lewis*	Open forest and woodland, often logged or burned, including oak, coniferous forest (often ponderosa), riparian woodland, and orchards, less often in pinyon-juniper	Year-round resident, breeding	
Willow flycatcher [6] *Empidonax traillii*	Riparian and moist, shrubby areas; winters in shrubby openings with short vegetation	Summer resident, breeding	
Gray vireo *Vireo vicinior*	Pinyon-juniper and open juniper-grassland	Summer resident, breeding	
Pinyon jay *Gymnorhinus cyanocephalus*	Pinyon-juniper woodland	Year-round resident, breeding	
Juniper titmouse *Baelophus griseus*	Pinyon-juniper woodlands, especially juniper; nests in tree cavities	Year-round resident, breeding	
Veery *Catharus fuscescens*	Deciduous forests, riparian, shrubs	Possible summer resident, breeding not confirmed	

BIRDS OF CONSERVATION CONCERN OF THE UFO [1]			
SPECIES	HABITAT DESCRIPTION [2]	RANGE AND STATUS IN THE UFO [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PLANNING AREA [4]
Bendire's thrasher *Toxostoma bendirei*	Desert, especially areas of tall vegetation, cholla cactus, creosote bush and yucca, and in juniper woodland	UFO is outside known range	
Grace's warbler *Dendroica graciae*	Mature coniferous forests	Summer resident, breeding	
Brewer's sparrow *Spizella breweri*	Sagebrush-grass stands; less often in pinyon-juniper woodlands	Summer resident, breeding	
Grasshopper sparrow *Ammodramus savannarum*	Open grasslands and cultivated fields	UFO is outside known range	
Chestnut-collared longspur *Calcarius ornatus*	Open grasslands and cultivated fields	Spring migrant, non-breeding	
Black rosy-finch *Leucosticte atrata*	Open country including mountain meadows, high deserts, valleys, and plains; breeds/ nests in alpine areas near rock piles and cliffs	Winter resident, non-breeding	
Brown-capped rosy-finch *Leucosticte australis*	Alpine meadows, cliffs, and talus and high-elevation parks and valleys	Summer residents, breeding	
Cassin's finch *Carpodacus cassinii*	Open montane coniferous forests; breeds/ nests in coniferous forests	Year-round resident, breeding	

[1] U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. [Online version available at <http://www.fws.gov/migratorybirds/>].
[2] Cornell Lab of Ornithology. All about birds: bird guide. < http://www.allaboutbirds.org/guide/> Accessed 05/15/2009.
[3] San Juan Institute of Natural and Cultural Resources. Colorado Breeding Bird Atlas. Fort Lewis College, Durango, Colorado. <http://www.cobreedingbirdatlasii.org/> Accessed: 05/15/2009.
[4] Assessment based on UFO files and GIS data, partner data, and local knowledge.
[5] ESA delisted species.
[6] Non-listed subspecies/ population.
[7] ESA candidate species.

Appendix E

Sensitive Species of the UFO

SENSITIVE SPECIES OF THE UFO [1]		
SPECIES	HABITAT DESCRIPTION [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PROJECT AREA [4]
FISH		
Roundtail chub *Gila robusta*	Warm-water rocky runs, rapids, and pools of creeks and small to large rivers; also large reservoirs in the upper Colorado River system; generally prefers cobble-rubble, sand-cobble, or sand-gravel substrate	
Bluehead sucker *Catostomus discobolus*	Large rivers and mountain streams, rarely in lakes; variable, from cold, clear mountain streams to warm, turbid streams; moderate to fast flowing water above rubble-rock substrate; young prefer quiet shallow areas near shoreline	
Flannelmouth sucker *Catostomus latipinnis*	Warm moderate- to large-sized rivers, seldom in small creeks, absent from impoundments; pools and deeper runs often near tributary mouths; also riffles and backwaters; young usually in shallower water than are adults	
Colorado River cutthroat trout *Oncorhynchus clarki pleuriticus*	Cool, clear streams or lakes with well-vegetated streambanks for shading cover and bank stability; deep pools, boulders, and logs; thrives at high elevations	
MAMMALS		
Kit fox *Vulpes macrotis*	Semi-desert shrublands of saltbrush, shadscale and greasewood	
River otter *Lutra Canadensis*	Perennial streams and rivers with abundant fish and crayfish; often in association with beavers and abandoned bank dens	
Allen's (Mexican) big-eared bat *Idionycteris phyllotis*	Ponderosa pine, pinyon-juniper woodland, oak brush, riparian woodland (cottonwood); typically found near rocky outcrops, cliffs, and boulders; often forages near streams and ponds.	

SENSITIVE SPECIES OF THE UFO [1]		
SPECIES	HABITAT DESCRIPTION [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PROJECT AREA [4]
Big free-tailed bat *Nyctinomops macrotis*	Rocky areas and rugged terrain in desert and woodland habitats; roosts in rock crevices in cliffs and in buildings caves, and occasionally tree holes	
Spotted bat *Euderma maculatum*	Desert shrub, ponderosa pine, pinyon-juniper woodland, canyon bottoms, open pasture, and hayfields; roost in crevices in cliffs with surface water nearby	
Townsend's big-eared bat *Corynorhinus townsendii*	Mesic habitats including coniferous forests, deciduous forests, sagebrush steppe, juniper woodlands, and mountain; maternity roosts and hibernation in caves and mines; does not use crevices or cracks; caves, buildings, and tree cavities for night roosts	
Fringed myotis *Myotis thysanodes*	Desert, grassland, and woodland habitats including ponderosa pine, pinyon/juniper, greasewood, saltbush, and scrub oak; roosts in caves, mines, rock crevices, and buildings	
Yuma myotis *Myotis yumanesis*	Strongly associated with water, typically rivers or streams; riparian, scrublands and deserts, and forests; roosts in buildings, bridges, cliff crevices, trees, and abandoned mud nests of cliff swallows	
BIRDS		
Bald eagle [5] *Haliaeetus leucocephalus*	Nests in forested rivers and lakes; winters in upland areas, often with rivers or lakes nearby	
Peregrine falcon [5] *Falco peregrines anatum*	Open country near cliff habitat, often near water such as rivers, lakes, and marshes; nests on ledges or holes on cliff faces and crags	
Northern goshawk *Accipiter gentilis*	Nests in a variety of forest types including deciduous, coniferous, and mixed forests including ponderosa pine, lodgepole pine, or in mixed-forests with fir and spruce; also nest in aspen or willow forests	

SENSITIVE SPECIES OF THE UFO [1]		
SPECIES	HABITAT DESCRIPTION [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PROJECT AREA [4]
Ferruginous hawk *Buteo regalis*	Open, rolling and/or rugged terrain in grasslands and shrubsteppe communities; also grasslands and cultivated fields; nests on cliffs and rocky outcrops	
Gunnison sage grouse *Centrocercus minimus*	Sagebrush communities (especially big sagebrush) for hiding and thermal cover, food, and nesting; open areas with sagebrush stands for leks; sagebrush-grass-forb mix for nesting; wet meadows for rearing chicks	
Columbian sharp-tailed grouse *Tympanuchus phasianellus columbian*	Native bunchgrass and shrub-steppe communities for nesting; mountain shrubs including serviceberry are critical for winter food and escape cover	
Long-billed curlew *Numenius americanus*	Lakes and wetlands and adjacent grassland and shrub communities	
White-faced ibis *Plegadis chihi*	Marshes, swamps, ponds and rivers	
Black tern *Chlidonias niger*	Marshes, swamps, and ponds	
REPTILES AND AMPHIBIANS		
Longnose leopard lizard *Gambelia wislizenii*	Desert and semidesert areas with scattered shrubs or other low plants; e.g., sagebrush; areas with abundant rodent burrows, typically below 5,000' in elevation	
Texas horned lizard [6] *Phrynosoma cornutum*	Plains grasslands, particularly where there are large patches of bare ground; seeks cover in rodent burrows	
Midget faded rattlesnake [7] *Crotalus viridis concolor*	Rocky outcrops for refuge and hibernacula, often near riparian; upper limit of 7500'-9500' in elevation	
Northern leopard frog [8] *Rana pipiens*	Springs, slow-moving streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes; in summer, commonly inhabits wet meadows and fields; may forage along water's edge or in nearby meadows or fields	

SENSITIVE SPECIES OF THE UFO [1]		
SPECIES	HABITAT DESCRIPTION [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PROJECT AREA [4]
Canyon treefrog *Hyla arenicolor*	Rocky canyon bottoms along intermittent or perennial streams in temporary or permanent pools or arroyos ; semi-arid grassland, pinyon-juniper, pine-oak woodland, scrubland, and montane zones; elevation 1000' - 10,000'	
PLANTS		
Grand Junction milkvetch *Astragalus linifolius*	Sparsely vegetated habitats in pinyon-juniper and sagebrush communities, often within Chinle and Morrison Formation and selenium-bearing soils; elevation 4800' – 6200'	
Naturita milkvetch *Astragalus naturitenis*	Cracks and ledges of sandstone cliffs and flat bedrock area typically with shallow soils, within pinyon-juniper woodland; elevation 5400' – 6700'	
San Rafael milkvetch *Astragalus rafaelensis*	Banks of sandy clay gulches and hills, at the foot of sandstone outcrops, or among boulders along dry watercourses in seleniferous soils derived from shale or sandstone formations; elevation 4500'– 5300'	
Sandstone milkvetch *Astragalus sesquiflorus*	Sandstone rock ledges (Entrada formation), domed slickrock fissures, talus under cliffs, sometimes in sandy washes; elevation 5000' – 5500'	
Rocky Mountain thistle *Cirsium perplexans*	Open areas and disturbed sites in mixed shrublands and pinyon-juniper woodlands; elevation 5000' – 8000'	
Kachina daisy *Erigeron kachinensis*	Saline soils in alcoves and seeps in canyon walls; elevation 4800' – 5600'	
Montrose (Uncompahgre) bladderpod *Lesquerella vicina*	Sandy-gravel soil mostly of sandstone fragments over Mancos Shale (heavy clays) mainly in pinyon-juniper woodlands or in the ecotone between it and salt desert scrub; also in sandy soils derived from Jurassic sandstones and in sagebrush steppe communities; elevation 5800' – 7500'	
Colorado desert parsley *Lomatium concinnum*	Adobe hills and plains on rocky soils derived from Mancos Formation shale; shrub communities dominated by sagebrush, shadscale, greasewood, or scrub oak; elevation 5500' – 7000'	
Paradox Valley (Payson's) lupine *Lupinus crassus*	Pinyon-juniper woodlands, or clay barrens derived from Chinle or Mancos Formation shales, often in draws and washes with sparse vegetation; elevation 5000' – 5800'	

SENSITIVE SPECIES OF THE UFO [1]		
SPECIES	HABITAT DESCRIPTION [2, 3]	POTENTIAL AND/OR KNOWN OCCURRENCES IN PROJECT AREA [4]
Dolores skeleton plant *Lygodesmia doloresenis*	Reddish purple, sandy alluvium and colluviums of the Cutler Formation between the canyon walls and the river in juniper, shadscale, and sagebrush communities; elevation 4000' – 5500'	
Eastwood monkey-flower *Mimulus eastwoodiae*	Shallow caves and seeps on steep canyon walls; elevation 4700' – 5800'	
Paradox breadroot *Pediomelum aromaticum*	Open pinyon-juniper woodlands in sandy soils or adobe hills; elevation 4800' – 5700'	
INVERTEBRATES		
Great Basin silverspot butterfly *Speyeria nokomis nokomis*	Found in streamside meadows and open seepage areas with an abundance of violets	

[1] Based on Colorado BLM State Director's Sensitive Species List (Last update: March 17, 2000)

[2] Van Reyper G. 2006. Bureau of Land Management TES [threatened, endangered, sensitive] species descriptions. Uncompahgre Field Office, Montrose, CO, updated 2009.Unpublished document.

[3] Spackman SB, JC Jennings, C Dawson, M Minton, A Kratz, C Spurrier. 1997. Colorado rare plant field guide. Prepared for the BLM, USFS, and USFWS by the Colorado Natural Heritage Program.

[4] Assessment based on UFO files and GIS data, partner data, and local knowledge.

[5] ESA delisted species.

[6] Species not known to occur in UFO

[7] Midget faded rattlesnake: validity of subspecies designation is in question by taxonomists

[8] Species currently under status review by FWS and a 12-month finding is pending; i.e., listing of the species throughout all or a significant portion of its range may be warranted