National Park Service
U.S. Department of the Interior
Colorado National Monument
Fruita, Colorado

Connect Wildwood Trailhead to the Corkscrew Trail

Environmental Assessment

October 2005

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Environmental Assessment

Summary

Colorado National Monument (Monument) proposes to construct a new trail that would connect the existing Wildwood trailhead to the Corkscrew trail, located at the eastern boundary of the Monument. The proposed project would involve constructing approximately 1.5 miles of trail located on lands managed by both the National Park Service and Bureau of Land Management. By constructing this permanent trail connection, the National Park Service hopes to minimize future social trailing in the area and rehabilitate the existing social trails.

This Environmental Assessment evaluates two alternatives; a no action alternative and an action alternative. The no action alternative is used as a baseline assessment, while the action alternative addresses construction of the new trail connection as well as installing signage, improving and expanding the Wildwood Trailhead, and rehabilitating unwanted social trails.

This Environmental Assessment has been prepared in compliance with the National Environmental Policy Act (NEPA) to provide the decision-making framework that 1) analyzes a reasonable range of alternatives to meet project objectives, 2) evaluates potential issues and impacts to Colorado National Monument's resources and values, and 3) identifies mitigation measures to lessen the degree or extent of these impacts. Resource topics that have been addressed in this document because the resultant impacts may be greater-than-minor include soils, vegetation, visitor use and experience, and park operations. All other resource topics have been dismissed because the project would result in negligible or minor effects to those resources. No major effects are anticipated as a result of this project. Public scoping was conducted to assist with the development of this document, and the majority of respondents supported the project.

Public Comment

If you wish to comment on the Environmental Assessment, you may enter them online at the National Park Service website Planning, Environment, and Public Comment (http://parkplanning.nps.gov/) or you may mail comments to the name and address below. This Environmental Assessment will be on public review for 30 days ending October 31, 2005. Please note that names and addresses of people who comment become part of the public record. We will make all submissions from organizations, businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses available for public inspection in their entirety. If you wish us to withhold your name and/or address, you must state this at the beginning of your comment.

Bruce Noble, Superintendent
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Fruita, Colorado 81521-9530

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PURPOSE AND NEED

Introduction

Colorado National Monument (Monument) is located on the western slope of Colorado, adjacent to the towns of Fruita and Grand Junction. It was established in 1911 by President William Taft under authority of the Antiquities Act to protect extraordinary examples of natural erosion of great scientific interest; to preserve historic resources including Rim Rock Drive; and to conserve the natural and cultural features for the enjoyment of present and future generations. The Monument offers visitors an opportunity to experience various geologic formations, paleontological resources, remains of prehistoric cultures, and wildlife.

The purpose of this Environmental Assessment is to examine the environmental impacts associated with constructing a trail that connects the Wildwood trailhead with the Corkscrew Trail. This Environmental Assessment has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR 1508.9), and the National Park Service Director's Order (DO)-12 (*Conservation Planning, Environmental Impact Analysis, and Decision-making*).

Purpose

There are a number of formalized trails on the eastern side of Colorado National Monument that provide access to various canyons and upper elevations of the Monument. One such trail is the Corkscrew Trail which dates back to 1909. It was one of the first trails constructed in the Monument and it provides the only official route through Ute Canyon. Over time, the original access to the Corkscrew Trail was lost due to encroaching development near the Monument. In spring 2005, the Corkscrew Trail was rehabilitated by volunteer crews; however, few people use the trail because there is no formal access leading to it. Therefore, the purpose of the project is to provide designated access to the Corkscrew Trail.

The closest public access to the Corkscrew Trail is the Wildwood Trailhead which is located approximately 1.5 miles to the north on land managed by the Bureau of Land Management. The Wildwood Trailhead offers access to other trails in the Monument, most notably the Liberty Cap Trail, but does not offer a designated route to the Corkscrew Trail. Without this trail connection, a number of social trails have developed in the area and they are becoming more prominent with increasing use. Figure 1 shows the location of the trails in this area of the Monument, including the proposed connection between the Wildwood Trailhead and the Corkscrew Trail.

The 2005 *General Management Plan* (NPS 2005a) discusses the current management problems associated with social trailing in the area of the Monument below the bench (i.e., where the Wildwood Trailhead and the Corkscrew Trail are located). The plan encourages the National Park Service to work with the Bureau of Land Management (and other adjacent land managers) to create trail connections, improve trailhead facilities, and minimize social trails. By formalizing a connection to the Corkscrew Trail, the National Park Service hopes to minimize future social trailing, thereby enhancing the visitor experience and reducing resource damage.

Colorado National Monument

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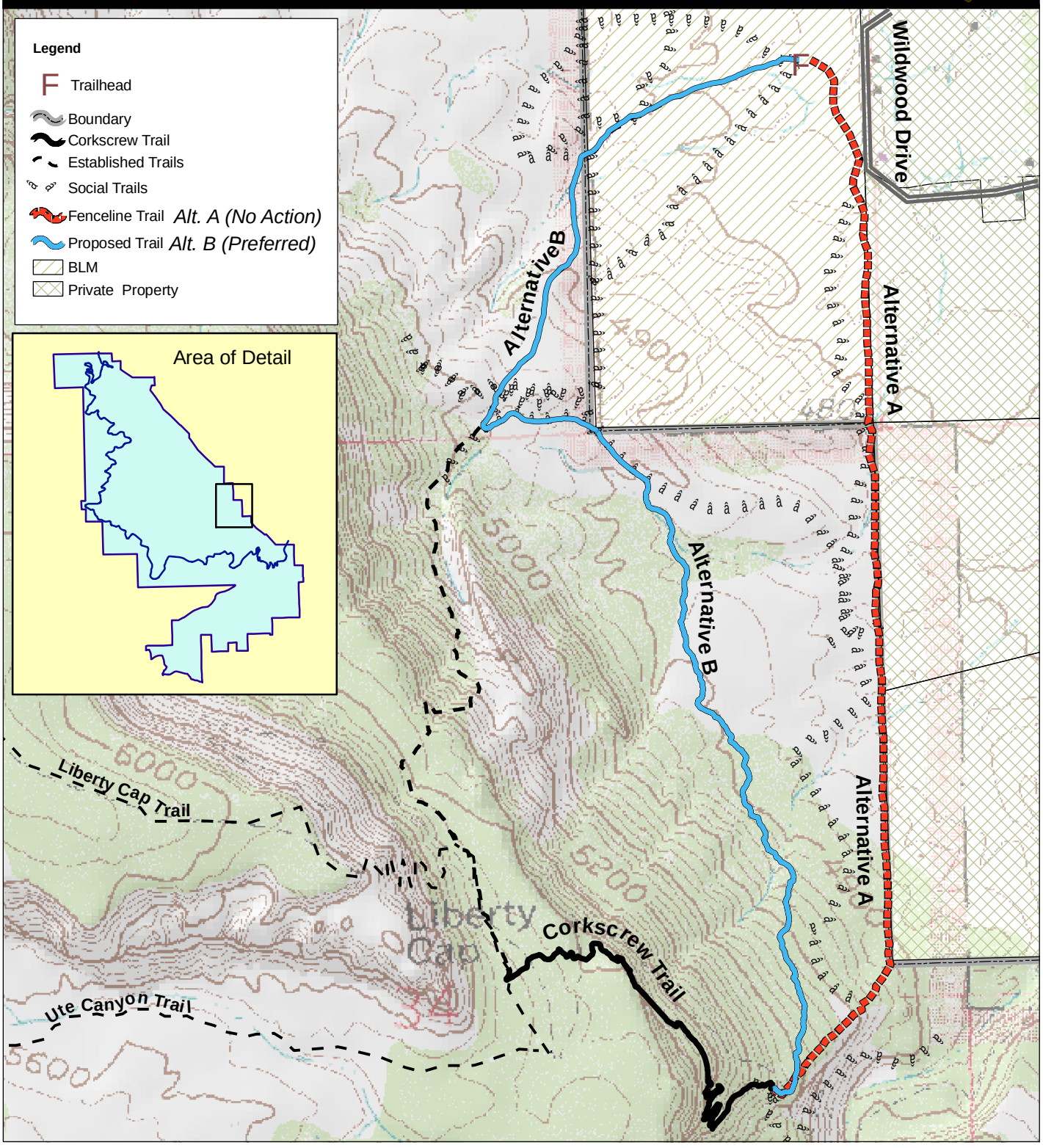
U.S. Department of the Interior



Proposed Corkscrew Trail Connection and other Trails in the Area

September 2005

File: P://GPS/GPS_data/projects/wildwood/
Produced by COLM RESOURCE MANAGEMENT, GIS DIVISION
Base from U.S. Geological Survey,
Reston, Virginia,
Lambert Conformal Conic
NAD 83 Zone 12N

0 0.2 Miles
0 0.2 Kilometers

Need

Due to changes in land use during the intervening years, the Corkscrew Trail can no longer be reached from its original access point. As private land at the mouth of Ute Canyon was developed beginning in the 1970s, the existing trailhead for the Corkscrew Trail was lost to public access, meaning that it is now located on private land. In later years, the Wildwood Trailhead was built on land managed by the Bureau of Land Management that adjoins the Monument to provide continuing access to the Monument's trail system in this area; however, a new connection to the Corkscrew Trail was never constructed. Over time, an extensive network of social trails has developed in this area, some of which lead to the Corkscrew Trail. The proposed project is needed to provide a permanent designated connection to the Corkscrew Trail because the original connection is no longer accessible to the public.

The network of social trails in the area has resulted in various impacts to the landscape over the years, particularly disturbance and removal of soils and vegetation in the area. Fragile biological soil crusts are easily damaged through trampling and the creation of new social trails, as are cacti and other vegetation. As evidenced by the aerial photograph in Figure 1, the social trails in this area are becoming more prominent and permanent with increasing use which leads to a greater impact on the visual landscape. To minimize damage to natural resources and the visual setting, there is a need to consolidate users on a single designated route to the Corkscrew Trail.

Few people know about the Corkscrew Trail because it is not on the Monument's brochure and access to it is limited. The current social trails in the area are not designated, nor are they signed. Visitors to this area, particularly those unfamiliar with the Monument, find this confusing. Also, many of these trails are in close proximity to or in view of the private residential development on the eastern boundary of the Monument. Visitors looking to leave the urban environment have few options to do so on designated trails. Therefore, the project is needed to minimize this visitor confusion and improve visitor enjoyment.

The expanding network of social trails in this area of the Monument indicates the need for additional trails and visitor opportunities. A new connection to the Corkscrew Trail would not only provide access to Ute Canyon, but would allow visitors to create additional smaller loop routes using the other designated trails in the area. Therefore, the project is needed to increase visitor opportunities.

Over the past several years, the Wildwood Trailhead has become more popular and frequently used. With growing use, portions of the trailhead have fallen into disrepair and are in need of minor rehabilitation. Possible expansion of the trailhead, although not planned in conjunction with the proposed construction of this trail connection, may also help alleviate some of the congestion.

Based on the purpose and need of the project, the objectives for the proposal are to 1) provide a permanent designated connection to the Corkscrew Trail; 2) minimize impacts and prevent impairment to park resources and values; 3) increase visitor opportunities and improve visitor enjoyment; and 4) rehabilitate and possibly expand the Wildwood Trailhead.

Relationship of the Proposed Action to Previous Planning Efforts

The proposal to provide a permanent designated connection between the Wildwood Trailhead and the Corkscrew Trail in Colorado National Monument is consistent with National Park Service *Management Policies* (NPS 2000a). These policies call for protecting the integrity of natural resources, process, systems, and values of the park while providing opportunities for visitors to enjoy the parks. These policies also indicate that the National Park Service should work cooperatively with surrounding landowners to accomplish these goals.

Creating a permanent designated connection between the Wildwood Trailhead and the Corkscrew Trail is also consistent with previous planning efforts for the Monument including the 2005 *Colorado National*

Monument General Management Plan/Final Environmental Impact Statement (NPS 2005a) which recommends minimizing social trails in the area of the Monument below the bench to reduce resource impacts and improve visitor experience. The General Management Plan also recommends the development of additional loop trails, which the Corkscrew Trail would become in combination with the Liberty Cap Trail, and the proposed connector trail. Additionally, the proposal is consistent with the 2005 *Colorado National Monument Fire Management Plan/Environmental Impact Statement* which designates this area of the Monument as a full suppression zone due to the adjacent urban interface (NPS 2005b).

Scoping

Scoping is a process to identify the resources that may be affected by a project proposal, and to explore possible alternative ways of achieving the proposal while minimizing adverse impacts. Colorado National Monument conducted both internal scoping with appropriate National Park Service staff and external scoping with the public and interested/affected groups and agencies.

Internal scoping was conducted by an interdisciplinary team of professionals from Colorado National Monument and the National Park Service Intermountain Regional Office. Interdisciplinary team members met on April 14, 2005 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable future projects that may have cumulative effects; and possible mitigation measures. Over the course of the project, team members also conducted site visits to view and evaluate the proposal to connect the Wildwood Trailhead to the Corkscrew Trail.

External scoping was initiated with the distribution of a scoping letter and an internet posting to inform the public, stakeholders, agencies, and tribes of the proposal to construct a trail connection, and to generate input on the preparation of this Environmental Assessment. During the 30-day scoping period, three public responses were received. The majority of commenters supported the project. A few concerns were raised regarding the need for a new trail; long-term maintenance of the trail; and using portions of existing trail to construct the new trail. No other comments were received during scoping. More information regarding scoping can be found in *Comments and Coordination*. Also, in a letter dated May 31, 2005, the Bureau of Land Management accepted the invitation to be a cooperating agency on this project, and will work with the National Park Service to develop this proposal.

Impact Topics Retained for Further Analysis

Impact topics for this project have been identified on the basis of federal laws, regulations, and orders; National Park Service *2001 Management Policies*; and National Park Service knowledge of resources at Colorado National Monument. Impact topics that are carried forward for further analysis in this Environmental Assessment are listed below along with the reasons why the impact topic is further analyzed. For each of these topics, the following text also describes the existing setting or baseline conditions (i.e. affected environment) within the project area. This information will be used to analyze impacts against the current conditions of the project area in the *Environmental Consequences* chapter.

Soils

According to the National Park Service's *2001 Management Policies*, the National Park Service will preserve and protect geologic resources and features from adverse effects of human activity, while allowing natural processes to continue (NPS 2000a). These policies also state that the National Park Service will strive to understand and preserve the soil resources of park units and to prevent, to the extent possible, the unnatural erosion, physical removal, or contamination of the soil, or its contamination of other resources.

Topography on the east boundary of the Monument consists of grassy rolling slopes and gradually inclined sedimentary rocks, draped across near vertical exposures of Precambrian metamorphic rocks

along the ancient Redlands fault. From the Wildwood Trailhead, the landscape tends to run uphill toward the Precambrian bench. The proposed location for the new trail is a combination of natural bare (slick) rock and soils. There are no significant geologic formations along the proposed route.

Soil quality in the Monument is naturally poor, which is typical of soils of the Colorado Plateau. The soils of the Monument, predominantly aridisols, are presently being mapped. Aridisols are the soils of arid and semiarid environments where moisture is scarce. The soils are typically light in color because there is little vegetation to add organic matter to the soil profile. They have lower thresholds to degradation processes than humid soils. Rainfall runoff and resulting erosion in sloping areas maintain shallow soils by stripping away soil as it slowly forms. Aeolian (windblown) sand deposits are common on the plateau top and some of the mesas, with smaller pockets of deposition in the canyons. Aeolian sand is a typical component of Monument soils. Small, localized sand dunes occur at end point projections of the entrada formations, but they are currently stabilized by vegetation. In aridisols, the distribution of vegetation is commonly patchy with evidence of slightly raised mounds. Disturbance, such as unwanted social trails, of this vegetation could activate the dunes.

Biological soil crusts are present in the Monument and in the proposed project area. These crusts, consisting of soil cyanobacteria, lichens, and mosses, play an important ecological role in soil stability and fertility. Biological soil crusts are often extraordinarily well-developed, sometimes representing a majority of the living ground cover. They increase the stability of otherwise easily-eroded soils, increase water infiltration, and increase fertility in soils often limited in essential nutrients such as nitrogen and carbon.

Erosion is an ecosystem component that is specifically protected in the monument. Biological soil crusts are highly susceptible to soil-surface disturbance, such as trampling by animals and people. The underlying soils are vulnerable to both wind and water erosion. Soil erosion occurs where vegetation cover is sparse and slopes are steep; these areas are especially prone to erosion from surface runoff during storms. Private landowners along the down-slope, northeast boundary of the Monument could be impacted by erosion if it were to occur on a large scale in a short period of time.

Additionally, both biological soil crusts and the soils themselves protect and preserve native seed banks. If unmitigated, disturbances such as water-related erosion can expose or degrade these native seed banks, which can promote invasion by exotic plant species. Therefore, maintenance of the soils and biological soil crusts at the Monument has numerous implications on erosion processes, vegetation community development and distribution, and wildlife.

Soil erosion and loss has occurred, at varying degrees, on all Monument trails. Soil erosion may initially occur from soils being loosened from visitor use, and then may be removed by wind and water associated with storm events. Some soils, particularly on steeper sections, are more susceptible to erosion than other sections. Past use of the area including social trailing has had measurable effects on soils; therefore, this impact topic will be retained for further analysis.

Vegetation

According to the National Park Service's *2001 Management Policies*, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of plants (NPS 2000a). The proposed trail is located at the lower elevations of the Monument where the dominant vegetation type is pinyon-juniper woodland consisting of Colorado pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*). Some open areas along the route are populated by big sagebrush (*Artemisia tridentate*) and rabbitbrush (*Chrysothamnus spp.*). Grasses such as Indian ricegrass (*Oryzopsis hymenoides*), galleta grass (*Hilaria jamesii*), and western wheatgrass (*Agropyron smithii*) also occur along the proposed route, in addition to occasional cacti such as prickly-pear and various barrel cacti. On private lands adjacent to the Monument, the vegetation may vary from native vegetation (grasses, shrubs, pinyon-juniper) to sub-urban landscaping including manicured and irrigated lawns and shrubs and in some cases exotic species such as Russian olive and tamarisk.

There are at least sixty plant species in Colorado National Monument that are not native to the Monument. Much of the invasion of these species is due to human activities, such as development, nearby ranching activities, and Rim Rock Drive, other roads, and hiking and horse trails. All of these activities provide means for non-native species to be introduced into and spread throughout the Monument. Once non-native species are established in the monument, natural disturbance such as fire, flooding and erosion support further spread of these aggressive species into newly disturbed areas. Presently, cheat grass (*Bromus tectorum*), tamarisk (*Tamarix chinensis*), Russian olive (*Elaeagnus angustifolia*), and Russian knapweed (*Centaurea* repens) are the most prevalent and threatening of the exotic plant species found in the Monument.

The proposed project would include constructing a trail that would require the removal of some vegetation. Long-term use of the trail would likely prohibit regrowth of this vegetation. These actions are considered to have measurable effects; therefore, the topic of vegetation will be carried forward for further analysis.

Visitor Use and Experience

According to *2001 Management Policies*, the enjoyment of park resources and values by people is part of the fundamental purpose of all park units (NPS 2000a). The National Park Service is committed to providing appropriate, high quality opportunities for visitors to enjoy the parks, and will maintain within the parks an atmosphere that is open, inviting, and accessible to every segment of society. Further, the National Park Service will provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the superlative natural and cultural resources found in the parks. The National Park Service *2001 Management Policies* also state that scenic views and visual resources are considered highly valued associated characteristics that the National Park Service should strive to protect (NPS 2000a).

Visitation at Colorado National Monument has remained fairly level over the last decade. Over the next 15-20 years, visitation is expected to grow by 10% (NPS 2005). Approximately 294,000 people visited the Monument in 2002 for recreational purposes; an additional 305,000 people traveled though the Monument en route to other destinations. The busiest months for visitation to the monument are May and August.

The Wildwood Trailhead is located on lands managed by the Bureau of Land Management, in close proximity to residential communities. People from these communities are the most regular visitors to this area of the Monument, and according to a survey of Monument neighbors conducted by the National Park Service in 1995, approximately 55% used the Monument weekly or monthly. As the adjoining neighborhoods develop and increase in size, the number of people using the Wildwood Trailhead and Corkscrew trail is expected to increase.

The Wildwood Trailhead consists of a dirt parking lot with a capacity of about ten vehicles. A fence loops around the perimeter of the parking lot, and there is a sign indicating the beginning of Liberty Cap Trail. There are no other facilities such as trash receptacles, toilets, or informational kiosks. The Wildwood Trailhead also serves as the beginning point to other trails in the area including Corkscrew Trail; however, most of these other trails leading from the Wildwood Trailhead are social trails with no signage. At any given time, there are usually a few cars in the parking lot at Wildwood Trailhead, and on busy days, the parking lot may be full with outflow parking on the side of the road.

The Corkscrew Trail can be reached from the Wildwood Trailhead via a series of social trails. Due to lack of signage, most of the use on the Corkscrew Trail comes from locals who are familiar with the Monument. Use of the Wildwood Trailhead and Corkscrew Trail is becoming more popular, especially since the trail was rehabilitated by volunteer crews in the spring of 2005. This increasing use is beginning to negatively affect the condition of these features, and without regular maintenance, the problem is worsening. Uses allowed on trails in Colorado National Monument include hiking and equestrian use. The trails leading from the trailhead receive fairly heavy day-use, primarily from local residents. Hikers

and runners are the most frequent types of users. There is some horseback riding, mostly by neighbors. Biking is not permitted at this time within the Monument, except on Rim Rock Drive.

There is an existing conflict between the policies of the Bureau of Land Management and the National Park Service regarding dogs. Dogs are permitted on lands managed by the Bureau of Land Management; however, the National Park Service prohibits dogs on trails within the Monument. This trail would cross lands administered by both agencies, and this conflict must be considered. In addition, with improvements to the trails in the area, the proposed project will increase visitor opportunities and improve visitor enjoyment; therefore, this topic is carried forward for further analysis.

Park Operations

The Wildwood Trailhead and a portion of the Liberty Cap Trail are located on lands managed by the Bureau of Land Management. The Corkscrew Trail is located entirely within Colorado National Monument. The portion of this project that lies within the jurisdiction of another agency, this proposed action would occur in conjunction with the Bureau of Land Management.

Currently, the Bureau of Land Management manages the Wildwood Trailhead and the trails that lead to the boundary of Colorado National Monument while the National Park Service manages the trails inside the Monument. Both agencies perform maintenance and safety patrols of these areas, mostly on an as-needed basis, or as budgets and priorities allow. In Colorado National Monument, the maintenance and visitor protection staffs are currently charged with maintaining and patrolling 44 miles of trails.

With the increasing demand of the trails in this area of the Monument, in addition to adding to the trail network by connecting the Wildwood Trailhead to the Corkscrew Trail, additional time would be required to maintain and patrol the trail. This would have a measurable adverse effect to Monument staff, and therefore, this topic has been carried forward for further analysis.

Impact Topics Dismissed From Further Analysis

Some impact topics have been dismissed from further consideration, as listed below. The rationale for dismissing these specific topics is stated for each resource.

Wildlife

According to the National Park Service's *2001 Management Policies*, the National Park Service strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of animals (NPS 2000a). The project area is primarily comprised of pinyon-juniper forests and open sage and rabbitbrush stands which support a wide variety of wildlife. Larger faunal species observed in the general area of the proposed project include mountain lions, coyote, and black bear; however, human presence, particularly visitor use and development of the area, discourages the frequent presence of larger mammals. Smaller mammals include bobcat, porcupine, rock squirrel, gray fox, kit fox, desert cottontail, black- and white-tailed jackrabbits, deer mouse, canyon mouse, spotted skunk, and variety of small rodents. Larger herbivores that may be seen in the project area include desert bighorn sheep, elk, and mule deer.

Bird life in the Monument is profuse and includes the peregrine falcon, golden eagle, great horned owl, red-tailed hawk, pinyon jay, grey vireo, white-throated swift, black-billed magpie, Lazuli bunting, dark-eyed junco, western meadowlark, and canyon wren. Reptiles occurring in the project area include several species of snakes, iguanid lizards, the yellow-headed collared lizard, and rare occurrences of the midget-faded rattlesnake. Due to the lack of water in the project area, there are no known fish or amphibians that inhabit the area.

The proposed construction of the trail connection between Wildwood Trailhead and the Corkscrew Trail would likely displace wildlife and increase habitat fragmentation, thereby having a negligible to minor

adverse effect on wildlife. Use of the trail by people would further disturb wildlife and wildlife habitat; however, given the proximity of the proposed trail to the developed residential areas adjoining the park, this impact is expected to be minor. Any disturbed areas created by construction activities outside of the new trail corridor, such as any staging areas, would be revegetated and rehabilitated following construction activities.

Construction activities on the trail, work crews, and the placement of staging (material) areas would also have temporary adverse impacts on wildlife to a minor degree; however, these effects would last only as long as the construction period. Dust and noise would increase which may disturb wildlife in the general area and would be temporary, lasting only as long as construction. Because the effects to wildlife and wildlife habitat from the proposed project are minor to negligible, this topic has been dismissed from further analysis in this document.

Special Status Species

The Endangered Species Act of 1973 requires examination of impacts on all federally-listed threatened, endangered, and candidate species. Section 7 of the Endangered Species Act requires all federal agencies to consult with the U.S. Fish and Wildlife Service (or designated representative) to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitats. In addition, the *2001 Management Policies* and Director's Order #77: *Natural Resources Protection* require the National Park Service to examine the impacts on federal candidate species, as well as state-listed threatened, endangered, candidate, rare, declining, and sensitive wildlife and vegetation species (NPS 2000a). For the purposes of this analysis, the U.S. Fish and Wildlife Service, the Colorado Division of Wildlife were contacted with regards to federal and state-listed species to determine those species that could potentially occur on or near the project area (CDOW 2005, FWS 2005).

According to Monument staff, no threatened or endangered species are known to inhabit the proposed project area. The bald eagle *(Haliaeetus leucocephalus)* inhabits the monument but rarely flies over the project area. Additionally, the Gunnison sage grouse, which can be found about ten miles from the project area, is a candidate for federal listing, and the endangered black-footed ferret has been reported in extreme western Mesa County. There is no designated critical habitat for either species in the monument. The Uinta Basin hookless cactus (*Sclerocactus glaucus*) is a federally-listed threatened species that has the potential to exist in the monument. A survey was conducted to determine whether the Uinta Basin hookless cactus is present in the project area, and the survey results were negative. Covering 30 feet on either side of the proposed trail, a National Park Service biologist conducted the survey in June 2005, and found no indications of the Uinta Basin hookless cactus in the project area.

The National Park Service manages state listed and other species of management concern in a conservative manner similar to that required by the Endangered Species Act and are therefore included in this analysis. Other species of management concern that occasionally inhabit the project area include kit fox *(Vulpes macrotis)*, desert bighorn sheep (*Ovis canadensis nelsoni)*, peregrine falcon *(Falco perigrinus anatum)*, midget faded rattlesnake *(Crotalus viridis concolor)* and leopard lizard *(Gambelia wislizenii)*. The kit fox is listed as State Endangered; desert bighorn sheep, a species of management concern; the peregrine falcon is a de-listed species, but monitoring is ongoing in the monument; midget faded rattlesnake and leopard lizard are State Special Concern Species (not a statutory category).

The mammal and bird species listed are transient through the project area. Trail construction-related activities could potentially disturb their activities but these adverse impacts would be 1) temporary, lasting only as long as construction, and 2) negligible, because of lack of suitable habitat and the transient nature. The reptile species could also potentially be disturbed but the adverse impacts of construction are negligible because the species would be dormant during the late fall or winter season when construction is planned. Post construction recreational activities would also have negligible affects on all of the species as human use would be limited and restricted to a relatively small corridor of use.

Because implementation of the proposed action would result in negligible to minor short-term adverse impacts to species of management concern, the topic of special status species was dismissed from further analysis.

Water Resources

National Park Service policies require protection of water quality consistent with the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters". To enact this goal, the U.S. Army Corps of Engineers has been charged with evaluating federal actions that result in potential degradation of waters of the United States and issuing permits for actions consistent with the Clean Water Act. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions, which affect waters of the United States.

The proposed project area does not contain surface waters, and is mostly dry, except for periodic runoff during storm events. A few intermittent drainages run through the area, and the new trail will likely follow the bed of drainages in some areas. This is expected to affect water resources to a negligible degree due to foot traffic which will further loosen the channel bed, and increase erosion during the next runoff. To assist with erosion and water quality, disturbed areas would be revegetated and recontoured following construction. Erosion of soils is further addressed under the topic Geology and Soils, which is carried forward for further analysis. Water quality, water quantity, and drinking water are not expected to be affected by the project. Because the project results in negligible effects to water resources, this topic has been dismissed from further consideration.

Wetlands

For regulatory purposes under the Clean Water Act, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

Executive Order 11990 *Protection of Wetlands* requires federal agencies to avoid, where possible, adversely impacting wetlands. Further, Section 404 of the Clean Water Act authorizes the U.S. Army Corps of Engineers to prohibit or regulate, through a permitting process, discharge or dredged or fill material or excavation within waters of the United States. National Park Service policies for wetlands as stated in *2001 Management Policies* and Director's Order #77-1: *Wetlands Protection*, strive to prevent the loss or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands (NPS 2000a, NPS 2002). In accordance with DO 77-1 *Wetlands Protection*, proposed actions that have the potential to adversely impact wetlands must be addressed in a Statement of Findings for wetlands. No wetlands are located in the project area; therefore, a Statement of Findings for wetlands will not be prepared, and the topic of wetlands has been dismissed from further consideration.

Floodplains

Executive Order 11988 *Floodplain Management* requires all federal agencies to avoid construction within the 100-year floodplain unless no other practicable alternative exists. The National Park Service under *2001 Management Policies* and Director's Order #77-2: *Floodplain Management* will strive to preserve floodplain values and minimize hazardous floodplain conditions. According to Director's Order #77-2: *Floodplain Management*, certain construction within a 100-year floodplain requires preparation of a statement of findings for floodplains (NPS 2000a, NPS 2003). No floodplains are located in the project area; therefore, a Statement of Findings for floodplains will not be prepared, and the topic of floodplains has been dismissed from further consideration.

Wilderness

According to the National Park Service's *2001 Management Policies*, the National Park Service will evaluate all lands it administers for their suitability for inclusion within the national wilderness preservation system, and for those lands that possess wilderness characteristics, no action will be taken that would diminish wilderness suitability (NPS 2000a). According to the 1964 Wilderness Act which established the national wilderness preservation system, wilderness is defined as, "…an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain."

While there is no Congressionally designated wilderness at Colorado National Monument, there is a wilderness recommendation of 13, 842 acres, plus 937 acres of potential wilderness. Most of the proposed project area (excluding the Bureau of Land Management lands) is recommended wilderness. Within the Monument, the wilderness recommendation extends to within 1/8 mile of the Monument boundary.

The recommendation for wilderness means that the lands of Colorado National Monument have been assessed, studied, and recommended by the National Park Service, and the Secretary of Interior has recommended these lands to the President and has forwarded her recommendation to both houses of Congress. Congress never acted on that bill to officially designate the wilderness, but the lands remain official recommended wilderness. According to Director's Order #41: *Wilderness Preservation and Management*, the National Park Service will apply the minimum requirement concept to all administrative activities that affect the wilderness resource and character (NPS 1999). The application of the minimum requirement concept is intended to minimize impacts on wilderness character and resources and must guide all management actions in wilderness.

The proposed construction of the trail will occur in portions of the Monument's recommended wilderness. Managers at Colorado National Monument will apply the minimum requirement concept to the potential construction of a new trail connection in the Monument's recommended wilderness. Using this documented process, the manager will strive to minimize the extent of adverse impact associated with accomplishing the necessary wilderness objective. The proposed action is not expected to have an adverse impact on the recommended wilderness at Colorado National Monument including the physical resources within wilderness, or the wilderness characteristics and values. Therefore, the topic of wilderness has been dismissed from further consideration.

Historic Structures

Section 106 of the National Historic Preservation Act, as amended in 1992 (16 USC 470 *et seq.*); the National Park Service's Director's Order #28: *Cultural Resource Management Guideline*; and National Park Service *2001 Management Policies* (NPS 2000a) require the consideration of impacts on historic properties that are listed or eligible to be listed in the National Register of Historic Places. The National Register is the nation's inventory of historic places and the national repository of documentation on property types and their significance. The above-mentioned policies and regulations require federal agencies to coordinate consultation with State Historic Preservation Officers regarding the potential effects to properties listed on or eligible for the National Register of Historic Places.

The National Park Service, as steward of many of America's most important cultural resources, is charged to preserve historic properties for the enjoyment of present and future generations. Management decisions and activities throughout the National Park Service must reflect awareness of the irreplaceable nature of these resources. The National Park Service will protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the *2001 Management Policies* and Director's Order #28: *Cultural Resource Management* (NPS 1998).

There is one historic site located in the project area, and that is the Corkscrew Trail which is eligible for the National Register of Historic Places. No other National Register historic properties are in the project

area. Constructed in 1909 by John Otto, the Corkscrew Trail is a historic trail eligible for listing in the National Register of Historic (5ME12511) (NPS 2001). It was one of the first trails constructed in the Monument and provided access to Ute Canyon, the plateau above Liberty Cap, and trails above the Precambrian bench. The current trail follows much of the same route that was originally established by John Otto in the early 1900s. As currently managed, uses allowed on the trail include hiking and horseback riding. No dogs are permitted. Current uses permitted on the Corkscrew Trail will not change as part of this proposal.

Beginning in the 1970s, as private land near the mouth of Ute Canyon was developed, the original trailhead for the Corkscrew Trail was lost. The proposed project is intended to create access to the Corkscrew Trail, but is not intended to recreate the Corkscrew Trail in a different area. The new trail connection will have a different name than Corkscrew Trail so as to make it clear that it is not part of the original Corkscrew Trail. The only physical impact to the original Corkscrew Trail will be the placement of the new trail connection to adjoin the Corkscrew Trail; however, this will not alter the Corkscrew Trail in any way. The determination of effect under Section 106 of the National Historic Preservation Act would be *no historic properties affected*, to which the Colorado State Historic Preservation Officer concurred on September 19, 2005.

Archeological Resources

In addition to the National Historic Preservation Act and the National Park Service *2001 Management Policies* (NPS 2000a), the National Park Service's Director's Order #28A: *Archeology* (NPS 2004), affirms a long-term commitment to the appropriate investigation, documentation, preservation, interpretation, and protection of archeological resources inside units of the National Park System. As one of the principal stewards of America's heritage, the National Park Service is charged with the preservation of the commemorative, educational, scientific, and traditional cultural values of archeological resources for the benefit and enjoyment of present and future generations. Archeological resources are nonrenewable and irreplaceable, so it is important that all management decisions and activities throughout the National Park Service reflect a commitment to the conservation of archeological resources as elements of our national heritage.

While Colorado National Monument contains both prehistoric and historic archeological resources, the project area does not. A cultural resource survey was conducted by an archeologist in June 2005, and one archeological site was found; however, it was determined to be ineligible for the National Register of Historic Places, to which the Colorado State Historic Preservation Officer concurred on September 19, 2005. Because no National Register eligible archeological sites are in the project area, this topic has been dismissed from further analysis.

Cultural Landscapes

According to the National Park Service's Director's Order #28: *Cultural Resource Management Guideline*, a cultural landscape is a reflection of human adaptation and use of natural resources, and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built (NPS 1998). In 1998, a cultural landscape survey was conducted in Colorado National Monument, and five potential cultural landscapes were identified. None of these cultural landscapes are in the project area; therefore, this topic has been dismissed from further consideration.

Ethnographic Resources

National Park Service Director's Order #28: *Cultural Resource Management*, defines ethnographic resources as any site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it (NPS 1998). According to DO-28 and Executive Order 13007 on sacred sites, the National Park Service should try to preserve and protect ethnographic resources. A scoping newsletter

was mailed to the park's most closely affiliated tribe, the Northern Utes. No response was received. No ethnographic resources are known to exist in the proposed project area. For these reasons, this topic has been dismissed from further consideration.

Museum Collections

According to Director's Order #24: *Museum Collections Management,* the National Park Service requires the consideration of impacts on museum collections (historic artifacts, natural specimens, and archival and manuscript material), and provides further policy guidance, standards, and requirements for preserving, protecting, documenting, and providing access to, and use of, National Park Service museum collections (NPS 2004b). The proposed project will not disturb any curatorial facilities or contribute any additional collections to curatorial facilities; therefore museum collections at Colorado National Monument will not be affected by the proposed project, and this topic has been dismissed from further analysis.

Air Quality

The Clean Air Act of 1963 (42 U.S.C. 7401 *et seq.*) was established to promote the public health and welfare by protecting and enhancing the nation's air quality. The act establishes specific programs that provide special protection for air resources and air quality related values associated with National Park Service units. Section 118 of the Clean Air Act requires a park unit to meet all federal, state, and local air pollution standards. Colorado National Monument is designated as a Class II air quality area under the Clean Air Act. A Class II designation indicates the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter as specified in Section 163 of the Clean Air Act. Further, the Clean Air Act provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts.

Construction activities such as hauling materials and operating equipment could result in temporary increases of vehicle exhaust, emissions, and fugitive dust in the general project area (see also Wilderness for more on types of equipment to be used). Any exhaust, emissions, and fugitive dust generated from construction activities would be temporary and localized, and would likely dissipate rapidly because air stagnation at Colorado National Monument is rare. Overall, the project could result in a negligible degradation of local air quality, and such effects would be temporary, lasting only as long as construction activities are being conducted. The Class II air quality designation for Colorado National Monument would not be affected by the proposal; therefore, air quality has been dismissed from further consideration.

Soundscape Management

In accordance with *2001 Management Policies* and Director's Order #47: *Sound Preservation and Noise Management*, an important component of the National Park Service's mission is the preservation of natural soundscapes associated with national park units (NPS 2000a,b). Natural soundscapes exist in the absence of human-caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and durations of human-caused sound considered acceptable varies among National Park Service units as well as potentially throughout each park unit, being generally greater in developed areas and less in undeveloped areas.

The soundscape along the eastern boundary of Colorado National Monument is comprised of both manmade and natural sounds. Because the proposed project is in proximity to residential houses, there are man-made sounds in the area such as vehicular traffic on nearby roads; climate controls such as heating or air conditioning units; lawn mowers and other residential-type machinery; people; and aircraft. Natural sounds in the area include birds, wildlife, and wind.

This project would not contribute to long-term impacts to the soundscape at Colorado National Monument. The proposed project would likely have temporary impacts to the soundscape while construction activities are conducted, such as human-caused sounds from equipment, vehicular traffic, and people. Any sounds generated during the construction of the proposed trail would be temporary, lasting only as long as the activity is producing the sounds, and would have a negligible adverse impact on visitors and employees. Therefore, the topic of soundscape management was dismissed from further consideration.

Lightscape Management

In accordance with *2001 Management Policies*, the National Park Service strives to preserve natural ambient landscapes, which are natural resources and values that exist in the absence of human caused light (NPS 2000a). Colorado National Monument strives to limit the use of artificial outdoor lighting to that which is necessary for basic safety requirements. The Monument also strives to ensure that all outdoor lighting is shielded to the maximum extent possible, to keep light on the intended subject and out of the night sky. The residential communities adjacent to the Monument are the primary sources of light at the Monument. No exterior lighting is proposed for this project and no impacts to the lightscape are expected; therefore, this topic has been dismissed from further consideration.

Socioeconomics

The proposed action would neither change local and regional land use nor appreciably impact local businesses or other agencies. The Monument hopes to enlist volunteer work forces to complete the majority of construction. Implementation of the proposed action could provide a negligible beneficial impact to the economies of nearby Fruita and Grand Junction due to minimal increases in revenues for local businesses generated from restoration activities and increased long-term visitation. Any increase in workforce revenue, however, would be temporary and negligible, lasting only as long as the restoration activities occur. Because the impacts to the socioeconomic environment would be negligible, this topic has been dismissed from further consideration.

Prime and Unique Farmlands

The Farmland Protection Policy Act of 1981, as amended, requires federal agencies to consider adverse effects to prime and unique farmlands that would result in the conversion of these lands to non-agricultural uses. Prime or unique farmland is classified by the U.S. Department of Agriculture's Natural Resources Conservation Service, and is defined as soil that particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. In order to be considered prime and unique, the farmland must be irrigated. The Monument, and specifically the project area does not irrigate any of its lands; and, therefore does not contain prime or unique farmlands. Therefore, the topic of prime and unique farmlands has been dismissed from further consideration.

Indian Trust Resources

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the Department of Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources at Colorado National Monument. The lands comprising the Monument are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, the project would have no effects on Indian trust resources, and this topic has been dismissed from further consideration.

Environmental Justice

Executive Order 12898 *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Because the newly constructed trail would be available for use by all people regardless of race or income, and the construction workforces would not be hired based on their race or income, the proposed action would not have disproportionate health or environmental effects on minorities or low-income populations or communities. Therefore, environmental justice has been dismissed from further consideration.

ALTERNATIVES CONSIDERED

During April of 2005, an interdisciplinary team of National Park Service employees met for the purpose of developing project alternatives. This meeting resulted in the definition of project objectives as described in the *Purpose and Need,* and a list of alternatives that could potentially meet these objectives.
A total of five action alternatives and the no action alternative were originally identified for this project. Of these, four of the action alternatives were dismissed from further consideration for various reasons, as described later in this chapter. One action alternative and the no action alternative are carried forward for further evaluation in this Environmental Assessment. A summary table comparing alternative components is presented at the end of this chapter.

Alternatives Carried Forward

Alternative A – No Action

Under this alternative, a new trail connection between the Wildwood Trailhead and the Corkscrew Trail would not be constructed. In all likelihood, people seeking to use the Corkscrew Trail would continue to access it via social trails and/or the Fenceline Trail. Trail rehabilitation along the Corkscrew Trail would not be performed, nor would signage be added. Similarly, the Wildwood Trailhead would not be expanded or improved. Maintenance and safety patrols would continue to occur on an irregular, occasional basis. Should the No-Action Alternative be selected, the National Park Service would continue to manage the Corkscrew Trail as a hiking trail without modifications or improvements.

Alternative B – Construct Trail to Connect Wildwood Trailhead to Corkscrew Trail

Under this alternative, a new trail would be constructed connecting the Corkscrew Trail to the Wildwood Trailhead (see Figure 1 in previous chapter). This new trail would be approximately 1.5 miles in length, and would be a natural, non-paved trail. Appropriate signage would be posted along the trail to minimize social trailing. Because most of the proposed new trail would be located in recommended wilderness, no mechanized equipment would be used to construct the trail. Volunteer assistance would be used whenever practical and available.

The trail would be managed according to current policies of the National Park Service and the Bureau of Land Management. On the Monument portion, the trail would be managed to allow hiking and equestrian use only. Dogs would be permitted on the Bureau of Land Management section of the trail, in addition to the Wildwood Trailhead. The National Park Service in conjunction with the Bureau of Land Management would maintain the trail and conduct safety patrols, as funding and priorities permit.

The new trail would be designed to minimize soil and vegetation impacts and offer the visitor varied terrain and vegetation types, opportunities for views, and opportunities for a shorter route that is close but somewhat removed from the urban interface. Safety considerations would also be an important element of designing the proposed trail. In designing the trail route, existing social trails would be used to the extent feasible to minimize unnecessary environmental impacts.

This alternative also includes future improvements to the Wildwood Trailhead. Pending possible future transfer of 82.86 acres surrounding the trailhead from the Bureau of Land Management to the National Park Service, Colorado National Monument would intend to expand the trailhead parking lot to a capacity of 15-20 vehicles (approximately double the capacity). Signage or a kiosk would be constructed to provide visitor information. A trash receptacle would also be placed at the trailhead. Toilets may also be constructed. The Bureau of Land Management, in cooperation with the National Park Service would maintain the newly rehabilitated trailhead for the long-term.

This alternative also includes rehabilitation of the existing social trails. Signs or barriers will be erected to keep people out of certain areas to allow for natural revegetation and rehabilitation of the area. With the

new trail connection, the Corkscrew Trail would become an officially designated trail of the Monument, and would be added to Monument brochures.

To implement this alternative, a portion of the Wildwood Trailhead would be temporarily used for construction staging, material stockpiling, portable restroom, and equipment storage. Staging would likely be located in a previously disturbed area of the trailhead, and fenced or taped off from visitor contact. Exact location of the staging area will be determined following final trail design. The staging area would be recontoured to its previous manner following completion of restoration activities.

This alternative is based on preliminary designs and the best information available at the time of this writing. Specific distances, areas, and layouts used to describe the alternative are only estimates and could change during final design. If changes during final design are not consistent with the intent and effects of the selected alternative, then additional compliance would be completed, as appropriate.

Alternatives Considered and Dismissed

The following four alternatives were considered for project implementation, but were ultimately dismissed from further analysis in this Environmental Assessment. Reasons for their dismissal are provided in the following alternative descriptions.

- **Relocate and Designate the Original Access to the Corkscrew Trail** – This alternative considered finding and designating the original access to the Corkscrew Trail. The original trailhead is currently located on private land, and maintaining public access to the Corkscrew Trail would require purchasing land or right-of-way from the private landowner. Due to budgetary constraints for purchasing land, this alternative was not carried further.

- **Using Existing Social Trails to Connect to the Corkscrew Trail** - This alternative considered using the existing network of social trails to access the Corkscrew Trail. This alternative was dismissed because these social trails are poorly located, poorly marked, and are not sustainable which leads to substantial environmental and visitor use impacts. Therefore, this alternative does not meet the project's objectives and was dismissed from further consideration.

- **Construct a Trail Connection Between Wildwood Trailhead with the Corkscrew Trail Outside the Monument –** This alternative considered constructing a new trail on lands managed by the Bureau of Land Management and/or private lands outside of Colorado National Monument. This alternative was not developed any further mainly because a trail outside the Monument would be even closer to the urban corridor, and part of the reason for doing the project is to improve the visitor experience to the Monument by having trails outside of the urban environment. Therefore, this alternative does not meet the project's objectives and was dismissed from further consideration.

- **Construct a New Trailhead at the Base of the Corkscrew Route –** This alternative consisted of constructing a new trailhead at the bottom of the Corkscrew Route, and not creating a trail connection to the Wildwood Trailhead. This would mean that a new access road would need to be constructed on adjoining lands in order to access this trailhead. While this alternative provides access to the Corkscrew Route, it would also result in substantial environmental impacts, and was therefore dismissed from further consideration. In addition, this alternative would be cost-prohibitive.

Mitigation Measures

The following mitigation measures have been developed to minimize the degree and/or severity of adverse effects, and would be adhered to during implementation of the preferred alternative:

- Construction activities would be scheduled to minimize construction-related impacts upon visitors. Areas not under construction would remain accessible to visitors as much as is safely possible.

- All volunteer trail crews would be asked to appoint a volunteer foreman to oversee trail maintenance activities. The National Park Service would train volunteer foremen and any other interested volunteers in trail repair and maintenance per National Park Service standards. Training would include instruction on proper water bar placement, drainage placement, brushing and clearing, revegetation, where to obtain fill and other materials for trails, and how to apply fill materials such as soil, gravel, rocks, etc. Trail foremen would be responsible for ensuring that their crew performs the necessary work in accordance with instructions and standards provided by the National Park Service.

- A construction zone for installation of trail, as well as staging areas and work zones would be identified and demarcated with construction tape or some similar material prior to any construction activities. The tape would define the zone and confine the activity to the minimum area needed for implementing the project. All protection measures would be clearly stated in the construction specifications and workers would be instructed to avoid conducting activities beyond the zone as defined by the fencing. In addition, the National Park Service would ensure that all workers are informed that damage to resources outside the scope of work is subject to prosecution, fine, restitution costs, and other penalties.

- To minimize the amount of ground disturbance, staging and stockpiling areas would be located in previously disturbed sites, away from visitor use areas to the extent possible. All staging and stockpiling areas would be returned to pre-construction conditions following construction. Existing vegetation at the site would not be disturbed to the extent possible.

- To minimize the amount of disturbance to biological soil crusts and other sensitive resources, an education program would be established to inform the public of the need to protect these resources. This program will likely entail posting information at the Visitor Center and Wildwood Trailhead.

- Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of any discovery and the park would consult with the state historic preservation officer and the Advisory Council on Historic Preservation, as necessary, according to §36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.

- The National Park Service would ensure that all workers are informed of the penalties for illegally collecting resources or intentionally damaging resources including biological soil crusts. Construction workers and supervisors would be informed about the special sensitivity of the Monument's values and regulations.

Alternative Summaries

Table 1 summarizes the major components of Alternatives A and B, and compares the ability of these alternatives to meet the project objectives (the objectives for this project are identified in the *Purpose and Need* chapter). As shown in the following table, Alternative B meets each of the objectives identified for this project, while the no action alternative does not meet these objectives.

Table 1 – Summary of Alternatives and Extent to Which Each Alternative Meets Project Objectives

Alternative Elements	Alternative A – No Action	Alternative B – Restoration
Construct Trail from Wildwood Trailhead to Corkscrew Trail	No trail connection would be constructed.	A new trail connected would be constructed between the Wildwood Trailhead and the Corkscrew Trail. Signage would be added.
Improve Wildwood Trailhead	Improvements or expansion of the Wildwood Trailhead would not occur.	Future improvements to Wildwood Trailhead would include expansion, signage, a trash receptacle, and possibly toilets.
Project Objectives	**Meets Project Objectives?**	**Meets Project Objectives?**
Provide a permanent designated connection to the Corkscrew Trail	No. No new trail would be constructed connecting the Wildwood Trailhead and the Corkscrew Trail	Yes. A new trail would be constructed connecting the Wildwood Trailhead and the Corkscrew Trail
Minimize impacts and prevent impairment to park resources and values	No. Social trails would continue to be created causing impacts to soils, vegetation, and visual resources.	Yes. A new designated trail connection would minimize social trailing and its associated impacts to the environment.
Increase visitor opportunities and improve visitor enjoyment	No. With no new trail, there are not increased visitor opportunities. Also, without proper signage, visitors may continue to be confused.	Yes. With a new trail, visitor opportunities increase. And, with proper signage, visitor enjoyment improves by lessening potential confusion.
Rehabilitate and possibly expand the Wildwood Trailhead	No. The Wildwood Trailhead would not be improved or expanded.	Yes. The Wildwood Trailhead would be improved and expanded.

Table 2 summarizes the anticipated environmental impacts for Alternatives A and B. Only those impact topics that have been carried forward for further analysis are included in this table. The *Environmental Consequences* chapter provides a more detailed explanation of these impacts.

Table 2 – Environmental Impact Summary by Alternative

Impact Topic	Alternative A – No Action	Alternative B – Preferred Alternative
Soils	Without construction activities, the impact to soils would be beneficial and long-term because no ground disturbance would occur; however, current social trails would likely expand, causing increased soil erosion, loss, and compaction to a minor to moderate degree.	Construction of the new trail would result in the disturbance and loss of soils, having an overall minor to moderate, adverse effect to soils. Long-term use of the trail would further loosen and erode soils within the footprint of the new trail; however, social trails under this alternative would be rehabilitated, thereby having a beneficial, long-term, moderate impact to soils.
Vegetation	Without construction activities, the impact to vegetation would be beneficial and long-term because no ground disturbance would occur; however, current social trails would likely expand, causing increased vegetation disturbance and introduction of exotics to a negligible to minor degree.	Construction of the new trail would result in the disturbance and loss of vegetation, and the potential for exotics to be introduced. This would have an overall minor to moderate, adverse effect to vegetation. Long-term use of the trail would further damage vegetation, particularly when users step off the trail; however, social trails under this alternative would be rehabilitated, thereby having a beneficial, long-term, moderate impact to vegetation.
Visitor Use and Experience	With no construction, this alternative would have no effect to the visitor experience; however, in the long-term, visitors would continue using the existing network of social trails which may lead to impacts to visitor safety, the visual setting, and visitor enjoyment. These adverse impacts are expected to be long-term and minor in degree.	Construction of the new trail connection would have short-term, minor, adverse effects to visitors from noise, dust, and disruption of solitude. Beneficial effects of this alternative include increased visitor opportunities from constructing a new trail, and enhanced visitor experience from rehabilitating unsightly social trails and installing directional signage.
Park Operations	There would be no change in current park operations. Social trails would not be rehabilitated, and park staff would continue to maintain and patrol the trails in the area based on priority and funding.	Implementation of this alternative may increase the workload of Monument staff to a negligible degree due to maintenance, monitoring, and patrolling of the new trail.

Identification of the Environmentally Preferred Alternative

The environmentally preferred alternative is determined by applying the criteria suggested in the National Environmental Policy Act of 1969 (NEPA), which guides the Council on Environmental Quality (CEQ). The CEQ provides direction that "[t]he environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA's Section 101:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;

- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;

- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;

- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and

- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative A, No Action, only minimally meets the above six evaluation factors because it does not promote minimizing impacts to Monument resources that is currently resulting from social trailing in the area. Continued use and expansion of this social trail network is causing vegetation and soil damage. Lack of signage leads to visitor confusion and potential safety risks. Therefore, Alternative A does not meet the objectives to provide safe and esthetically pleasing surroundings (criteria 2) without environmental degradation (criteria 3).

Alternative B is the environmentally preferred alternative because it best addresses these six evaluation factors. Alternative B better meets these objectives than Alternative A primarily because this alternative would create a new trail connection and rehabilitate existing social trails, thereby minimizing future social trail use and expansion. By doing so, damage to vegetation, soils, and the visual setting would be reduced (criteria 3). This alternative also balances resource and visitor use (criteria 5), and with proper signage and maintenance, provides safe and esthetically pleasing surroundings (criteria 2). Therefore, Alternative B better meets the objectives to minimize resource damage and provide a wide range of beneficial uses without environmental degradation for succeeding generations.

No new information came forward from public scoping or consultation with other agencies to necessitate the development of any new alternatives, other than those described and evaluated in this document. Because it meets the purpose and need for the project, the project objectives, and is the environmentally preferred alternative, Alternative B is recommended as the National Park Service Preferred Alternative. For the remainder of the document, Alternative B will be referred to as the Preferred Alternative.

ENVIRONMENTAL CONSEQUENCES

This chapter analyzes the potential environmental consequences, or impacts, that would occur as a result of implementing the proposed project. Topics analyzed in this chapter include soils, vegetation, historic structures, visitor use and experience, and park operations. All remaining impact topics were dismissed as discussed in Chapter 1 *Purpose and Need*. Also contained in Chapter 1 are descriptions of the affected environment for the resource topics included in this chapter. Direct, indirect, and cumulative effects, as well as impairment are analyzed for each resource topic carried forward. Potential impacts are described in terms of type, context, duration, and intensity. General definitions are defined as follows, while more specific impact thresholds are given for each resource at the beginning of each resource section.

- ***Type*** describes the classification of the impact as either beneficial or adverse, direct or indirect:

  -Beneficial: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.

  -Adverse: A change that moves the resource away from a desired condition or detracts from its appearance or condition.

  -Direct: An effect that is caused by an action and occurs in the same time and place.

  -Indirect: An effect that is caused by an action but is later in time or farther removed in distance, but is still reasonably foreseeable.

- ***Context*** describes the area or location in which the impact would occur. Are the effects site-specific, local, regional, or even broader?

- ***Duration*** describes the length of time an effect would occur, either short-term or long-term:

  -Short-term impacts generally last only during construction, and the resources resume their pre-construction conditions following construction.

  -Long-term impacts last beyond the construction period, and the resources may not resume their pre-construction conditions for a longer period of time following construction.

- ***Intensity*** describes the degree, level, or strength of an impact. For this analysis, intensity has been categorized into negligible, minor, moderate, and major. Because definitions of intensity vary by resource topic, intensity definitions are provided separately for each impact topic analyzed in this Environmental Assessment.

Cumulative Effects: The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 et seq.), require assessment of cumulative impacts in the decision-making process for federal projects. Cumulative impacts are defined 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 other actions" (40 CFR 1508.7). Cumulative impacts are considered for both the No Action and Preferred Alternatives.

Cumulative impacts were determined by combining the impacts of the preferred alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Colorado National Monument and, if applicable, the surrounding region. The geographic scope for this analysis includes elements within Monument's boundaries, as well as actions outside the Monument within Mesa County and on adjacent lands. Most of the cumulative effects are related to the rapid urbanization facing Colorado National Monument and the

Grand Valley. The geographic area of consideration for cumulative impacts varies slightly by impact topic. Following are some of the actions and trends that were considered particularly important for the purpose of conducting the cumulative effects analysis.

- Continued growth in the construction of housing, commercial development, and other infrastructure in Mesa County.
- Transportation planning, including proposals for road improvements and alternative transportation.
- Increasing visitation and pressures to fulfill local recreation demand.
- Proliferation of nonnative invasive plants, especially tamarisk.
- Designation, planning, and management of the adjacent McInnis Canyons National Conservation Area and other lands managed by the Bureau of Land Management.
- Natural geologic processes, including erosion, flash floods, and landslides.
- Active land-use planning and cooperation by all levels of government.
- Social trailing in the Monument.

Impairment: *National Park Service's Management Policies 2001* require analysis of potential effects to determine whether or not actions would impair park resources (NPS 2000a). The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. National Park Service managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, the laws do give the National Park Service the management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values.

Although Congress has given the National Park Service the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the National Park Service must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. The prohibited impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values. An impact to any park resource or value may constitute an impairment, but an impact would be more likely to constitute an impairment to the extent that it has a major or severe adverse effect upon a resource or value whose conservation is 1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of the park; 2) key to the natural or cultural integrity of the park; or 3) identified as a goal in the park's general management plan or other relevant National Park Service planning documents.

Impairment may result from National Park Service activities in managing the park, visitor activities, or activities undertaken by concessionaires, contractors, and others operating in the park. A determination on impairment is made in the Conclusion section for each of the resource related topics carried forward in this chapter.

Soils

Intensity Level Definitions

The geology of Colorado National Monument is one of the reasons the Monument was established. Analysis of the potential impacts to soils was derived from the available soils information and the

Monument staff's past observations of the effects on soils from both visitor use and construction activities. The thresholds for this impact assessment are as follows:

Negligible: The impact is at the lowest levels of detection and causes very little or no physical disturbance/removal, compaction, unnatural erosion, when compared with current conditions.

Minor: The impact is slight but detectable in some areas, with few perceptible effects of physical disturbance/removal, compaction, or unnatural erosion of soils.

Moderate: The impact is readily apparent in some areas and has measurable effects of physical disturbance/removal, compaction, or unnatural erosion of soils.

Major: The impact is readily apparent in several areas and has severe effects of physical disturbance/removal, compaction, or unnatural erosion of soils.

Impairment: A major, adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of Colorado National Monument; (2) key to the natural or cultural integrity of the National Monument; or (3) identified as a goal in the National Monument's general management plan or other relevant National Park Service planning documents.

Impacts of Alternative A – No Action

Under this alternative, there would be no construction of a new trail connection or expansion of the Wildwood Trailhead. Without construction activities, soils would not be impacted because no ground disturbance would occur.

Soils, including biological soil crusts, however, would be disturbed through the continued use and possible development of new social trails in the area. Use and expansion of this network of social trails would result in continued erosion and trampling of soils in this general area. Biological soil crusts may also be destroyed by trampling. This would be a long-term, minor to moderate, adverse effect to soils as they erode and are carried to lower elevations by wind, storm events, and continue trail use.

Cumulative Impacts: Continued growth in Mesa County, particularly construction development, combined with increasing visitation and social trailing in the project area has contributed to the overall disturbance and loss of soils in the greater area. Natural geologic processes including flash flooding increases this soil loss, particularly when the soils have been loosened or disturbed by previous activity or construction. When combined with other past, present, and foreseeable future actions that would result in impacts to soils, this alternative would contribute a negligible amount of soil loss to the geographic area of this analysis.

Conclusion: Without construction activities, the impact to soils would be beneficial and long-term because no ground disturbance would occur; however, current social trails would likely expand, causing increased soil erosion, loss, and compaction to a minor to moderate degree. Cumulatively, this alternative would contribute negligible amount of soil loss when combined with other ground disturbing activities in the greater area including development in Mesa County, increased visitation to the Monument, and social trailing. Because the impacts would be less than major, there would be no impairment to soils.

Alternative B – Construct Trail to Connect Wildwood Trailhead to Corkscrew Trail

Any construction activities under this alternative including the new trail connection, future expansion of the Wildwood Trailhead, and installing signage would result in ground disturbance, thereby impacting soils. Construction activities may compact soils in some areas and/or loosen soils in other areas.

Construction limits would help minimize the amount of soil disturbance resulting in an overall long-term, minor to moderate, adverse effect to soils.

Long-term use of the new trail would continue to loosen and erode soils within the trail prism. Some sections of trail would continue to experience greater degrees of impacts depending on soil composition, slope, trail design, climate, and existing trail conditions. In areas of unstable soils and steeper grades, soils would be carried to lower elevations by wind, storm events, and continued trail use. Impacts on soils in these sections of trail are adverse, long-term and of minor intensity.

Routine NPS trail repair and maintenance would occur as funding and prioritized needs allowed; however, given the many miles of trails within the Monument, many other trails in the park would also require additional staff attention, and adverse impacts associated with soil loss may likely continue. Some long-term soil loss could be avoided through proper trail repair and maintenance, and it is assumed that outside organizations would continue to volunteer to repair and maintain the trail. Therefore, impacts to soils from long-term trail repair along with the assistance of volunteer maintenance, would be beneficial and of minor intensity.

The existing social trails in the area would be rehabilitated. Natural revegetation and growth of biological soil crusts would occur naturally. This would have a minor to moderate beneficial effect on soils because these areas would no longer be used by hikers and subsequently trampled, loosened, and/or compacted.

Cumulative Impacts: Cumulative impacts to soils under this alternative would be similar to those described under Alternative A. When combined with other past, present, and foreseeable future actions that would result in impacts to soils, particularly construction in the greater Mesa County area, this alternative would contribute a negligible amount of soil loss to the geographic area of this analysis.

Conclusion: Construction of the new trail under Alternative B would result in the disturbance and loss of soils, having an overall minor to moderate, adverse effect to soils. Long-term use of the trail would further loosen and erode soils within the footprint of the new trail; however, social trails under this alternative would be rehabilitated, thereby having a beneficial, long-term, moderate impact to soils. Cumulatively, this alternative would contribute negligible amount of soil loss when combined with other ground disturbing activities in the greater area including development in Mesa County, increased visitation to the Monument, and social trailing. Because impacts are less than major, there would be no impairment to soils.

Vegetation

Intensity Level Definitions

All available information on known vegetation in the Monument was compiled, and site-specific information was identified. Where possible, information from field studies of vegetation and observations of exotic species was also used. Predictions about short- and long-term site impacts were based on previous studies of visitor impacts to vegetation and previous monitoring data from the area.

Negligible: An action that could result in a change to a population or individuals of a species or a resource, but the change would be so small that it would not be of any measurable or perceptible consequence.

Minor: An action that could result in a change to a population or individuals of a species or a resource. The change would be small and localized and of little consequence.

Moderate: An action that would result in some change to a population or individuals of a species or resource. The change would be measurable and of consequence to the species or resource but more localized.

Major: An action that would have a noticeable change to a population or individuals of a species or resource. The change would be measurable and result in a severely adverse or major beneficial impact, and possible permanent consequence, upon the species or resource.

Impairment: A major, adverse impact to a resource or value whose conservation is (1) necessary to fulfill specific purposes identified in the enabling legislation or proclamation of Colorado National Monument; (2) key to the natural or cultural integrity of the National Monument; or (3) identified as a goal in the National Monument's general management plan or other relevant National Park Service planning documents.

Impacts of Alternative A – No Action

Under this alternative, there would be no construction of a new trail connection or expansion of the Wildwood Trailhead. Without construction activities, vegetation would not be impacted because no ground disturbance would occur.

Vegetation, however, would be disturbed through the continued use and possible development of new social trails in the area. Use and expansion of this network of social trails would result in continued trampling of vegetation in this general area. Vegetation may also be indirectly impacted by soil erosion. As more soils are disturbed within and outside of the trail prism, erosion from storm events may harm smaller shrubs and trees by removing stabilizing soils and exposing roots. These vegetation impacts would be adverse, long-term and of negligible to minor intensity.

As soils are trampled and loosened, the potential for exotic vegetation to establish increases. This would be a long-term, minor to moderate, adverse effect to vegetation as native species are removed and exotics are introduced. Exotic species could continue to be inadvertently transported in and spread along the trail through hikers and equestrian use. The level of impact would depend on the amount of use the trails receive and on how much imported seed successfully establishes along the trail. Impacts would be adverse, and of negligible to minor intensity.

Cumulative Impacts: Vegetation has been and will continue to be lost to rapid urbanization in Mesa County. Increased urbanization also brings with it the emergence of exotic vegetation on public lands. Recreational use on trails and other areas within the Monument continue to have adverse, incremental impacts to vegetation as well. Impacts associated with not constructing a new trail connection and allowing the continued use of current social trails is expected to contribute to a negligible amount of vegetation loss when considered with other past, present, and reasonably foreseeable future actions in the greater area.

Conclusion: Without construction activities, the impact to vegetation would be beneficial and long-term because no ground disturbance would occur; however, current social trails would likely expand, causing increased vegetation disturbance and introduction of exotics to a negligible to minor degree. Cumulatively, this alternative would contribute negligible amount of vegetation loss and disturbance when combined with other ground disturbing activities in the greater area including development in Mesa County, increased visitation to the Monument, and social trailing. Because the impacts would be less than major, there would be no impairment to vegetation.

Alternative B – Construct Trail to Connect Wildwood Trailhead to Corkscrew Trail

Any construction activities under this alternative including the new trail connection, improvements to the Wildwood Trailhead, and rehabilitation of the Corkscrew Trail would result in ground disturbance. Construction activities may remove or trample vegetation in a localized area. Construction limits would help minimize the amount of vegetation disturbance resulting in an overall long-term, minor to moderate, adverse effect to vegetation.

Some vegetation would continue to be lost as a result of ongoing trail use. Hikers may move aside or yield to another trail user, inadvertently trampling vegetation and/or loosening the soil. Impacts would be adverse, long-term and of negligible to minor intensity. Vegetation may also be indirectly impacted by soil erosion. As more soils are disturbed within and outside of the trail prism, erosion from storm events may harm smaller shrubs and trees by removing stabilizing soils and exposing roots. Volunteer trail crews would continue to maintain the trail by stabilizing soils and planting native species in key locations.

Exotic species could continue to be inadvertently transported in and spread along the trail through hikers or equestrian users. The level of impact would depend on the amount of use the trail receives and on how much imported seed successfully establishes along the trail. Following construction of the new trail, areas that were disturbed will be monitored and exotic vegetation will be removed. Given this mitigation measure, vegetation impacts would be adverse, and of negligible to minor intensity.

The existing social trails in the area would be rehabilitated. This would have a minor to moderate beneficial effect on vegetation because these areas would no longer be used by hikers and vegetation would be reestablished over time.

Cumulative Impacts: Cumulative impacts to vegetation under this alternative would be similar to those described under Alternative A. Impacts associated with constructing a new trail connection and restricting use of current social trails is expected to contribute to a negligible amount of vegetation loss when considered with other past, present, and reasonably foreseeable future actions in the greater area.

Conclusion: Construction of the new trail under Alternative B would result in the disturbance and loss of vegetation, and the potential for exotics to be introduced. This would have an overall minor to moderate, adverse effect to vegetation. Long-term use of the trail would further damage vegetation, particularly when users step off the trail; however, social trails under this alternative would be rehabilitated, thereby having a beneficial, long-term, moderate impact to vegetation. Cumulatively, this alternative would contribute negligible amount of vegetation loss when combined with other ground disturbing activities in the greater area including development in Mesa County, increased visitation to the Monument, and social trailing. Because impacts are less than major, there would be no impairment to vegetation.

Visitor Use and Experience

Intensity Level Definitions

The methodology used for assessing impacts to visitor use and experience is based on how construction of a new trail segment would affect the visitor, including safety considerations and maintaining the resource for future generations to enjoy. Trail monitoring data and personal observation records of visitation patterns by Monument staff were used to estimate the effects of the alternative actions on visitors. The impact on the ability of the visitor to experience a full range of park resources was analyzed by examining resources mentioned in the park significance statement. The thresholds for this impact assessment are as follows:

Negligible: Visitors would not be affected or changes in visitor use and/or experience would be below or at the level of detection. Any effects would be short-term. The visitor would not likely be aware of the effects associated with the alternative.

Minor: Changes in visitor use and/or experience would be detectable, although the changes would be slight and likely short-term. The visitor would be aware of the effects associated with the alternative, but the effects would be slight.

Moderate: Changes in visitor use and/or experience would be readily apparent and likely long-term. The visitor would be aware of the effects associated with the alternative, and would likely be able to express an opinion about the changes.

Major: Changes in visitor use and/or experience would be readily apparent and have substantial long-term consequences. The visitor would be aware of the effects associated with the alternative, and would likely express a strong opinion about the changes.

Impacts of Alternative A – No Action

Under this alternative, there would be no new trail constructed, and the Wildwood Trailhead and Corkscrew Trail would not be rehabilitated. Without any construction activities, there would be no construction-related impacts such as noise and dust, and the visitor experience would remain the same. Existing uses on the trails within the Monument would remain the same.

Users would likely continue to access the Corkscrew Trail via the Fenceline Trail or various social trails in the area. This network of social trails is not signed and can lead to visitor confusion and frustration. In addition to safety considerations, social trails can also have an adverse effect on the visual setting because the natural environment which many users seek is disrupted. The long-term effect to the visitor use and experience would therefore be minor and adverse.

Cumulative Impacts: As the population in the Grand Valley area increases, demand for accessible recreation areas will also increase, bringing with it a greater potential for crowding and visitor use conflicts on Monument trails. With increasing visitation, social trails would be expected to increase in use and number. The cumulative impact on users would vary depending on the growth/expansion of area trails and access points and the quality of these trails. Given the current number and length of accessible trails in the Monument and within Mesa County, the incremental impact of not constructing the trail connection under this alternative would have negligible impacts on all recreationists.

Conclusion: With no construction, this alternative would have no effect to the visitor experience; however, in the long-term, visitors would continue using the existing network of social trails which may lead to impacts to visitor safety, the visual setting, and visitor enjoyment. These adverse impacts are expected to be long-term and minor in degree. With the growing number of trails and trail use in the Monument and within Mesa County, the incremental impact of not constructing the trail connection under this alternative would have negligible impacts on all visitors.

Alternative B – Construct Trail to Connect Wildwood Trailhead to Corkscrew Trail

Construction of a new trail under this alternative would increase visitor opportunities and improve visitor enjoyment by establishing a permanent trail connecting to the Corkscrew Trail and rehabilitating the Wildwood Trailhead. These improvements would have a long-term, minor to moderate beneficial effect to visitors in this area of the Monument.

Existing uses on trails in the Monument would not change. Hiking and equestrian use would be permitted, while dogs would be prohibited. According to Bureau of Land Management policies, dogs, hiking, and equestrian use would be permitted in the Wildwood Trailhead and on trails leading to the Monument. Visitors wanting to take dogs would not be permitted to use the newly constructed trail connection in the Monument.

Construction activities would increase noise and disrupt the solitude of the area for the short-term, until construction activities cease. Mitigation measures will be applied to reduce this level of disruption including the use of non-mechanized (less noise) tools; working at times of lower visitor use; and fencing off construction zones to make the area more safe to visitors. With the mitigation measures, construction activities are expected to have short-term, minor, adverse effects on visitors in the localized area.

This alternative would enhance visitor safety. Signage would be erected in appropriate locations to guide the visitor to certain destinations, thereby lessening potential visitor confusion and frustration. Social trails in the area would be rehabilitated which also increases visitor safety by keeping visitors on designated trails. Rehabilitation of the social trails also improves the visual environment by restoring the

natural conditions that many visitors seek. These beneficial effects to visitor use and experience are long-term, and minor to moderate degree.

Cumulative Impacts: The overall cumulative effect to visitor use and experience is the same as described under Alternative A. Given the continued growth and use of trails in the Monument and within Mesa County, the incremental impact of constructing the trail connection under this alternative would have negligible impacts on all recreationists.

Conclusion: Construction of the new trail connection would have short-term, minor, adverse effects to visitors from noise, dust, and disruption of solitude. Beneficial effects of this alternative include increased visitor opportunities from constructing a new trail, and enhanced visitor experience from rehabilitating unsightly social trails and installing directional signage. Cumulatively, this alternative would contribute negligibly to visitor use and experience given the growing number of recreational trails and users in the Grand Valley area.

Park Operations

Intensity Level Definitions

Implementation of a project can effect the operations of a park such as the number of employees needed; the type of duties that need to be conducted; when/who would conduct these duties; how activities should be conducted; and administrative procedures. Park operations, for the purpose of this analysis, refers to the current staff available to adequately protect and preserve vital park resources and provide for an effective visitor experience. The discussion of impacts to park operations focuses on (1) law enforcement and any other staff available to ensure visitor and employee safety on the trails, and (2) the ability of the trail crew to protect and preserve resources given current funding and staffing levels. Park staff knowledge was used to evaluate the impacts of each alternative and is based on the current description of park operations presented in the Purpose and Need section of this document. The methodology used to assess potential changes to park operations are defined as follows:

Negligible: Park operations would not be affected or the effect would be at or below the lower levels of detection, and would not have an appreciable effect on park operations.

Minor: The effect would be detectable, but would be of a magnitude that would not have an appreciable adverse or beneficial effect on park operations. If mitigation were needed to offset adverse effects, it would be relatively simple and successful.

Moderate: The effects would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public. Mitigation measures would probably be necessary to offset adverse effects and would likely be successful.

Major: The effects would be readily apparent and would result in a substantial adverse or beneficial change in park operations in a manner noticeable to staff and the public, and be markedly different from existing operations. Mitigation measures to offset adverse effects would be needed, could be expensive, and their success could not be guaranteed.

Impacts of Alternative A – No Action

Under this alternative, there would be no change to park operations. Monument staff would continue to maintain and patrol the project area as funding and staffing levels permit. Park trails would continue to be assessed and ranked in order of priority, and trail crews (mostly volunteers) would repair and maintain trails in accordance with the prioritized schedule. Given the amount of resource damage that is commonly present from current social trailing as well as any anticipated damage to the new trail, the

impact on park operations staff time resulting from the attention to this trail would continue to be negligible. Given the limited existing and projected staffing levels, park rangers would continue to patrol the trail on a very limited basis. The National Park Service would continue to work with the Bureau of Land Management to monitor Wildwood Trailhead and the trails leading into the Monument.

Cumulative Impacts: Monument trail crews made up of mostly volunteers oversee the repair and maintenance of many miles of trails in the park. Given the length of the trail system and the amount of resource damage present on various trails in the park, this alternative would have negligible impacts on park operations workload.

Conclusion: There would be no change in current park operations. Social trails would not be rehabilitated, and park staff would continue to maintain and patrol the trails in the area based on priority and funding. Cumulatively, this alternative would have negligible impacts on park operations workload because Monument staff currently maintain many miles of trails in the Monument.

Alternative B – Construct Trail to Connect Wildwood Trailhead to Corkscrew Trail

Under this alternative, Monument staff would oversee the construction of the new trail and expansion of Wildwood Trailhead. The majority of actual construction work is expected to be performed by volunteers; however, park staff will still be needed to oversee the design and construction. This will add to the workload of staff involved in the project to a negligible to minor degree, and will cease following construction activities.

Staff would also monitor the progress of rehabilitating social trails which would incrementally add to their workload to a negligible to minor degree in the long-term. Further, staff would be required to maintain and perform safety patrols of the new trail which will increase staff workload. However, by constructing a new designated trail, and eliminating unnecessary social trails, the workload of trail crews should decrease as these trails rehabilitate naturally over time.

Park operations, including daily activities such as trail and facility maintenance, visitor services, and law enforcement patrols may be affected by this proposed trail. The Monument maintenance and visitor protection staffs are currently charged with maintaining and patrolling 44 miles of trails. This proposal would add an additional 5% to the work load with no additional funds or staff projected. The 5% increased workload is an estimate and could increase dependent upon the number, type and timing of users.

An existing conflict in agency policies about dogs could be exacerbated as more users are attracted to the area. Dogs are allowed at the Wildwood Trailhead and Bureau of Land Management lands, but they are prohibited in the Monument. The proposed trail connection would cross lands administered by both agencies, and the two agencies would work together to manage and maintain these areas.

Cumulative Impacts: The overall cumulative effect to park operations is the same as described under Alternative A. Given the length of the trail system and the amount of resource damage present on various trails in the park, this alternative would have negligible impacts on the overall park operations workload.

Conclusion: Implementation of this alternative may increase the workload of Monument staff to a negligible degree due to maintenance, monitoring, and patrolling of the new trail. This alternative is expected to contribute negligibly to the overall cumulative effect to park operations.

CONSULTATION AND COORDINATION

Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals from Colorado National Monument and the Intermountain Support Office. Interdisciplinary team members met on April 14, 2005 to discuss the purpose and need for the project; various alternatives; potential environmental impacts; past, present, and reasonably foreseeable projects that may have cumulative effects; and possible mitigation measures. The team also gathered background information and discussed public outreach for the project. Over the course of the project, team members have conducted individual site visits to view and evaluate the proposed trail location. The results of the April 2005 meeting are documented in this Environmental Assessment.

External Scoping

External scoping was initiated with the distribution of a scoping letter to inform the public of the proposal to connect the Wildwood Trailhead to the Corkscrew Trail, and to generate input on the preparation of this Environmental Assessment. The scoping letter dated May 6, 2005 was mailed to over 300 park neighbors in the Fruita and Grand Junction, Colorado areas. Another letter dated August 31, 2005 was distributed to potentially interested Native American tribes. In addition, the scoping letter was sent to the Colorado State Historic Preservation Officer, U.S. Fish and Wildlife Service, and the Colorado Division of Wildlife. Scoping information was also posted on the National Park Service Planning, Environment, and Public Comment website (http://parkplanning.nps.gov/).

In a letter dated May 2, 2005, the Bureau of Land Management was invited to be a cooperating agency on this project because part of the proposal occurs on land managed by them, namely the Wildwood Trailhead and a small portion of the proposed trail. In a response letter dated May 31, 2005, the Bureau of Land Management accepted the invitation to be a cooperating agency on this project, and plans to work with the National Park Service to develop this proposal.

During the 30-day scoping period, three public comments were received. The majority of commenters supported the proposed project. Some concern was raised over whether the Monument really needs another trail in this area. Reasons for wanting to establish this trail include providing access to another trail that has no official access; increasing visitor opportunities; and reducing resource damage, as explained further in the Purpose and Need. Another concern that was raised regarded the long-term maintenance of the new trail. Maintenance of the trail has been considered as part of this project, and will occur in conjunction with the Bureau of Land Management and volunteer crews. Finally, another comment suggested that portions of existing social trails be used to create the new trail, and this has been incorporated in the preferred alternative. The preferred alternative will use existing social trails to the extent possible so as to minimize new resource damage.

List of Recipients and Public Review

The Environmental Assessment will be released for public review in October 2005. To inform the public of the availability of the Environmental Assessment, the National Park Service will publish and distribute a letter or press release to various agencies, and members of the public on the National Monument's mailing list. Copies of the Environmental Assessment will be provided to interested individuals, upon request. Copies of the document will also be available for review at the Monument's visitor center and on the internet at the National Park Service Planning, Environment, and Public Comment website (http://parkplanning.nps.gov/).

The Environmental Assessment is subject to a 30-day public comment period. During this time, the public is encouraged to submit their written comments to the National Park Service. Following the close of the

comment period, all public comments will be reviewed and analyzed, prior to the release of a decision document. The National Park Service will issue responses to substantive comments received during the public comment period, and will make appropriate changes to the Environmental Assessment, as needed.

List of Preparers

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REFERENCES

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