

MCINNIS CANYONS NATIONAL CONSERVATION AREA AND BLACK RIDGE CANYONS WILDERNESS

MANAGER'S REPORT FISCAL YEAR 2012



McInnis Canyons National Conservation Area • COLORADO

NATIONAL
CONSERVATION
LANDS



McInnis-Canyons National Conservation Area

UNIT: McInnis Canyons National Conservation Area and Black Ridge Canyons Wilderness

ENABLING LEGISLATION: Colorado Canyons National Conservation Area and Black Ridge Canyons Wilderness Act of 2000 (Public Law 106-353), October 24, 2000; renamed through Public Law 108-400, October 30, 2004.

ACREAGE: 123,430 acres, including the 75,550-acre Black Ridge Canyons Wilderness.

ELEVATION: 4,324–7,135 feet (1,318–2,157 meters)

ESTIMATED NO. VISITORS IN FY 2012: 261,000

FISCAL YEAR 2012 BUDGET: \$668,000

RESOURCE MANAGEMENT PLAN: Resource Management Plan and Record of Decision for the Colorado Canyons National Conservation Area and Black Ridge Canyons Wilderness, September 2004

FIELD OFFICE: Grand Junction Field Office, Northwest Colorado District

CONTACT INFORMATION: Bureau of Land Management, Grand Junction Field Office, 2815 H Road, Grand Junction, CO 81506, (970) 244-3000. Website: <http://www.blm.gov/co/st/en/nca/mcnca.html>.

NCA MANAGER: Katie Stevens (FY 2012), Grand Junction Field Office (970) 244-3049

**McInnis Canyons
National Conservation Area
and
Black Ridge Canyons Wilderness**

**Manager's Report
Fiscal Year 2012**

October 1, 2011 – September 30, 2012

**Bureau of Land Management
Grand Junction Field Office**

The Manager's Corner

Thinking about 2012, I want to bring attention to special recreation permits, which played an important role that year in allowing people to experience and enjoy their public lands in new and more satisfying ways.

The first permit story concerns Ruby-Horsethief: After years of planning, considering, talking and listening, the BLM implemented a permit system (through a Special Area special recreation permit) in 2012 for overnight camping on the Ruby-Horsethief stretch of the Colorado River. Starting March 1, the phone calls began coming in from overnight visitors who wanted to reserve their campsite between the dates of May 1 and September 30.

Although a camping fee was also in the works for 2013, we made the decision to implement a free permit system first so that we could work

out the kinks before visitors were required to pay a fee. We learned some things this first season and adjusted as we learned. Although none of us expected the system to work perfectly the first year, each time we asked, campers told us the system was “great” and that they were happy. Toward the end of the season, we started hearing things like, “This feels like Ruby did 20 years ago.” For those who experienced Ruby 20 years ago, including some BLMers who still use the river today, that is a high and sincere compliment. We began considering a permit system because we saw that our recreation objectives, which had been carefully considered and negotiated and decided with public participation, were not being met. The permit system is helping to correct that.

The second permit story is related to the first in that it also demonstrates how our special recreation permits help meet recreation objectives. Special recreation permits provide for outfitters, many of whom are small, local businesses, to operate on the public lands. But economic stimulation is not the only benefit; these permits also help folks who may not have the right equipment or experience to get out on their public lands with the help of a recreation outfitter, which helps the BLM meet our recreation program objectives.

One of the unique types of opportunity being provided by outfitters in the McInnis Canyons NCA focuses on or includes veterans returned from Iraq and Afghanistan, as well as from Vietnam or other foreign wars. Several river outfitters, including Colorado Discover Ability and Breckenridge Outdoor Education Center, offered “Wounded Warriors” trips down Ruby-Horsethief in 2012 under their existing special recreation permits. Knowing that these veterans who served our country are headed out onto their public lands to enjoy the beauty and freedom and satisfaction of physical activity by heading down the river or up a trail is important and meaningful. This is an opportunity we feel fortunate to support through our permit programs.

A new event in 2012, offered by Grand Traverse Adventures, also focused on adaptive sports, with teams racing to complete stages, including rappelling, biking and boating down the Colorado River in coordination with Adventure Bound river outfitters. Each team included five people, some of whom were visually impaired, quadriplegic, or paraplegic and/or returned veterans, working together to complete adventure challenges over the two-day event. This event will be repeated in 2013.

The casual, self-directed recreational activities going on every day in the NCA are valuable and rewarding activities, but the events described above connect recreational visitors to their public lands in unique and important ways, becoming a special part of the diverse menu of recreational opportunities through which the public enjoys its lands.



Fiscal Year Overview

MISSION



The McInnis Canyons National Conservation Area (NCA) is a fine example of the high desert canyon country of western Colorado and eastern Utah. Nineteen miles of the Colorado river flow through its scenic red-rock canyons, and the Black Ridge Canyons Wilderness has the second largest concentration of natural rock arches in North America. The Mygatt-Moore Quarry in the NCA is one of the largest and most prolific paleontological sites in North America. Since the 1980s, more than 5,000 bones from seven different kinds of dinosaurs have been found there, as well as many other fossils.

McInnis Canyons NCA is part of the BLM's larger National Landscape Conservation System¹ and was established on October

Table 1.—Estimated Percentage of the McInnis Canyons NCA Inventoried for Presence/Absence of Values and Resources, FY 2012

Resource or value name	Estimated % unit inventoried for presence/absence	Basis of estimate
Geological.....	100%	Program area staff estimate
Cultural (includes archaeological and historical resources).....	16.9%	Class I cultural resource inventory
Paleontological.....	75%	Program area staff estimate
Natural.....	100%	2003 land health assessment
Scientific.....	100%	RMP completed. Science plan completed.
Recreational.....	100%	RMP completed
Environmental.....	100%	2003 land health assessment
Biological.....	100%	2003 land health assessment
Wilderness.....	100%	RMP completed
Wildlife education.....	100%	RMP completed. Program area staff estimate that 20% of the NCA has been inventoried for wildlife overall, and 100% has been inventoried for desert bighorn sheep.
Scenic.....	100%	RMP completed

Table 2.—Activities managed or monitored to protect the Health and Integrity of Values and Resources of the McInnis Canyons NCA

Name of stressor	Description
Wildland fire	Introduced (human-caused) fires may destroy cultural resources, sensitive vegetation, and BLM facilities.
Invasive plants	Noxious weeds and other non-native plants may displace native plants and affect the wildlife that depend on them. Invasive plants may also leave soils more vulnerable to erosional processes as they (invasive species) typically lack the agents necessary to stabilize soils. Increased erosion may cause sedimentation rates of area streams to increase, reducing water quality.
Recreational use	Users may trample sensitive vegetation and deface or otherwise injure rock art. Motorized use or foot travel may place stress upon wildlife, create pollution and introduce invasives. Recreational use may also alter natural hydrologic function and water quality within affected watersheds by modifying drainage patterns (e.g., interception of runoff by roads or pioneered routes), causing excessive erosion and sedimentation.
Livestock grazing	Livestock grazing may cause soil compaction, introduction of invasive species, and trampling of sensitive vegetation and riparian resources. Grazing may increase erosion potential by reducing plant cover and litter accumulation necessary to protect soils from erosional processes at natural rates. Grazing may also reduce water quality by increasing erosion and sedimentation of area waters.
Domestic livestock diseases	Domestic animals can transmit diseases to wildlife (e.g., domestic sheep can infect desert bighorn sheep)
Loss of habitat	Examples include soil compaction, introduction of invasive species as a result of motorized travel, livestock grazing and off-trail foot travel. Excavation for construction or paleontological research. Pollution of rivers and streams. Wildlife displacement due to human or animal presence.
Proximity of rights-of-way or other development	Introduces invasive vegetation. Decreases scenic value.
Air pollution	Emissions from nearby highways or vehicles could affect visitors, wildlife and scenic values. Dust and deposition could adversely affect soil health, water chemistry, or visitor experience.
Non-native animals	For example, non-native fish can crowd out native fish from the NCA's streams and rivers.
Water pollution	May adversely affect fish and other wildlife.
Theft	Examples include unlawful removal of fossil remains.
Soil surface disturbance	Due to construction, excavation or motorized travel (see "Loss of habitat")
Vandalism	Defacement of rock art or other cultural resources. Wanton destruction of sensitive vegetation. Harassment of wildlife.
Increased access	Can cause destruction of sensitive cultural and biological resources.

24, 2000, by an act of Congress² to conserve, protect and enhance for the benefit and enjoyment of present and future generations the unique and nationally important values of the NCA. These include its geological, cultural, paleontological, natural, scientific, recreational, environmental, biological, wilderness, wildlife education and scenic resources. Table 1 shows the current estimated percentage of the NCA inventoried for the presence or absence of these values and resources; Table 2 shows the types of stressors that threaten their health and integrity. These stressors are often the catalyst for and focus of the BLM's inventory, monitoring, mitigation and rehabilitation projects.

¹More information about the National Landscape Conservation System is available at http://www.blm.gov/wo/st/en/prog/blm_special_areas/NLCS.html.

²The McInnis Canyons NCA was created through the Colorado Canyons National Conservation Area and Black Ridge Canyons Wilderness Act of 2000 (Public Law 106-353) and renamed through Public Law 108-400.



Fiscal Year Overview

MANAGEMENT



*M*cInnis Canyons NCA is managed by the Grand Junction Field Office under an NCA manager who also manages the Dominguez-Escalante NCA. Management actions in McInnis are guided by the *Resource Management Plan and Record of Decision for the Colorado Canyons National Conservation Area and Black Ridge Canyons Wilderness* (U.S. Department of the Interior, Bureau of Land Management, Grand Junction Field Office, Grand Junction, Colorado, September 2004), which resulted from collaboration between the BLM and federal, state and local government agencies; nonprofit organizations; other stakeholders; and the general public. Katie Stevens was the NCA manager for fiscal year 2012 (FY 2012).

Fiscal Year Overview

MILESTONES

Colorado River recreation management plan implemented

The proposed management plan for the Ruby-Horsethief section of the Colorado River in McInnis Canyons NCA was approved in December 2011 and went into effect for the first time in the 2012 season (May 1 to September 30), including a new permit system

for campsites on the river. The BLM plans to implement a camping fee in the 2013 season.

The BLM worked with outfitters and private boaters to develop the new permit system, which will help to protect resources, reduce campsite

conflicts, and eventually provide the BLM with needed resources to maintain riparian resources and campsites along the river. Visitors to the river have already voiced their approval of the new system, which they like because it guarantees them a site.



Other highlights

--The BLM published a revision of the McInnis Canyons NCA science plan, which is being used as a national example for National Landscape Conservation System units.

--The BLM natural resource management staff monitored Gunnison sage-grouse using a habitat multi-scale assessment tool that helps managers better evaluate their conservation strategy.

--Natural resource management staff conducted a land health

assessment in the Glade Park area of the NCA.

--A seven-year study to find the most effective method of transplanting a federally threatened cactus ended in FY 2012.

--Two archeologists from the Grand Junction Field Office completed a Class III cultural resource inventory to record a segment of the northern branch of the Old Spanish National Historic Trail/Salt Lake Wagon Road.

--In partnership with the Colorado Canyons Association and a local

business, the BLM recreation staff took students from Central High School in Grand Junction on a river rafting and camping trip on the Colorado River. Many of these students had never been on the river in the NCA before.

--BLM hydrology staff discovered one additional spring during an inventory of point water sources.

--Scientists from the Museum of Western Colorado published their results from a long-term study of dinosaurs that used to roam the NCA.

Natural and Cultural Resources



*N*atural and cultural resources are among the purposes of the McInnis Canyons NCA that are listed in its enabling legislation, and the NCA enjoys an extraordinary abundance of these resources, including an array of rare and common plant and animal species as well as prehistoric and historic sites and artifacts.

The BLM is committed to conserving, protecting and restoring the unique values of the NCA and furthering the goals of the BLM's National Landscape Conservation System, of which the NCA is a part. The NCA's natural and cultural resource management staff members focus on clearly communicating the importance of conserving and protecting NCA values and expanding the BLM's understanding of NCA resources through assessment, inventory and monitoring.

NATURAL RESOURCE MILESTONES

In FY 2012, the natural resource management staff, in cooperation with BLM's partners and volunteers, inventoried 600 acres of the NCA for the presence of invasive plants or noxious weeds, maintained four shrub/grass/pinyon-juniper/forest projects, applied weed treatments to 100 acres, completed four land health evaluation reports, evaluated weed treatments on 50 acres, monitored 1 mile of streams/riparian habitat, applied weed treatments to 25 acres, monitored 50 acres of terrestrial habitat, monitored four species populations, and inventoried 10 miles of streams/riparian habitats (see Table 3 in "Planning, Staffing, Program Goals and Accomplishments"). BLM staff members also conducted 26 public outreach interpretive or environmental education events.

BLM monitors Gunnison sage-grouse with new protocol

For the first time, the BLM natural resource management staff, with the assistance of an interagency group, monitored Gunnison sage-grouse in McInnis Canyons NCA using a habitat multi-scale assessment tool³ developed by the BLM and the Idaho Department of Fish and Game. This tool helps managers more effectively evaluate their conservation strategy. See the Science section for more information.

Land health assessed in Glade Park area

Between May and August of 2012, natural resource management staff conducted a comprehensive land health assessment of approximately 3,500 acres in the Glade Park area of the NCA. The BLM staff examined different elements in the landscape, from plants and wildlife to soil and water, assessing whether or not they met nationally established standards for ecological health. The BLM studied and measured characteristics such as water movement,

ecological diversity, presence/absence of invasive plants and erosion to figure out, for example, whether an area had successfully recovered from past fires or where recreation is causing impacts. GIS results are expected to be available in 2013.

Seven-year cactus transplant study draws to a close

Colorado Mesa University completed a seven-year cactus transplant study in partnership with the BLM and the U.S. Fish and Wildlife Service in FY 2012. This study examined a number of methods to determine which was the most effective for transplanting *Sclerocactus parviflorus*, a commonly occurring cactus in Western Colorado, as a means to see whether the federally listed (threatened) Colorado hookless cactus could be successfully transplanted. See the Science section for more information.

³See Stiver, S.J., E.T Rinkes, and D.E. Naugle, *Sage-grouse Habitat Assessment Framework: Multi-scale Habitat Assessment Tool*, U.S. Bureau of Land Management, Idaho State Office, Boise, Idaho, 2010.

NATURAL RESOURCE TRENDS

Desert bighorn sheep study underway in the Black Ridge Wilderness

The BLM's national science program awarded Colorado State University \$25,000 in National Landscape Conservation System science funds for a desert bighorn sheep study in the Black Ridge Canyons Wilderness, in partnership with the BLM and Colorado Parks and Wildlife. In January 2012, project staff placed vegetation transects in the wilderness to determine the difference between areas frequently used by desert bighorn sheep and areas that are used less frequently, in order to reach conclusions about habitat improvement projects. This study will continue in FY 2013. See the Science section for more information.

*BLM restoring fire-damaged
wilderness areas*

Two areas in the Black Ridge Wilderness--Wrigley and Long Mesa--were burned by naturally caused wildfires in 2012. The BLM obtained funding to restore these areas. Natural resource management staff will apply native seeds to the burned parcels to suppress the growth of invasive plants and re-establish native vegetation. This project will continue in February 2013.

*Genetic study of Colorado hookless
cactus underway*

The University of Northern Colorado, in partnership with the BLM, the U.S. Fish and Wildlife Service, and the Denver Botanic Gardens, began a genetic study that will help the BLM distinguish Colorado hookless cactus from other similar but unlisted cacti. This work will continue in FY 2013. See the Science section for more information.





CULTURAL RESOURCE MILESTONES

During FY 2012, BLM cultural resource staff conducted six heritage resource education and outreach events; inventoried 49 acres of heritage resources; accessioned, inventoried, or upgraded two heritage collections in non-BLM facilities; intensively recorded, evaluated, and studied one heritage site; and monitored eight heritage sites (see Table 3 in “Planning, Staffing, Program Goals and Accomplishments”). Much of this work was done with the assistance of dedicated volunteers.

Class III inventory of a segment of the Old Spanish Trail completed

In October and November 2011, two archeologists from the Grand Junction Field Office completed a Class III cultural resource inventory to record a

segment of the northern branch of the Old Spanish National Historic Trail/Salt Lake Wagon Road that runs through the McInnis Canyons NCA⁴. The Old Spanish Trail is an approximately 2,700-mile route from Santa Fe, New Mexico to Los Angeles, California. It was a major trade route from 1829 to 1848 as shown on the maps of that time. It constitutes a significant historical record of exploration, settlement and commerce in the United States. The North Branch segment of the Old Spanish Trail runs from Santa Fe to Green River, Utah. As a result of this survey, the BLM, in consultation with the Colorado State Historic Preservation Office, determined this segment of the trail to be eligible for nomination to the National Register of Historic Places.

Local students take a hike through history

In May 2012, BLM cultural staff took 18 students from Central High School in Grand Junction on a hike along the McDonald Creek interpretive trail

in McInnis Canyons, where students learned about the cultures of people who lived in the NCA long ago and how they used and benefited from the plants and animals who shared their environment. The McDonald Creek interpretive trail was designed to encourage cultural resource stewardship. School groups and other educational groups use the trail for interpretive and educational events.

Other cultural resource highlights

BLM cultural staff members trained 67 Ute Learning Garden docents during five different sessions at McDonald Creek and gave them materials to help with their volunteer work.

⁴See LaForge, A., *Class III Cultural Resources Inventory of a Segment of the North Branch Old Spanish Trail and Salt Lake Wagon Road, BLM McInnis Canyons NCA, Mesa County, Colorado GJFO CRIR 1012-02, ME.LM.R745*, Bureau of Land Management, 2012. Manuscript is on file at the BLM's Grand Junction Field Office.

CULTURAL RESOURCE TRENDS

Tribal consultations about McDonald Creek continue

The BLM continued consulting and coordinating with Native American tribes to develop an appropriate interpretation of the McDonald Creek Cultural Resource Management Area. A project using BLM interns to develop interpretive brochures about this special area started in FY 2012, but this project was put on hold.

Archaeological research projects with partners continue

The BLM continued to partner with a local nonprofit, Dominguez Archaeological Research Group, to complete a recordation of the Excelsior Train Station, a historic station that was a part of the Denver and Rio Grande Railroad. This research reveals information about Chinese immigrants that were involved in the construction of the railroad in our area.



Recreational Resources, Facilities, Roads and Trails



Recreation is listed as one of the purposes of the NCA in its enabling legislation, and visitors to the NCA can participate in an exceptionally wide variety of recreational activities, including world-class mountain biking, river rafting, hiking, camping, hunting, horseback riding, off-highway vehicle (OHV) travel and wildlife viewing. Visitors can also enjoy a broad range of recreational settings, including remote wilderness, riparian wetlands and culturally or historically significant sites. The 142-mile Kokopelli Trail runs through the NCA to Moab, Utah. The Colorado River winds its way for 19 miles through the spectacular canyon country of the NCA.

The BLM's recreation staff assists in planning for and managing recreational resources and facilities in a manner that conserves National Landscape Conservation System and NCA values. Thus, roads and other facilities are built only when necessary for public health and safety, for exercise of existing rights, to minimize impacts to resources, or to otherwise further the purposes for which the NCA was designated.

Recreation staff members actively engage stakeholders through the land-use planning process to help identify existing and potential uses that are compatible with the legislated purposes of the NCA, and the BLM practices a community-based approach to providing recreational services that is consistent with the purposes of the NCA and the socioeconomic goals of adjacent or nearby communities.

RECREATIONAL RESOURCE MILESTONES

In FY 2012, the BLM recreation staff processed 24 special recreation permits for commercial users and groups, processed or managed two special recreation permits for non-commercial users, maintained 11 trailhead facilities, maintained three miles of trails, maintained 27 recreation sites, monitored 62,000 acres of recreational areas and monitored 60 miles of trails and rivers (see Table 3 in “Planning, Staffing, Program Goals and Accomplishments”).

Recreational resource highlights

- The BLM began a new permit system for the campsites on the river in the Ruby-Horsethief section of the NCA (see Recreational Resource Trends at right).
- Youth crews from the Western Colorado Conservation Corps and over 40 volunteers from the Colorado Plateau Mountain Bike Trail Association completed the Mack Ridge Connector trail.
- Recreation staff and the BLM fire crew, in partnership with the Mesa County Sheriff’s Office, Volunteers for Outdoor Colorado, and the Western Colorado Conservation Corps; completed 187 burn piles to control invasive vegetation on 14.2 acres in different campsite areas.
- A new campsite was constructed at Dog Island, and recreation staff transplanted eight cottonwood trees to the Mee Bench area and built an irrigation system to water them.
- The BLM recreation staff sponsored three youth training trips, and recreation staff and several partners held an environmental education class for high school students. See the Environmental Education section for more information.

RECREATIONAL RESOURCE TRENDS

BLM begins permit system for camping along the Colorado River in Ruby-Horsethief Canyon

A new system to require visitors camping on the Colorado River in the NCA to obtain free weekend permits began in the 2012 season (May 1 to September 30). This was a prelude to the 2013 season, when both permits and a camping fee will be required. The proposed recreation management plan⁵ for this system was approved in December 2011, with adjustments to the plan as described in the decision record.⁶

The need for a permit system has been evident for many years. As the popularity of the river corridor for camping and boating increased, the BLM saw a rise in congestion at the boat ramps, negative impacts to sensitive resources, and the incidence of conflicts between different groups of visitors wanting to use the same campsite. Previous attempts to mitigate these effects, such as asking visitors to register voluntarily, were unsuccessful. More groups simply want to use the campsites along the river than these sites can reasonably accommodate.

Preliminary results from the 2012 season strongly suggest that the permit system is working and indicate that the fee-based system will work even better, as it will cover camping reservations for weekdays as well as weekends and will help fund the personnel and resources the BLM needs to adequately monitor and maintain campsites. Visitors seem to like the new system, because it reduces the chance of



campsite conflicts. The 2012 season saw more than 1,000 registered commercial and private groups and more than 8,500 registered private and commercial river users. Almost 80 percent of users were from outside of Mesa County and 7 percent were from out of state. A total of 914 permits were issued in the 2012 season.

Recreational use

On the basis of results from road and trail counters, visitor register sheets and recreation patrols, recreational use in the NCA in FY 2012 decreased overall by 10% since 2010, but increased on the Kokopelli Trail by 14 percent and remained the same at the dinosaur quarry educational site. Internal estimates suggest that overall recreation in the NCA will remain relatively stable (+/- 2%).

Other recreational trends

A six-year partnership with the Western Colorado Conservation Corps began in May 2012. Conservation Corps participants will assist BLM staff with tasks related to outdoor recreation.

⁵See the *Proposed Ruby-Horsethief Recreation Area Management Plan*, Bureau of Land Management Grand Junction Field Office, McInnis Canyons National Conservation Area, June 6, 2011. This plan is available for download from the McInnis Canyons NCA website: http://www.blm.gov/co/st/en/nca/mcnca/what_s_news_.html.

⁶This document is also available from the McInnis Canyons NCA website (see address above).



Water Resources, Soils, and Air



Nineteen miles of the Colorado River flow through the McInnis Canyons NCA, and all the other canyons have seasonal flows resulting from snowmelt and summer rainstorms. These hydrologic and aquatic resources are important to fish and wildlife; the river is popular with visitors for boating and camping.

BLM staff members in this program area work to expand understanding of these resources through assessment, inventory and monitoring. In FY 2012, the BLM staff inventoried 10 miles of streams/riparian areas and 16 water station parameters (see Table 3 in “Planning, Staffing, Program Goals and Accomplishments”).

New spring found

In FY 2012, BLM hydrology staff discovered one additional spring during an inventory of point water sources in the NCA. The BLM filed for water rights on this spring, which is an essential source of water for wildlife such as desert bighorn sheep and black bears.

Outreach, Visitor Services, and Environmental Education



OUTREACH

Outreach has been an integral part of planning for and managing the McInnis Canyons NCA since its inception. Staff members within all program areas in the NCA work to raise public awareness and understanding of National Landscape Conservation System and NCA values, cultivate relationships, and promote community stewardship.

Outreach activities

- BLM natural resource management staff members conducted 26 public outreach interpretive or environmental education events. See the Environmental Education section in Part 4 for more information.
- BLM cultural resource staff conducted 10 heritage resource education and outreach events. See the Cultural Resources section for more information.

⁷See also the Recreational Resources section.

⁸The website address is <http://www.blm.gov/co/st/en/nca/mcnca.html>.

⁹The website address is <http://www.visitgrandjunction.com/>.

VISITOR SERVICES⁷

As a unit within the BLM's National Landscape Conservation System, the NCA is managed using a community-based approach to providing visitor services, emphasizing practices that foster stewardship, contribute to the local economy, provide for public safety and enjoyment, and minimize development within the NCA to protect valuable resources.

The Grand Junction Field Office headquarters is open to the public during regular business hours, and it provides visitor services for the NCA, including distributing brochures and maps. NCA park rangers also provide visitor services on site, including on weekends. The NCA website⁸ has current information about the NCA. The Grand Junction Visitor and Convention Bureau offers visitor services that complement those provided by the field office and NCA park rangers, including information about area attractions, a visitor website⁹ and annual visitor guides. BLM's partners, including the Colorado Plateau Mountain Bike Trail Association and the Colorado Canyons Association, have produced maps of the trails in the NCA.

ENVIRONMENTAL EDUCATION

Educational resources are cited as one of the purposes of the NCA in its enabling legislation, and the BLM strives to provide young people with opportunities to engage in recreation and stewardship on NCA lands and to learn about NCA resources and land management. BLM staff members seek out partnerships with local schools and educators to help them interpret National Landscape Conservation System and NCA values, and the BLM provides interpretive and educational materials to NCA users through the Grand Junction Field Office and the NCA website.

Dinosaur days

On Saturday, June 30, 2012, the Grand Junction Field Office participated in the 25th annual “Dinosaur Days with Dinosaur Train,” in partnership with the Dinosaur Journey Museum, the National Park Service, the John McConnell Math and Science Center, the Colorado Canyons Association, volunteers, and made possible by a grant from the Henson Company and support from Rocky Mountain PBS. Children and their families gathered at the Dinosaur Journey Museum in Fruita to participate in dinosaur-related educational and interpretive activities, including visiting a real dinosaur dig at the Fruita Paleontological Area in the NCA. The Colorado Canyons Association estimates that 370 adults and children (including two families who made the four-hour trip from Denver just for the event) attended this event. The Dinosaur Journey Museum, a local partner for this event, reportedly saw more than 1,000 people attend the museum to participate in related activities sponsored by the museum and the John McConnell Math and Science Center.

Annual scavenger hunt

The third annual scavenger hunt in McInnis was held in May 2012, with an estimated 350 children from nearby elementary schools attending. BLM and Colorado Canyon Association staff and volunteers from several partner organizations--including the Palisade Insectory and the Tamarisk Coalition---operated interpretive stations where children learned

about people of the past, wildlife, native plants, biological soil crusts, biological controls for invasive plants and other subjects (For more information about this project, visit the Colorado Canyons Association website: <http://www.coloradocanyonsassociation.org/>).

Students raft through Ruby/Horsethief

In September 2012, the Colorado Canyons Association, in partnership with the BLM and a local outdoor outfitting business, took 30 students from Central High School in Grand Junction on a river rafting and camping trip on the Ruby/Horsethief section of the Colorado River. Many of these students had never been on the river in the NCA before. They learned about riparian ecosystems and restoration projects while working to preserve 40 cottonwood trees and helping to maintain and restore the Beaver Tail Campsite, which is about 3.5 miles west of the Loma boat launch.

Colorado Canyons Association receives “Take It Outside” funding

In May 2012, the BLM’s Washington Office awarded the Colorado Canyons Association, a BLM partner, \$10,000 in National Landscape Conservation System Take It Outside funds to assist with its programs and projects, including the annual scavenger hunts. The Colorado Canyons Association is a nonprofit organization that encourages and promotes community stewardship of the BLM’s National Landscape Conservation System, particularly in the three NCAs in western Colorado. Since inception, the association has sponsored many educational and volunteer trips or projects on BLM-managed public lands. The BLM’s Take It Outside program was created to provide opportunities for young people to engage in outdoor recreation, learn about their public lands and practice environmental stewardship.

Other education highlights

The BLM recreation staff sponsored three conservation/youth corps training trips on the Colorado River. Up to 30 young people attended, gaining hands-on experience in tamarisk removal, herbicide application, river safety and paddling.

Science



*T*he scientific resources of the McInnis Canyons NCA are cited in its enabling legislation as one of the purposes for its designation, as are the geological, cultural, paleontological, biological and wildlife resources, all of which are suitable for scientific study and abundant in the NCA. Scientific study of these resources benefits the scientific community as a whole and effectively informs the BLM's management of the NCA. The NCA staff works to identify research needs; encourage science partnerships and citizen science; and incorporate scientific results into management, decision-making and outreach.

BLM staff members promote the NCA to universities and research institutions as an outdoor research and educational laboratory and potential demonstration center for emerging technology and innovative management practices. In turn, academic institutions, aware of the unique and valuable resources in the NCA, seek out partnerships with the BLM to conduct scientific research and education in the NCA.

Black Ridge bighorn sheep study underway

Colorado State University obtained \$25,000 in National Landscape Conservation System funds to undertake a desert bighorn sheep study in the Black Ridge Canyons Wilderness in McInnis Canyons, in partnership with the BLM and Colorado Parks and Wildlife. This project began in January 2012, when transects were placed in the Wilderness to determine the difference in habitat characteristics between frequented and less frequented areas used by desert bighorn sheep. Colorado State University provided the study design, working closely with BLM and Colorado Parks and Wildlife staff. They will also oversee the research. One goal for this study is to compare how bighorn sheep respond to habitat in burned and unburned areas. The study is scheduled for completion in 2014. A related pilot study completed in 2012 was conducted in cooperation with the National Park Service.

Gunnison sage-grouse project uses multi-scale assessment tool

In 2012, the BLM monitored Gunnison sage-grouse in McInnis Canyons NCA using the sage-grouse habitat assessment multi-scale assessment tool developed by the BLM and the Idaho Department of Fish and Game, with the assistance of an interagency group that included Colorado State University and the Colorado Division of Wildlife. One of the crucial issues in data analysis is that it is often difficult to compare data from small-scale monitoring projects with data from large-scale projects. This multi-scale assessment protocol allows managers to collect data that is on a scale appropriate to their needs yet still consistent with data from other projects, and it provides for a more powerful analysis of conservation strategies than previously possible.

Revised McInnis Canyons science plan published

The BLM published a revision of the science plan for McInnis Canyons NCA in June 2012. This revised plan is being used as a national example for science plans in National Landscape Conservation System units. The purpose of a science plan is to improve the ability of managers to use scientific research, especially research conducted on public lands, in planning and decision making. A science plan articulates an area's most urgent scientific needs. They are "living" documents, subject to frequent revision and updated as needed. The McInnis Canyons NCA Science Plan can be viewed or downloaded from the NCA website.⁹

Eight-year cactus transplant study ends

The field work for an eight-year Colorado hookless cactus transplant study conducted by Colorado Mesa University in partnership with the BLM and the U.S. Fish and Wildlife Service concluded in 2012. The objectives of this study were to compare three methods of transplanting the cacti, determine the best season for transplanting, and examine whether associated "nurse" plants would enhance the survival of the transplanted cacti. Over the course of the study, the researchers analyzed the survival rate and vitality of the transplanted plants under the different experimental conditions. Conclusions drawn from this work will help managers decide the best course of action for transplanting the federally threatened Colorado hookless cactus, for example, to mitigate the occurrence of this rare plant in utility rights of way or other compromised areas.

Genetics of Colorado hookless cactus under investigation

The University of Northern Colorado and the Denver Botanic Gardens, in partnership with the

BLM, began to examine the genetic status, diversity, variability, hybridization and response to stressors of Colorado hookless cactus populations in Devil's Canyon and Rabbit Valley. This research aims to better understand the evolutionary status of this federally listed species and will also assist managers in developing more effective ways of identifying this sometimes puzzling plant (despite the name, Colorado hookless cactus may occasionally have hooked spines). DNA tissue samples were collected from several hundred individual plants of three different species of the genus *Sclerocactus*, and their genetic makeup was analyzed. As a result of the work done in FY 2012, researchers were able to draw useful distinctions between the rare plant and its more common sisters and determined that one population of hookless cactus had been previously misidentified as the more common variety. This study will continue in FY 2013.

New paleontological publications

Results from a long-term study of dinosaur fossils by researchers from the Museum of Western Colorado were published in the *Journal of Vertebrate Paleontology*.¹⁰ The dinosaur remains were found

at the paleontologically prolific Mygatt-Moore quarry in McInnis Canyons NCA. Discoveries like these help to underscore the national and global importance of conserving paleontological resources on public lands.

Ongoing paleontological research

- John Foster, Curator of Paleontology at the Museum of Western Colorado, continued his work excavating the remains of an Allosaurus and other fossils at the Mygatt-Moore Quarry. The dig will continue in FY 2013. Specimens will be deposited in the Museum of Western Colorado, and the results of this work will be published periodically.
- Gabe Bever, a post-doctoral research fellow in the Division of Paleontology at the American Museum of Natural History in New York City began work in the Fruita Paleontological Area in 2011. In FY 2012, he and his crew found many separate specimens of prehistoric mammals and reptiles, as well as other fossils. The specimens were shipped to the museum in New York for preparation and further study. Dr. Bever and his crew will continue their work in FY 2013.

⁹The plan is available for viewing or downloading at http://www.blm.gov/co/st/en/nca/mcnca/science/MCNCA_Science_Plan.html.

¹⁰Foster, John R., and Rebecca K. Hunt-Foster. New occurrences of dinosaur skin of two types (Sauropoda? and Dinosauria indet.) from the Late Jurassic of North America (Mygatt-Moore Quarry, Morrison Formation). *Journal of Vertebrate Paleontology* 31, no. 3 (2011): 717-721.



Partnerships and Volunteers



*T*he BLM seeks to cultivate a sense of shared stewardship for the NCA as a unit of the BLM's National Landscape Conservation System and advance the relevance of the NCA to communities of interest and place. Two ways to do this are by building strong partnerships and providing volunteer opportunities. NCA staff members work to grow and foster partnerships with nonprofit organizations, educational institutions and other program interest groups, facilitating mutually beneficial opportunities to share expertise, resources and ideas. The NCA staff also works to recruit volunteers to assist with research, monitoring and other services. Many of the projects described in this report would not have happened without our valued partners and volunteers.

PARTNERSHIPS

Partnership highlights

- A seven-year cactus transplant study done by Colorado Mesa University in partnership with the BLM and the U.S. Fish and Wildlife Service drew to a close in FY 2012. See the Science section in Part 5 for more information.
- The BLM awarded Colorado State University \$25,000 for a desert bighorn sheep study to be conducted in partnership with the BLM and Colorado Parks and Wildlife. See the Science section in Part 5 for more information.
- The University of Northern Colorado, in conjunction with the BLM and other partners, began a genetic study of Colorado hookless cactus. See the Science section for more information.
- The BLM continued to partner with a local nonprofit to complete a recordation of the Excelsior Train Station. See the Cultural Resources section in Part 1 for more information.
- BLM staff, in partnership with the Mesa County Sheriff's Office and other organizations, removed invasive vegetation along the Colorado River. See the Recreational Resources section in Part 2 above for more information.
- The BLM and several partners conducted an environmental education class for high school students. See the Environmental Education section

in Part 4 for more information.

- The Colorado Canyons Association received \$10,000 in National Landscape Conservation System "Take It Outside" funding. See the Environmental Education section in Part 4 for more information.

VOLUNTEERS

Volunteer highlights

- Several organizations, including Volunteers for Outdoor Colorado, assisted the BLM in using fire to control invasive vegetation in campsites along the Colorado. See the Recreational Resources section in Part 2 above for more information.
- The Grand Junction Field Office participated in "Dinosaur Days with Dinosaur Train," in conjunction with several partners and many volunteers. See the Environmental Educational Education section in Part 4 above for more information.
- The BLM and Colorado Canyon Association staff and volunteers from several partner organizations operated interpretive stations at the third annual scavenger hunt in McInnis Canyons. See the Environmental Education section in Part 4 for more information.
- BLM cultural staff members trained Ute Learning Garden docents. See the Cultural Resources section in Part 1 for more information.



Planning, Staffing, Program Goals and Accomplishments



*A*s a unit of the BLM's National Landscape Conservation System, the McInnis Canyons NCA is managed collaboratively in the context of the larger landscape that surrounds it. Similarly, the BLM develops plans and goals for the NCA in the context of local, state and national community plans and goals. NCA staff members practice a cross-jurisdictional, community-based approach to conservation planning and management, working with other federal agencies, state agencies, Native American tribes, and national and local community organizations, as well as the general public.

The NCA management staff works to improve internal communication; clearly define, understand and justify staffing needs; and ensure the NCA's budget is coordinated with that of other program areas. This is facilitated by setting clear expectations, goals and priorities while using consistent standards for measuring and tracking progress toward stated goals and for reporting accomplishments.

PLANNING

Planning in the McInnis Canyons NCA is guided by the 2004 McInnis Canyons management plan³, which was developed through a collaborative public process, on the basis of direction from the NCA's enabling legislation.²

Ruby-Horsethief proposed recreation management plan approved

On December 21, 2011, the proposed management plan for the Ruby-Horsethief section of the Colorado River in McInnis Canyons NCA was approved. The permit system was implemented for the first time in the 2012 season (May 1 to September 30). The fee will be implemented in the 2013 season. This gradual approach allows for any needed adjustments to the program before the fee-based system is instituted. The BLM worked with outfitters and private boaters over several years to develop the new permit system. See the Recreational Resources section for more information about the new permitting system.

STAFFING, GOALS AND ACCOMPLISHMENTS

Staffing

The NCA's permanent staff includes an NCA manager (currently shared with Dominguez-Escalante NCA), a science ecologist (a joint position that also supports Gunnison Gorge and Dominguez-Escalante NCAs), a park ranger, a law enforcement officer (shared with Dominguez-Escalante NCA), a river ranger and an outdoor recreation planner (position vacant in FY 2012). In FY 2012, the seasonal staff included one river ranger and one administrative assistant (shared with the Grand Junction Field Office) to administer river permits. Two seasonal cultural technician positions remained vacant.

The NCA receives special recreation permit administration, facilities maintenance and other program support from staff members in the Grand Junction Field Office, primarily in the areas of visitor services and contact; geology and paleontology; cultural resources; range management; wildlife biology; ecology; weed management; geographic information systems (GIS); and soil, water and air quality.

Goals and accomplishments—livestock grazing

In FY 2012, BLM staff transferred one grazing preference, processed one grazing permit, issued five grazing bills, monitored seven grazing allotments and inspected three grazing allotments for compliance with permit stipulations (see Table 3 below).

Goals and accomplishments—law enforcement

In FY 2012, BLM law enforcement staff handled 43 incidents during patrols, participated in three emergency response incidents, and conducted one drug seizure (see Table 3 on the next page).





Table 3.—McInnis Canyons NCA Program Goals/Accomplishments, FY 2012

Program/project name	Target	Actual	Completed
Public outreach through interpretation, environmental education (programs/events delivered)	1	1	100%
Heritage resource education and outreach (number of products delivered)	10	6	60%
Public outreach through interpretation, environmental education (programs/events delivered)	21	25	119%
Heritage resource inventories (acres).....	2	49	>100%
Heritage collections accessioned, inventoried, or upgraded in non-BLM facilities (number)	2	2	100%
Inventory water resources (number of inventory station parameters)	16	16	100%
Inventory for presence invasive plants and/or noxious weeds (acres)	100	100	100%
Plan for interdisciplinary activities (number)	1	1	100%
Process special recreation permits for commercial users, groups (number of active permits).....	24	24	100%
Transfer grazing preferences (number)	0	1	--
Issue grazing permits/leases (number)	1	1	100%
Issue grazing bills (number)	4	5	125%
Heritage resources intensively recorded, evaluated and studied (number).....	3	1	33%
Process, manage special recreation permits for non-commercial (number of permits issued/monitored)	2	2	100%
Heritage resources stabilized, managed and protected (number)	1	0	--
Recreation site annual maintenance (number of buildings).....	11	11	100%
Trail annual maintenance (miles)	5	3	60%
Recreation site non-building annual maintenance (number of sites)	27	27	100%
Maintain shrub/grass/PJ/forest projects (number)	4	4	100%
Apply weed treatments (acres).....	100	100	100%
Monitor recreation areas (acres).....	123,430	62,000	50%
Evaluate land health (evaluation reports)	4	4	100%
Evaluate weed treatments (acres)	50	50	100%
Monitor grazing allotments (number)	7	7	100%
Monitor streams/riparian habitat (miles)	1	1	100%
Monitor linear recreation management objectives (miles)	105	60	57%
Heritage resources monitored (number).....	16	8	50%
Inspect grazing allotments for compliance (number)	10	3	30%
Conduct patrol enforcement activities (number of incidents)	0	43	--
Conduct emergency response activities (number of incidents resolved)	5	3	60%
Conduct drug enforcement activities (number of seizure incidents)	0	1	--
Inventory for presence invasive plants and/or noxious weeds (acres)	500	500	100%
Apply weed treatments (acres)	25	25	100%
Monitor terrestrial habitat (acres)	50	50	100%
Monitor species populations (number)	4	4	100%
Inventory streams/riparian areas (miles)	10	10	100%



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