United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Colorado River Valley Field Office
2300 River Frontage Road
Silt, Colorado 81652
www.co.blm.gov

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-N040-2011-0078

CASEFILE NUMBER: CO-140-11-05

PROJECT NAME: National Speleological Society; Organized Group SRP; Recreational cave and geology trips

LEGAL DESCRIPTION: In conformance with the Federal Cave Resources Protection Act of 1988 (FCRPA), the exact cave locations will not be disclosed in this EA. The caves are located within the Deep Creek drainage, Roaring Fork Valley, and the Roan Plateau area.

APPLICANT: National Speleological Society

BACKGROUND / INTRODUCTION

Background on the Convention and Cave Trips

The National Speleological Society (NSS) is a non-profit membership organization dedicated to the scientific study of caves and karst; protecting caves and their natural contents through conservation, ownership, stewardship, and public education; and promoting responsible cave exploration and fellowship among those interested in caves. The NSS holds an annual convention in a different location across the country every year, with the 2011 convention being held in Glenwood Springs, Colorado from July 18-22, 2011. The bulk of activities held during the 2011 convention will be centered on class room style presentations and programs scheduled to occur at the Glenwood Springs High School. Approximately 1,500 participants are expected.

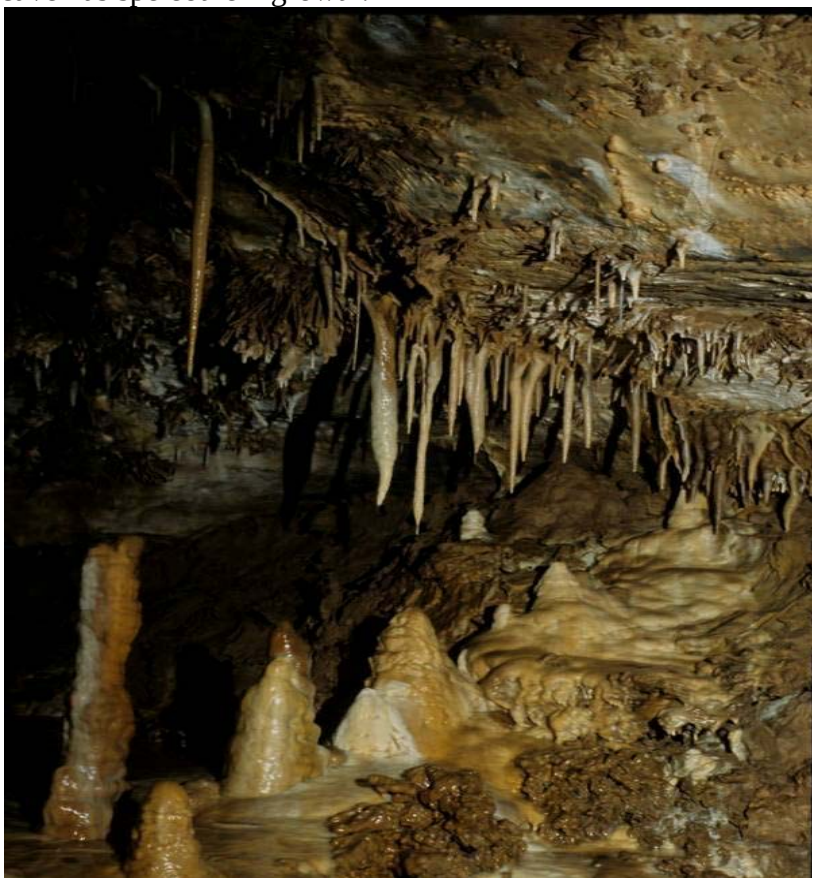
The original SRP application requested 12 trips per cave (two caves total) during July 16-24, 2011 for the NSS convention. This would consist of one trip per cave the weekend before the convention, one trip per cave the weekend after the convention, and two trips per cave each day during the convention. The current LaSunder Cave Management Plan restricts use levels at LaSunder Cave to a maximum of 10 trips per year and 2 trips per month to minimize cave impacts. To limit impact on the cave, but also provide for flexibility to accommodate the one-time convention, the BLM decided to carry forward in this Environmental Assessment analysis of 10 trips to occur between July 16-24, 2011 for LaSunder Cave.

Buses will be provided for the geology trip participants. Participants are responsible for their own transportation to the cave trips. Parking is available at the Deep Creek developed recreation site. Parking for the Anvil Points Cave and the Dirty Pool Cave will not be on BLM public lands.

To prevent the spread of White-nose Syndrome (WNS) to Colorado bats and caves during the convention, the NSS Convention has come up with a WNS Decontamination Plan. (See Appendix A.)

Background on the caves in the permit application

LaSunder Cave is a phreatic (moist) and breathing cave in the Leadville Limestone (Mississippian-approximately 350 ma) (Bass and Northrup 1963) with Pleistocene (younger than 700,000 years ago; Fred Luiszer of Colorado Cave Survey) to recent fill at an altitude of approximately 7800'. Like other caves in Deep Creek Canyon it developed under totally flooded conditions. Unlike the upper Deep Creek caves, LaSunder is a single conduit channel with a nearly flat graded floor profile, which probably developed in response to a heavy sediment load which tended to level the floor and restrict solution to the walls and ceiling above it. The cave was probably completed before Deep Creek Canyon (now 600 feet deeper) was cut (Donald Davis, email correspondence, 1992). LaSunder Cave contains a remarkable amount of features with a high amount of diversity in their form, and high scientific value. More than 40% of the cave has speleothem growth.



Speleothem growth in LaSunder Cave (2006)

Anvil Points Claystone Cave Complex (Anvil Points Cave) is formed in claystone of the Wasatch formation rather than limestone. The walls are dry, crumbly mud and there are no formations to be seen. There is 2,050 feet of known passage, 180 feet of vertical relief, and Anvil Points Cave is the largest verified cave of this type in the world. A chaotic mixture of clay, silt, sand, and angular blocks of sandstone sags intermittently into another dendritic stream network. Anvil Points Cave has badlands and other forms of piping pseudokarst that are best known for causing serious engineering problems (Encyclopedia of Caves and Karst Science, 2004). In 2005, a large mass of claystone/sandstone debris fell from the vertical debris wall and/or ceiling above the exit point, almost completely blocking and hiding the usual route to the lower entrance. Any significant rain makes the stream flow through the cave and water comes down the skylights. Water is thought to have caused the 2005 collapse (Donald Davis, email correspondence, 2005). Contact with unstable material would normally be required to trigger a collapse. Where the passage is small enough to require contact with walls and ceiling, the cross-section is also small and therefore inherently more stable. Where the cross-section is large, inherent stability is less, but it's seldom necessary to touch the walls or ceiling in the larger parts.


Lower Entrance to Anvil Points Cave (2011)

Dirty Pool Cave is an evaporate solution sinkhole approximately 20-30 feet down and 15-20 feet wide with several alcoves at the bottom. It is a big pit that overhangs more or less on all but the entry (west) side, and exploring it involves encircling the collapsed mound, including a few alcoves approaching total darkness. There may be standing water in low places at times. It appears to be occasionally used as a "party site" for local residents.

Dirty Pool Cave (2011)

Background on White Nose Syndrome

"In February 2006 some 40 miles west of Albany, N.Y., a caver photographed hibernating bats with an unusual white substance on their muzzles. He noticed several dead bats. The following winter, bats behaving erratically, bats with white noses, and a few hundred dead bats in several caves came to the attention of New York Department of Environmental Conservation biologists, who documented white-nose syndrome in January 2007. More than a million hibernating bats have died since. Biologists with state and federal agencies and organizations across the country are still trying to find the answer to this deadly mystery.

State and Federal Agencies have found sick, dying and dead bats in unprecedented numbers in and around caves and mines from New Hampshire to Tennessee. In some hibernacula, 90 to 100 percent of the bats are dying.

While they are in the hibernacula, affected bats often have white fungus on their muzzles and other parts of their bodies. They may have low body fat. These bats often move to cold parts of the hibernacula, fly during the day and during cold winter weather when the insects they feed upon are not available, and exhibit other uncharacteristic behavior.

Despite the continuing search to find the source of this condition by numerous laboratories and state and federal biologists, the cause of the bat deaths remains unknown. A newly discovered cold-loving fungus, *Geomyces destructans*, invades the skin of bats. Scientists are exploring how the fungus acts and searching for a way to stop it." (United States Fish and Wildlife Service (USFWS). 2011c - United States Fish and Wildlife Service (USFWS). 2011a. [Online]. White-Nose Syndrome: Something is killing our bats. http://www.fws.gov/WhiteNoseSyndrome/index.html. Accessed on 6-03-11.)

This disease and its potential implications are discussed in greater depth within the EA.

PURPOSE AND NEED FOR THE ACTION

The purpose of this action is to consider the opportunity for any person, group or organization to gain authorization through a Special Recreation Permit for a specified recreational commercial use, organized group activities or events, or competitive use of public lands. The BLM requires organized groups to be permitted if the activity poses an appreciable risk of damage to public lands. The need for the action is established by the BLM's responsibility under the Federal Land Policy and Management Act, 43 U.S.C. 1701 (a)(8), section 302(b), section 303, and the Federal Land Recreation Enhancement Act, 16 U.S.C. 6801, 6802(f), 6802(g)(2), 6802(h), to respond to applications for Special Recreation Permits. The BLM decision to be made is whether to issue a SRP for geologic trips and recreational caving and if so, determine the conditions of the permit.

SCOPING AND ISSUES

The BLM Colorado River Valley Field Office (CRVFO) performed public scoping from March 14 – April 18, 2011. This was posted through a news release, the CRVFO webpage, and a scoping notice was mailed to interested parties. Table 1 summarizes the issues raised through public scoping. These issues are addressed throughout the Environmental Assessment, but primarily in the mitigation requirements, permit stipulations, and the "THREATENED, ENDANGERED, AND SENSITIVE SPECIES – Terrestrial Wildlife" analysis. BLM responses to specific comments can be found in Appendix C.

Table 1. Categorized Issues Generated Through Scoping Comments.

Scoping Comment Categories
Transmission and the Risks of the Proposed Action on the Spread of WNS
Management of Significant/Important Bat Sites
Requirement for Surveys
Decontamination
Current USFS Cave Closures
Lack of Species Information by BLM
Value of Bats to Humans
Risk to Broader Bat Populations
Education
Current BLM Policy
Potential BLM Actions Beyond the NSS Convention Special Recreation Permit

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action: To issue a one-time only Special Recreation Permit (SRP) to the National Speleological Society (NSS) for geology trips and recreational caving on BLM public lands from July 16-24, 2011. The geology trips would be permitted for stopping along public roads and walking on adjacent BLM public lands to view geology at two stops (at Bair Ranch along I-70

and along the CMC road) and to view Dirty Pool Cave on July 17, 2011. (See Appendix B.) The recreational caving trips would be permitted for 12 trips for Anvil Points Cave and 10 trips for LaSunder Cave during July 16-24, 2011. Each trip would be led by an approved leader and group sizes would be limited to no more than 5 people. The WNS Decontamination Plan developed by the NSS Convention would be followed. (See Appendix A.)

Alternative A: To issue a one-time only SRP to the NSS for the geology trips on BLM public lands from July 16-24, 2011. The geology trips would be permitted the same as the proposed action and include viewing the Dirty Pool Cave sinkhole. There would be no recreational caving trips authorized for Anvil Points Cave or LaSunder Cave. The WNS Decontamination Plan developed by the NSS Convention would be followed for the visit to Dirty Pool Cave. (See Appendix A.)

No Action Alternative: To not issue a SRP for the NSS convention.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD

To issue a one-time only SRP to the NSS for geology trips only (for stops along public roads that do not involve caves) and not authorize any use in any caves. Because the above Alternative A analyzes not authorizing use in Anvil Points Cave or LaSunder Cave, the alternative considered but not carried forward would also include not authorizing use in Dirty Pool Cave. Dirty Pool Cave is a sinkhole with alcoves and the site does not have any documented bat use. Therefore, the BLM determined to not carry forward this alternative.

PLAN CONFORMANCE REVIEW

The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):
Management practices will be consistent with the broad programmatic policies, goals, and objectives established in the Federal Cave Resources Protection Act 1988 (FCRPA), the BLM Cave Resources Manual (8380), Glenwood Springs Resource Management Plan (RMP) 1984, the Glenwood Springs Resource Area Oil and Gas Leasing and Development Record of Decision and RMP Amendment, 1999, the Roan Plateau Planning Area Including Naval Oil Shale Reserves Numbers 1 & 3 Resource Management Plan Amendment & Environmental Impact Statement, 2006, and the LaSunder Cave Management Plan, 2006.

Name of Plan: Glenwood Springs Resource Management Plan.

Date Approved: Jan. 1984, revised 1988, amended in November 1991 - Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement; amended Nov. 1996 - Colorado Standards and Guidelines; amended in August 1997 - Castle Peak Travel Management Plan; amended in March 1999 - Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement; amended in November 1999 - Red Hill Plan Amendment; and amended in September 2002 – Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment

Guidance; amended in August 2006 - Roan Plateau Planning Area Including Naval Oil Shale Reserves Numbers 1 & 3 Resource Management Plan Amendment & Environmental Impact Statement

Decision Number/Page: Glenwood Springs RMP, ROD, 1988;
1). Recreation Resource Management: page 34. Roan Plateau Approved RMP Amendment, 2007; 1). Recreation (REC): page 37.

Decision Language: 1). Page 34; " To ensure continued availability of outdoor recreational opportunities which the public seeks and which are not readily available from other sources, to reduce the impacts of recreational use on fragile and unique resource values, and to provide for visitor safety." 2). Page 37; "Ensure that custodial outcomes for the purpose of addressing identified stewardship needs associated with recreation-tourism activity participation include…Visitor Health and Safety – Ensure that participants in dispersed recreational activities have a low potential for serious accidents (less than two accidents per year that require hospitalization) due to human-created conditions and no (zero) exposure to hazardous health conditions…Resource Protection – Create an increased awareness, understanding, and a sense of stewardship in recreational activity participants so their conduct safeguards natural resource values and overall land health. Allow permitted special events that are consistent with other management objectives with other resources and uses."

Standards for Public Land Health: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. The five standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands.

In 2008, the BLM Glenwood Springs Field Office conducted an assessment of the Deep Creek Landscape, which included the LaSunder Cave area, to determine whether or not the Colorado Standards for Public Land Health are being met. The land health team determined that all twelve grazing allotments and the unalloted parcels within the Deep Creek landscape unit are meeting all of the Standards for Public Land Health.

The land health assessment team evaluated the Rifle-West Landscape Unit in 2004 to determine whether or not the five Public Land Health Standards are being achieved. The Sharrard Park and Webster Park allotments, which encompass the Anvil Points Claystone Cave area, were meeting all the Standards for Public Land Health.

In 2010, the BLM Colorado River Valley Field Office conducted the fieldwork portion of an assessment for the Roaring Fork Landscape to determine whether or not the Colorado Standards for Public Land Health are being met. The Evaluation Report is in draft form as of this time. No formal determination on conformance with the Standards will be made until the formal Land Health Evaluation Report is completed. However, the draft analysis indicates the portion of the landscape which includes Dirty Pool Cave is meeting the standards.

The impact analysis must address whether the proposed action or any alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions for each of the five standards. These analyses are located in specific elements listed below.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITGATION MEASURES

This section provides a description of the human and natural environmental resources that could be affected by the proposed action and alternatives. In addition, the section presents comparative analyses of the direct and indirect consequences on the affected environment stemming from the implementation of the various actions.

A variety of laws, regulations, and policy directives mandate the evaluation of the effects of a proposed action and alternative(s) on certain environmental elements. Not all of the elements that require inclusion in this EA are present in these areas, or if they are present, may not be affected by the proposed action and alternative (Table 2). Only those elements that are present and affected are described in the following narrative.

In addition to the elements analyzed below, there are additional resources that may be impacted by the proposed action and alternative. These are presented under the **Other Affected Resources** section.

Table 2 – Elements of the Human Environment

Element	*Present*		*Affected*		*Element*	*Present*		*Affected*	
	Yes	No	Yes	No		Yes	No	Yes	No
Air Quality		X		X	Prime or Unique Farmlands	X		X	
ACECs	X		X		Threatened or Endangered Species		X		X
Cultural Resources		X		X	Wastes, Hazardous or Solid		X		X
Environmental Justice	X			X	Water Quality, Drinking and Ground		X		X
Floodplains		X		X	Wetlands and Riparian Zones		X		X
Invasive, Non-native Species		X		X	Wild and Scenic Rivers	X			X
Native American Religious Concerns		X		X	Wilderness	X			X

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: LaSunder Cave falls within the Deep Creek Area of Critical Environmental Concern (ACEC). The Deep Creek ACEC which consists of 2,470 acres was designated in the 1984 Glenwood Springs RMP for its scenic and geologic values. Management decisions prescribed the area to be managed under VRM Class I, designated the area as closed to

motorized vehicles, closed to oil and gas surface occupancy, unsuitable for utility and communication facilities, and recommended for withdrawal from mineral development.

The Glenwood Springs, Oil and Gas Leasing and Development, Record of Decision and Resource Management Plan Amendment, March, 1999, prescribed a No Surface Occupancy (NSO) stipulation #16 for Special Recreation Management Areas (SRMA) which included Deep Creek SRMA and ACEC. This stipulation is for "the protection of the recreational setting, recreation opportunities and recreation facilities provided within the SRMA's, the Class I VRM values in the ACECs and cave resources in Deep Creek Cave Area…" No exceptions are permitted.

LaSunder Cave has a relatively broad entrance area (the big room) which then constricts to a narrow passage approximately 150-200 feet back from the entrance. A locked gate was installed at this constriction point in 1994. Due to the restricted access, the extensive and delicate geologic and mineralogical features in the back portions of the cave remain nearly pristine and intact. The only sensitive or unique geologic or mineralogical features in the cave entrance area are on the cave ceiling which is 10+ feet high and would not be subject to accidental damage from incidental use. The front portion of the cave does contain pack rat middens and is a roost area for Townsend's big-eared bats.

Environmental Consequences/Mitigation:
Proposed Action: The proposed action would allow for 10 trips of up to 5 people per trip to enter the LaSunder Cave during the week of July 16-24, 2011. The additional human activity concentrated during a one-week period may result in an increase in trampling damage along the access route to the cave. This may have a very minor impact on scenic resources but would be unlikely to have any long-term adverse affects on the ACEC values and will be in compliance with current ACEC management direction. Human activity within the back portion of LaSunder Cave could result in breakage of fragile cave formations, such as the gypsum needles and delicate anthodites. Even careful cavers using minimum impact techniques could accidentally contact delicate formations and cause damage. Given that the tours would be guided by knowledgeable and conscientious cavers, stay on marked routes, and be limited to 5 people per trip, the risk to cave resources in the ACEC would be minimal and human entry would be no greater than that allowed for the yearly total under the LaSunder Cave Management Plan.

Alternative A and No Action Alternative: Under Alternative A and the no action alternative, trips to enter LaSunder Cave during the NSS convention would not be authorized. The cave would continue to be closed to unpermitted human activity beyond the gate. Impacts to geologic or minerologic resources beyond the gate would not occur and the ACEC values would be maintained.

A decision to deny the SRP permit to enter LaSunder Cave would not prevent convention participants as well as the general public from hiking to the cave entrance and entering the "big room" on their own. However, participants most likely would not try to access LaSunder Cave because of the difficulty in accessing the cave (difficult hike and accent), difficulty in finding the cave location, and knowledge of the locked gate once they arrive. Other caves on BLM lands may receive increased visitation associated with the convention because many caves on the

adjacent White River National Forest (WRNF) are currently closed. Trampling damage along the access route may occur and if the trail to the LaSunder Cave becomes readily noticeable, future incidental visits may increase. The only sensitive or unique geologic or mineralogical features in the cave entrance area are on the cave ceiling which is 10+ feet high. These resources would not be inadvertently impacted by incidental use. Pack rat middens do occur here and may be disturbed or damaged by human activity through via trampling or dust deposition. Townsend's big-eared bats are known to roost in the entrance area of the cave. Potential impacts to this species are discussed under the Special Status Wildlife section.

CULTURAL RESOURCES

Affected Environment: A cultural reconnaissance was completed by the BLM/GSFO (Glenwood Springs Field Office, now the Colorado River Valley Field Office) of the LaSunder Cave in 1994 or 1995 by the GSFO archaeologist. No cultural resources were identified at that time. An earlier scientific research project in 1991 by the Denver Museum of Nature and Science (DMNS) identified a single culturally sensitive item which was collected and curated at the DMNS. In 1995, this item was incorporated into the DMNS's existing NAGPRA inventories and Native American consultation has been completed. The item is currently being housed in the collections at the Anasazi Heritage Center.

No cultural inventory has been conducted within the Anvil Points Cave, although the cave is located within the boundaries of several cultural inventories performed in 1973 and 1995 for the Naval Oil Shale Reserve. CRVFO archaeologists have not been trained in caving techniques nor have had the opportunity to go out with caving experts in order to conduct a survey at this cave. A report by cavers in 1999 and sent to the BLM/GSFO recorded inscriptions on the cave walls of names dated from the late 1940's through the early 1960's. The nature of the Anvil Points Cave is not well suited for either human habitation or in-situ preservation of habitation evidence.

No cultural inventory has been conducted within the Dirty Pool Cave and no cultural resources have been identified in the cave vicinity at this time. CRVFO archaeologists have not been trained in caving techniques nor have had the opportunity to go out with caving experts in order to conduct a survey at this cave.

Environmental Consequences/Mitigation:

Proposed Action: The implementation of the Proposed Action would have no direct impacts to known "historic properties" as the proposed action does not involve any surface disturbance or any development. Therefore, the BLM made a determination of "**No Historic Properties Affected**." This determination was made in accordance with the 2001 revised regulations [36CFR 800.4(d)(1)] for Section 106 of the National Historic Preservation Act (16U.S.C 470f), the BLM/State Historic Preservation Officer (SHPO) Programmatic Agreement (1997) and Colorado Protocol (1998)]. As the BLM has determined that the Proposed Action would have no direct impacts to known "historic properties," no formal consultation was initiated with the SHPO.

Indirect, short-term cumulative impacts from temporarily increased access could result in a range of impacts to known and undiscovered cultural resources in the vicinity of the location. These impacts could range from illegal collection and excavation to vandalism.

The Education/Discovery stipulation needs to be added to the permit and signs placed where the public can see them to make them aware of their responsibility to preserve and protect cultural resources. This should help deter the potential for impacts both direct and indirect as a result of public and scientific uses of the caves.

The National Historic Preservation Act (NHPA) requires that if newly discovered cultural resources are identified during cave and geology trips, trips in that area must stop and the agency Authorized Officer notified immediately (36 CFR 800.13). The Native American Graves Protection and Repatriation Act (NAGPRA), requires that if inadvertent discovery of Native American Remains or Objects occurs, trips must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice made to the BLM Authorized Officer, as well as the appropriate Native American group(s) (IV.C.2). Notice may be followed by a 30-day delay (NAGPRA Section 3(d)). Further actions also require compliance under the provisions of NHPA and the Archaeological Resource Protection Act.

Alternative A: Same as the proposed action for the locations permitted.

No Action Alternative: No trips would be authorized so impacts described above would not occur.

FARMLANDS, PRIME AND UNIQUE

Affected Environment:
There are no Prime or Unique Farmlands in the area of the Proposed Action (NRCS 2011).

Environmental Consequences/Mitigation:

Proposed Action: Nationally, bats provide an economically important pest control function for agriculture (USGS 2011b.), but the potential effects on agriculture of a local WNS introduction have not been quantified. Given the lack of Prime and Unique Farmlands in the area of the proposed action and the low likelihood of WNS introduction, the Proposed Action represents a small, indirect risk to Prime and Unique Farmlands located beyond the area of the Proposed Action.

Alternative A: With its increased restrictions on cave entry, Alternative A represents a relatively lower risk for introduction of WNS and potential indirect impacts to Prime and Unique Farmlands.

No Action Alternative: The No Action Alternative represents a risk similar to Alternative A.

Any mitigation measures (e.g. decontamination, gear origin restrictions, etc.) taken to reduce the risk of WNS would also reduce the risk of indirect impacts to Prime and Unique Farmlands from a loss in bat populations.

FLOODPLAINS

Affected Environment: There would be no impacts to floodplains, riparian vegetation, or wetlands since these resources are not present within the area of the proposed action or alternatives.

Environmental Consequences/Mitigation: N/A

INVASIVE, NON-NATIVE SPECIES

Affected Environment: No surveys have been conducted for the presence of invasive, non-native species within or immediately surrounding the caves. Surveys for noxious weeds and invasive, non-native species were conducted on public lands in the Deep Creek watershed in 2008. Most of the watershed was weed-free with the exception of the Coffee Pot Road and parking area. Invasive, non-native species found included yellow and white sweetclover. The state-listed noxious weeds found were musk thistle, Canada thistle, cheatgrass and common mullein.

Environmental Consequences/Mitigation:
Proposed Action: Since the proposed action does not involve any surface-disturbing activities, there should be little potential for the introduction or spread of noxious weeds in the area. Any weeds which may occur along the access trail could be spread via foot traffic to and from the cave. Visitors to the cave are encouraged to report any noxious weed occurrences to the Colorado River Valley Field Office for treatment.

Alternative A: No surveys have been conducted for the presence of invasive, non-native species within or immediately surrounding the caves. No surveys for noxious weeds and invasive, non-native species have been conducted at Bair Ranch or the gypsum outcrop along the CMC road. Since Alternative A does not involve any surface-disturbing activities, there should be little potential for the introduction or spread of noxious weeds in the area. Any weeds which may occur along the access trail could be spread via foot traffic to and from the cave. Visitors to the cave are encouraged to report any noxious weed occurrences to the Colorado River Valley Field Office for treatment.

No Action Alternative: No potential for the introduction or spread of noxious weeds.

MIGRATORY BIRDS

Affected Environment: BLM Instruction Memorandum No. 2008-050 provides guidance toward meeting the Bureau of Land Management's (BLM) responsibilities under the Migratory Bird Treaty Act (MBTA) and the Executive Order (EO) 13186. The guidance directs Field Offices to

promote the maintenance and improvement of habitat quantity and quality. To avoid, reduce or mitigate adverse impacts on the habitats of migratory bird species of conservation concern to the extent feasible, and in a manner consistent with regional or statewide bird conservation priorities.

The MBTA prohibits the "take" of a protected species. Under the Act, the term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The USFWS interprets "harm" and "kill" to include loss of eggs or nestlings due to abandonment or reduced attentiveness by one or both adults as a result of disturbance by human activity, as well as physical destruction of an occupied nest.

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act (ESA) of 1973." The "*Birds of Conservation Concern 2008"* (USFWS 2009) is the most recent effort to carry out this mandate. The conservation concerns are the result of population declines - naturally or human-caused, small ranges or population sizes, threats to habitat, or other factors. Although there are general patterns that can be inferred, there is no single reason why any species was on the list. Habitat loss is believed to be the major reason for the declines of many species. When considering potential impacts to migratory birds the impact on habitat, including: 1) the degree of fragmentation/connectivity expected from the proposed project relative to before the proposed project; and 2) the fragmentation/connectivity within and between habitat types (e.g., within nesting habitat or between nesting and feeding habitats. Continued private land development, surface disturbing actions in key habitats (e.g. riparian areas) and the proliferation of roads, pipelines, powerlines and trails are local factors that reduce habitat quality and quantity for many species.

The Colorado River Valley Field Office (CRVFO) is within the Southern Rockies/Colorado Plateau Bird Conservation Region (BCR). The 2008 list of Birds of Conservation Concern are described in Table 4.

Table 4 - 2008 List of Birds of Conservation Concern within the CRVFO.

Species	Information/Range/Habitat Description	Occurrences/Potentially Impacted
Gunnison Sage-Grouse *(Centrocercus minimus)*	Sagebrush communities for hiding and thermal cover, food, and nesting; open areas with sagebrush stands for leks; sagebrush-grass-forb mix for nesting; wet meadows for rearing chicks. Not found within the CRVFO.	Not Present/No
American Bittern *(Botaurus lentiginosus)*	Inhabits marshes and wetlands; ground nester. Summer resident in Colorado.	Not Present/No
Bald Eagle *(Haliaeetus leucocephalus)*	Bald eagles were removed from the federal threatened and endangered species list in 2007 but are still protected under the MBTA. Bald eagles occasionally summer in this region but usually winter (mid-Nov. to mid-April) along portions of the Colorado, Eagle and Roaring Fork Rivers and their major tributaries. Large mature cottonwood trees along the rivers and their major tributaries are used as roosting and perching sites, and these waterways provide the main food sources of fish and waterfowl. Upland habitats adjacent to these waterways are used	Irregular/No

Species	Information/Range/Habitat Description	Occurrences/Potentially Impacted
	as scavenging areas.	
Ferruginous Hawk *(Buteo regalis)*	Open, rolling and/or rugged terrain in grasslands and shrubsteppe communities; also grasslands and cultivated fields; nests on cliffs and rocky outcrops. Fall/winter resident, non-breeding.	Unlikely/No
Golden Eagle *(Aquila chrysaetos)*	Open country, grasslands, woodlands, and barren areas in hilly or mountainous terrain; nests on rocky outcrops or large trees. Year-round resident, breeding.	Irregular/No
Peregrine Falcon *(Falco peregrines)*	Open country near cliff habitat, often near water such as rivers, lakes, and marshes; nests on ledges or holes on cliff faces and crags. Spring/summer resident, breeding.	Irregular in the Anvil Points area/No
Prairie Falcon *(Falco mexicanus)*	Open country in mountains, steppe, or prairie; winters in cultivated fields; nests in holes or on ledges on rocky cliffs or embankments. Spring/summer resident, breeding.	Not Present/No
Snowy Plover *(Charadrius alexandrinus nivosus/tenuirostris)*	Sparsely vegetated sand flats associated with pickleweed, greasewood, and saltgrass. Spring migrant, non-breeding. Spring migrant, non-breeding.	Not Present/No
Mountain Plover *(Charadrius montanus)*	High plain, cultivated fields, desert scrublands, and sagebrush habitats, often in association with heavy grazing, sometimes in association with prairie dog colonies; short vegetation.	Not Present/No
Long-billed Curlew *(Numenius americanus)*	Lakes and wetlands and adjacent grassland and shrub communities. Spring/fall migrant, non-breeding.	Not Present/No
Burrowing Owl *(Athene cunicularia)*	Open grasslands and low shrublands often in association with prairie dog colonies; nests in abandoned burrows created by mammals; short vegetation.	Not Present/No
Lewis's Woodpecker *(Melanerpes lewis)*	Open woodland, often logged or burned, including oak, coniferous forest (often ponderosa), riparian woodland, and orchards, less often in pinyon-juniper.	Possible in Deep Creek area/No
Willow Flycatcher *(Empidonax traillii)*	Riparian and moist, shrubby areas; winters in shrubby openings with short vegetation. Fairly common summer resident in open valleys and mountain parks, breeding.	Possible in Deep Creek area/No
Gray Vireo *(Vireo vicinior)*	Uncommon summer resident (primarily Mesa County). In habitats open pinyon-juniper woodlands.	Not Present/No
Pinyon Jay *(Gymnorhinus cyanocephalus)*	Common to abundant resident of pinyon-juniper woodlands. Year-round resident that travels broadly in flocks.	Present/No
Juniper Titmouse *(Baeolophus ridgwayi)*	Pinyon-juniper woodlands, especially juniper; nests in tree cavities. Requires mature tree cavities for nesting and roosting. Year-round resident, breeding.	Present/No
Veery *(Catharus fuscescens)*	Dense riparian thickets and hillside brush near streams. Uncommon spring/fall migrant in Eastern Colorado.	Not Present/No
Bendire's Thrasher *(Toxostoma bendirei)*	Desert, especially areas of tall vegetation, cholla cactus, creosote bush and yucca, and in juniper woodland Possible summer resident.	Not Present/No
Grace's Warbler *(Dendroica graciae)*	Breeds in ponderosa pine forests. Uncommon summer resident in southwest Colorado.	Not Present/No
Grasshopper Sparrow *(Ammodramus savannarum)*	Open grasslands and cultivated fields. Uncommon, non-breeding spring migrant in western Colorado and common summer resident in eastern Colorado.	Not Present/No
Chestnut-collared	Open grasslands and cultivated fields. Uncommon, non-breeding spring	Not Present/No

Species	Information/Range/Habitat Description	Occurrences/Potentially Impacted
Longspur *(Calcarius ornatus)*	migrant in western Colorado and common summer resident in eastern Colorado.	
Black Rosy-Finch *(Leucosticte atrata)*	Open country including mountain meadows, high deserts, valleys. Breeds/nests in alpine areas near rock piles and cliffs. Irregular to rare winter resident, non-breeding.	Not Present/No
Brown-capped Rosy-Finch *(Leucosticte australis)*	Summer resident/breeding in alpine meadows, cliffs, and talus and high-elevation parks and valleys. Irregular to rare winter resident in lower mountain areas.	Not Present/No
Cassin's Finch *(Carpodacus cassinii).*	Open montane coniferous forests; breeds/ nests in coniferous forests. Year-round resident, breeding.	Not Present/No
Yellow-billed Cuckoo *(Coccyzus americanus)*	See Threatened, Endangered and Sensitive Species – Terrestrial Wildlife	
Brewer's Sparrow *(Spizella breweri)*	See Threatened, Endangered and Sensitive Species – Terrestrial Wildlife	

Environmental Consequences/Mitigation:

Proposed Action: The authorized trips of small groups of participants may disturb migratory bird species that inhabit the access routes and the immediate area around the caves and geologic sites. The authorized use period is after the nesting/fledging period for birds with a potential to be present. The overall impact is likely short-term, temporary and would only affect individuals immediately adjacent to the access routes. The increased disturbance of the authorized trips, in addition to the non-permitted, on-going dispersed recreation use, is negligible.

Alternative: Same as the proposed action for the locations permitted.

No Action Alternative: No trips would be authorized so impacts described above would not occur.

NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment: A single culturally sensitive item was found during a scientific research project at LaSunder Cave. This item was collected and curated at the Denver Museum of Nature and Science (DMNS). It was transferred to the Anasazi Heritage Center (AHC) in 1995 with the rest of the (DMNS) NAGPRA inventory collections. The AHC is in the final phases of consulting with a number of Tribes for this collection including the Pueblo, Zuni, Apache, Navajo, and Ute Tribes and awaiting the final deposition of the various items. Other than this item, no Native American concerns are known by the CRVFO within the project area and none were identified during the reconnaissance. The Ute Tribes claim the area as part of their ancestral homeland. If new data is disclosed by the Tribes, new terms and conditions may have to be negotiated to accommodate their concerns during the implementation phase.

Environmental Consequences/Mitigation:

Proposed Action: Indirect impacts from increased access and people visiting the caves could

result in a range of impacts to unknown cultural resources from illegal collection or vandalism. The importance of the Education/Discovery Stipulation needs to be stressed to researchers and the general public as well about their responsibility to preserve and protect cultural and Native American artifacts and sites. A standard Education/Discovery stipulation for the protection of Cultural Resources will be attached to this permit and signs placed at the caves' entrances. Periodic monitoring may be necessary to check on the caves and replace the signs.

Alternative A: Same as the proposed action.

No Action Alternative: No impacts would occur to unknown cultural resources.

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

Affected Environment: Table 5 summarizes the latest species list (USFWS 2010) from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate plant species and the Colorado BLM State Director's Sensitive Species List (BLM 2009) for sensitive plant species that may occur within the CRVFO and be impacted by the proposed action.

Table 5. Federally Listed, Proposed or Candidate Plant Species

Species	Habitat/Range	Occupied/Potential Habitat Present /Absent
Colorado hookless cactus (*Sclerocactus glaucus*)	Listed as threatened. Typically found on rocky hills and alluvial benches in xeric fine-textured soils overlain with cobbles and pebbles. It grows in salt desert shrub and pinyon-juniper communities at elevations ranging from approximately 4,500 to 6,600 feet.	**Absent:** No rocky or salt desert shrub habitat present in proposed action area.
Ute ladies'-tresses (*Spiranthes diluvialis*)	Listed as threatened. Habitat for this threatened species is found below 6,500 feet along streams, lakes or in wetland areas with seasonally saturated or subirrigated soils.	**Absent**: The only riparian habitat in the proposed action area is Deep Creek. The elevation of the trailhead is 6,700 feet, which is above the known range of Ute ladies'-tresses habitat.
Parachute penstemon (*Penstemon debilis*)	Proposed for listing. Endemic to steep, talus slopes on the southern escarpment of the Roan Plateau in Garfield County, Colorado. The plants are found only on the oil-shale rich Parachute Creek Member of the Green River Formation between 8,000 to 9,000 feet in elevation.	**Absent:** No talus slopes of the Green River Formation present within the proposed action area.
DeBeque phacelia (*Phacelia submutica*)	Proposed for listing. A rare annual plant restricted to expansive clay soils derived from the Atwell Gulch and Shire Members of the Wasatch Formation in Mesa and Garfield Counties, Colorado. The plant grows on sites that are nearly barren of vegetation below 6,500 feet.	**Absent:** No exposures of the Shire Member of the Wasatch formation present in the proposed action area.

Colorado BLM Sensitive Plant Species		
Species	**Habitat**	**Occupied/Potential Habitat Present/Absent**
DeBeque milkvetch (*Astragalus debequaeus*)	Found only on the Wasatch Formation in the vicinity of DeBeque and Rulison, Colorado. Plants are common on the Atwell Gulch Member of the Wasatch Formation but are rare elsewhere. Elevations of known populations are between 5,100 and 6,400 feet.	**Potential:** The Anvil Points Claystone Cave occurs in the Wasatch Formation. Potential habitat for DeBeque milkvetch is present in the area.
Naturita milkvetch (*Astragalus naturitensis*)	Occurs on sandstone mesas, ledges, crevices, and slopes in pinyon-juniper woodlands at elevations from 5,000 to 7,000 feet. It grows in areas of shallow soils over exposed bedrock. Naturita milkvetch has been found in several locations on the western end of the CRVFO.	**Absent:** No sandstone rimrock or ledges known to occur in the proposed action area.
Cathedral Bluffs meadowrue (*Thalictrum heliophilum*)	Known from 18 occurrences in Garfield, Mesa and Rio Blanco Counties. The meadowrue is a narrowly endemic plant found in dry, shale barren communities between 6,200 and 8,800 feet in elevation.	**Absent:** No dry, shale barren communities in the area of the proposed action.
Piceance bladderpod (*Lesquerella parviflora*)	A Colorado endemic known only in Garfield, Mesa, and Rio Blanco Counties. It occurs on shale outcrops of the Green River Formation, on ledges and slopes of canyons in open areas at elevations ranging from 6,200 to 8,600 feet.	**Absent:** No Green River shale outcrops occur within the proposed action area.
Roan Cliffs blazing star (*Mentzelia rhizomata*)	Found only on steep talus slopes of the Green River Formation in Garfield County. The species occurs on eroding oil shale at elevations from 5,800 to 9,000 feet. In the GSFO, the Roan Cliffs blazing star is known to occur on the cliffs of the Roan Plateau, along Parachute Creek drainage and in Main Elk Creek, near New Castle, Colorado.	**Absent:** No Green River shale exposures occur in the proposed action area.
Harrington's penstemon (*Penstemon harringtonii*)	Open sagebrush communities on rocky loam or rocky clay loam soils between the elevations of 6,200 to 10,000 feet.	**Absent:** No suitable habitat identified in the area of the proposed action .

Environmental Consequences/Mitigation:

Federally Listed, Proposed, or Candidate Plant Species: The proposed action, Alternative A, and the no action alternative would occur outside of any known or suspected habitat for Federally listed, proposed, or candidate plant species. As such, all alternatives would have "No Effect" on any of these plant species or their habitats.

BLM Sensitive Plant Species:
The only BLM sensitive plants species with known or potential habitat in the proposed action area is DeBeque milkvetch. This species occurs on the Wasatch formation which surrounds the Anvil Points Claystone Cave. Rare plant surveys conducted in the mid-1990's did not document any DeBeque milkvetch within the immediate vicinity of the cave, however, the species is

known to occur less than 0.5 miles from the cave and potential habitat does exist in the immediate area of the cave.

Proposed Action: Human foot traffic associated with this proposed caving permit would pose a risk of trampling any DeBeque milkvetch plants that may be present in the area. The area is known to be sparsely vegetated and few plants are likely to be impacted. Several other populations occur in the immediate area and therefore, the proposed action would have a negligible impact on the long-term viability of the local population.

Alternative A and the No Action Alternative: No trips would be authorized to enter Anvil Points Cave as part of the NSS convention. Regardless of the decision in this document on the SRP, convention participants, outside of authorized trips, as well as the general public, may be able to access the Anvil Points Claystone Cave Complex, as well as other ungated caves on BLM lands. Caves on BLM lands may receive more visitation associated with the convention because many caves on the adjacent WRNF are currently closed. Alternative A and the No Action alternative would likely have the same or similar impact on sensitive plants as the Proposed Action.

Finding on the Public Land Health Standard for Threatened & Endangered Species:
A formal land health assessment has been conducted on the three landscapes involved in the proposed action. Evaluation Reports have been completed on two of the landscapes, and the proposed action areas were determined to be meeting Standard 4 for special status plants. The third landscape has had the fieldwork portion of the assessment completed, but the Evaluation Report is still in draft form. The draft report indicates that this landscape is also meeting Standard 4 for special status plants. Neither the Proposed Action, Alternative A nor the No Action alternative should result in a failure to meet this Standard.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES – Aquatic Wildlife (includes a finding on Standard 4)

Table 6 summarizes the latest: 1) species list (USFWS 2010) from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate aquatic wildlife species and 2) Colorado BLM State Director's Sensitive Species List for aquatic species; that may occur within the CRVFO and be impacted by the proposed action.

Table 6 – Special Status Aquatic Wildlife Species.

Federally Listed, Proposed or Candidate Aquatic Wildlife Species		
Species	Information/Range/Habitat Description	Occurrence/ Potentially Impacted
Greenback cutthroat trout *(Oncorhynchus clarki stomias)*	Federally listed as threatened. The greenback is the subspecies of cutthroat trout native to the Platte River drainage on the Eastern Slope of Colorado, while the Colorado River cutthroat trout is the subspecies native to the Western Slope of Colorado. Historically found in cold, clear, gravely headwater streams and mountain lakes of the Arkansas and South Platte River systems in Colorado and part of Wyoming. The greenback cutthroat trout was not identified on the USFWS list for Garfield County; however, recent surveys have identified a population in Cache Creek.	Absent /No
Bonytail *(Gila elegans)*	Federally listed as endangered. This large chub is a member of the minnow family found in large, fast-flowing waterways of the Colorado River system. Their current distribution and habitat status are largely unknown due to its rapid decline prior to research into its natural history. The bonytail is extremely rare in Colorado and no self-sustaining population exists. Only one has been captured in the state since 1980.	Absent /No
Colorado pikeminnow (formerly Colorado squawfish) *(Ptychocheilus lucius)*	Federally listed as endangered. Primarily exists in the Green River below the confluence with the Yampa River, the lower Duchesne River in Utah, the Yampa River below Craig, Colo., the White River from Taylor Draw Dam near Rangely downstream to the confluence with the Green River, the Gunnison River in Colorado, and the Colorado River from Palisade, Colo., downstream to Lake Powell. Colorado pikeminnow populations in the upper Colorado River basin are now relatively stable or growing. Designated Critical Habitat includes the Colorado River and its 100-year floodplain west (downstream) from the town of Rifle.	Absent /No
Humpback chub *(Gila cypha)*	Federally listed as endangered. Found in deep, clear to turbid waters of large rivers and reservoirs over mud, sand or gravel. The nearest known population of humpback chub is in the Colorado River at Black Rocks west of Grand Junction..	Absent /No
Razorback sucker *(Xyrauchen texanus)*	Federally listed as endangered. The razorback sucker was once widespread throughout most of the Colorado River Basin from Wyoming to Mexico. In the upper Colorado River Basin, they are now found only in the upper Green River in Utah, the lower Yampa River in Colorado and occasionally in the Colorado River near Grand Junction. Because so few of these fish remain in the wild, biologists have been actively raising them in hatcheries in Utah and Colorado and stocking them in the Colorado River. Designated Critical Habitat for the razorback sucker includes the Colorado River and its 100-year floodplain west (downstream) from the town of Rifle.	Absent /No

Colorado BLM Sensitive Aquatic Species		
Species	Information/Range/Habitat Description	Occurrence / Potentially Impacted
Northern leopard frog (*Rana pipiens)*	Generally found between 3,500 to 11,000 feet, in wet meadows and in shallow lentic habitats. They require year-round water sources, deep enough to provide ice free refugia in the winter. Within the CRVFO, this species has been documented in locales where quality riparian vegetation exists in conjunction with perennial water sources. Larger populations of this species have been documented northwest of King Mountain within the small drainage that feeds King Mountain (Ligon) Reservoir, June Creek and East Divide Creek south of Silt, Colorado, and in portions of the Rifle Creek watershed north of Rifle, Colorado.	Absent /No
Great Basin spadefoot toad (*Spea intermontana).*	This toad is known to occupy a wide variety of habitat including lowlands, foothills, and shortgrass plain. This species generally inhabits and breeds in seasonal pools and ponds in pinyon-juniper woodland, sagebrush, and semi-desert shrubland habitats, mostly below 6,000 feet in elevation.	Absent /No
Boreal Toad *(Bufo boreas boreas)*	The distribution of the boreal toad is restricted to areas with suitable breeding habitat in spruce-fir forests and alpine meadows generally between 7,500 and 12,000 feet elevation. Breeding habitat includes lakes, marshes, ponds, and bogs with sunny exposures and quiet shallow water. The CRVFO has potential habitat but no known populations.	Absent /No
Bluehead sucker (*Catostomus discobolus*) , Flannelmouth sucker (*Catostomus latipinnis), and* Roundtail chub (*Gila robusta)*	Primarily found in larger rivers but may also be found in smaller tributaries with good connectivity to larger river systems. These fish are endemic to the Colorado River basin and reside within the mainstem Colorado River and its major tributary streams. Given their biology, feeding habits, habitat needs, and niche in the ecosystem, these species can persist in the face of actions that increase sediments to streams and rivers containing these species.	Absent /No
Mountain sucker (*Catostomus platyrhynchus*)	The mountain sucker is found primarily in small, low- mid elevation streams in northwestern Colorado with gravel, sand or mud bottoms. They inhabit undercut banks, eddies, small pools, and areas of moderate current. Young fish prefer backwaters and eddies. A population of mature adults is found in Steamboat Lake. Within the CRVFO, only known occurrence is in Piceance Creek.	Absent /No
Colorado River cutthroat trout (CRCT) (*Oncorhynchus clarkii pleuriticus)*	CRCT are one of three subspecies of native trout found in Colorado. CRCT prefer clear, cool headwaters streams with coarse substrates, well-distributed pools, stable streambanks, and abundant stream cover. CRCT have been documented as occurring in Parachute Creek, Trapper Creek, Northwater Creek, Abrams Creek, Battlement Creek, Mitchell Creek, North Thompson Creek and Red Dirt Creek. It is likely that all of the perennial waters capable of harboring fish historically contained this native trout species. CRCT have hybridized with non-native salmonids in many areas, reducing the genetic integrity of this subspecies. Rainbow trout hybridize with cutthroat trout. Brook and brown trout tend to replace them in streams and rivers.	Absent /No

Environmental Consequences/Mitigation:

Convention use authorized by the proposed action, the proposed alternative and the no action alternative occur outside of known habitat for Federally listed, proposed, or candidate aquatic wildlife species or the habitat of any aquatic wildlife species on the Colorado BLM State

Director's Sensitive Species List. Any water located in the caves such as small perched water-puddles derived from dripping ceilings, and other percolating water sources are not known to harbor special status aquatic wildlife.

Proposed Action: The proposed action would not positively or negatively impact (no effect) known habitat for Federally listed, proposed, or candidate aquatic wildlife species or the habitat of any aquatic wildlife species on the Colorado BLM State Director's Sensitive Species List.

Alternative A: The alternative would not positively or negatively impact (no effect) known habitat for Federally listed, proposed, or candidate aquatic wildlife species or the habitat of any aquatic wildlife species on the Colorado BLM State Director's Sensitive Species List.

No Action Alternative: No trips would be authorized so would not positively or negatively impact (no effect) known habitat for Federally listed, proposed, or candidate aquatic wildlife species or the habitat of any aquatic wildlife species on the Colorado BLM State Director's Sensitive Species List.

Analysis on the Public Land Health Standard 4 for Special Status Aquatic Wildlife Species: (partial, see also Special Status Plants and Terrestrial Wildlife): The implementation of any alternative would maintain viable population levels of aquatic wildlife commensurate with the species and habitat's potential would be maintained. Animals would be present in mixed age classes sufficient to sustain recruitment and mortality fluctuations. It is concluded that all alternatives would maintain land health standard 4 for special status aquatic wildlife.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES – Terrestrial Wildlife (includes a finding on Standard 4)

Table 7 summarizes the latest: 1) species list (USFWS 2010) from the U. S. Fish and Wildlife Service for Federally listed, proposed, or candidate terrestrial wildlife species and 2) Colorado BLM State Director's Sensitive Species List (Updated November 2009) for terrestrial species; that may occur within the CRVFO and be impacted by the proposed action.

Table 7 – Special Status Terrestrial Wildlife Species.

Federally Listed, Proposed or Candidate Terrestrial Wildlife Species		
Species	Information/Range/Habitat Description	Occurrence/ Impacted
Black-footed Ferret (*Mustela nigripes*)	Federally listed as endangered. Black-footed ferrets have ranged statewide but never have been abundant in Colorado. Their habitat included the eastern plains, the mountain parks and the western valleys – grasslands or shrub lands that supported some species of prairie dog, the ferret's primary prey. State and federal biologists have established two major black-footed ferret colonies: one at Coyote Basin (Colorado-Utah border west of Rangely) and another at the BLM's Wolf Creek Management Area southeast of Dinosaur National Monument.	Absent /No

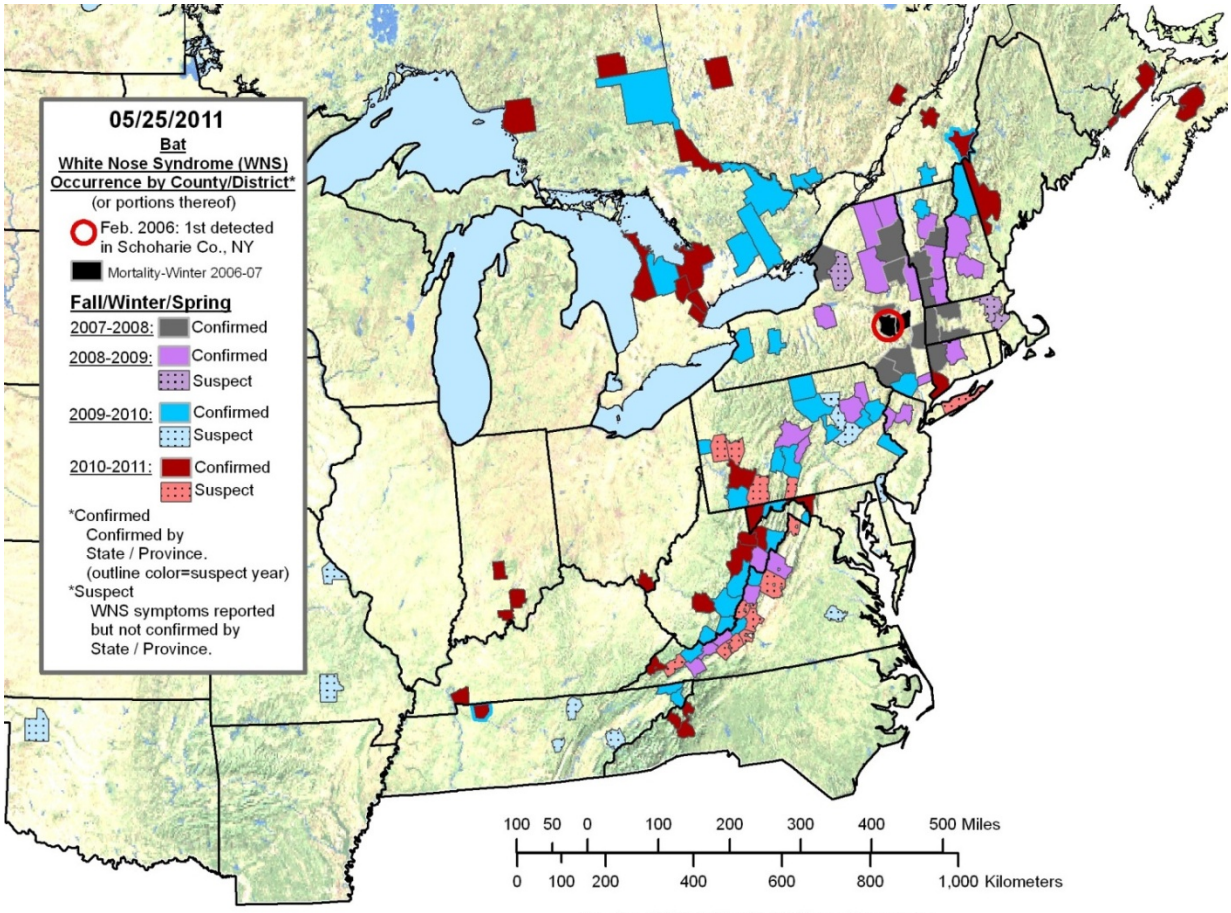
Canada lynx (*Lynx Canadensis)*	Federally listed as threatened. Canada lynx occupy high-latitude or high-elevation coniferous forests characterized by cold, snowy winters and an adequate prey base. In the western US, lynx are associated with mesic forests of lodgepole pine, subalpine fir, Engelmann spruce, and quaking aspen in the upper montane and subalpine zones, generally between 8,000 and 12,000 feet in elevation. Although snowshoe hares (*Lepus americanus*) are the preferred prey, lynx in also feed on mountain cottontails (*Sylvilagus nuttallii*), pine squirrels (*Tamiasciurus hudsonicus*), and blue grouse (*Dendragapus obscurus*). The Forest Service has mapped suitable denning, winter, and other habitat for lynx within the White River and Routt National Forests. The mapped suitable habitat comprises areas known as Lynx Analysis Units (LAUs) that are the approximate the size of a female's home range. Several LAUs include small parcels of BLM lands.	Absent /No
Mexican spotted owl *(Strix occidentalis lucida)*	Federally listed as endangered. This owl nests, roosts, and hunts in mature coniferous forests in canyons and foothills. The key habitat components are old-growth forests with uneven-age stands, high canopy closure, high tree density, fallen logs and snags. The only extant populations in Colorado are in the Pikes Peak and Wet Mountain areas of south-central Colorado and the Mesa Verde area of southwestern Colorado.	Absent /No
Greater Sage-grouse (*Centrocercus urophasianus)*	Candidate for Federal listing. Sage-grouse, as the name implies, are found only in areas where sagebrush is abundant, providing both food and cover. Sage-grouse prefer relatively open sagebrush flats or rolling sagebrush hills. In winter, sagebrush accounts for 100% of the diet for these birds. In addition, it provides important escape cover and protection from the elements. In late winter, males begin to concentrate on traditional strutting grounds or leks. Females arrive at the leks 1-2 weeks later. Leks can occur on a variety of land types or formations (windswept ridges, knolls, areas of flat sagebrush, flat bare openings in the sagebrush. Breeding occurs on the leks and in the adjacent sagebrush, typically from March through May. Females and their chicks remain largely dependent on forbs and insects for food well into early fall. Within the CRVFO sage-grouse are still present in the northeast part of the Field Office in the Northern Eagle/Southern Routt population, while small (<500 birds), probably has, or had, a relationship with the larger population in Moffat, Rio Blanco and western Routt counties, and probably with the Middle Park population to the east. (additional information provided below).	Absent /No
Yellow-billed cuckoo *(Coccyzus americanus)*	Candidate for Federal listing. This secretive species occurs in mature riparian forests of cottonwoods and other large deciduous trees with a well-developed understory of tall riparian shrubs. Western cuckoos breed in large blocks of riparian habitats, particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.). A few sightings of yellow-billed cuckoo have occurred in western Colorado along the Colorado River near Grand Junction.	Absent /No
Uncompahgre fritillary butterfly *(Boloria acrocnema)*	Federally listed as endangered. The butterfly has been verified at only two areas in the San Juan Mountains in Colorado. There is anecdotal evidence of other colonies in the San Juans and southern Sawatch ranges in Colorado. The butterfly exists above treeline on north and east facing slopes in patches of its larval host plant, snow willow. The greatest threat is butterfly collecting. Climatological patterns, disease, parasitism, predation, and trampling of larvae by humans and livestock pose additional threats.	Absent /No

Colorado BLM Sensitive Terrestrial Wildlife Species		
Species	Information/Range/Habitat Description	Occurrence/ Impacted
Townsend's big-eared bat (*Corynorhinus townsendii*) and Fringed myotis (*Myotis thysanodes)*	Occur as scattered populations at moderate elevations on the western slope of Colorado. Habitat associations are not well defined. Both bats will forage over water and along the edge of vegetation for aerial insects. These bats commonly roost in caves, rock crevices, mines, buildings or tree cavities. Both species are widely distributed and usually occur in small groups. Townsend's big-eared bat is not very abundant anywhere in its range. This is attributed to patchy distribution and limited availability of suitable roosting habitat (Gruver, J.C. and D.A. Keinath 2006).	Present/Yes *(additional information below)*
Midget faded rattlesnake *(Crotalus viridis concolor)*	A small, pale-colored subspecies of the common and widespread western rattlesnake. The midget faded rattlesnake is endemic to northwestern Colorado, including western Garfield County. Habitats include sandy and rocky areas in pinyon-juniper and semi-desert shrub.	Absent /No
Northern goshawk (*Accipter gentilis)*	An uncommon resident in mountains. Occasional migrant that may winter at lower elevations. Predominantly uses mature stands of aspen, and ponderosa/ lodgepole pines. Goshawks prey on small-medium sized birds and mammals. It breeds in coniferous deciduous and mixed forests. The nest is typically located on a northerly aspect in a drainage or canyon and is often near a stream. Nest areas contain one or more stands of large, old trees with a dense canopy cover. A goshawk pair occupies its nest area from March until late September. The nest area is the center of all movements and behaviors associated with breeding from courtship through fledging.	Unlikely/No
Goldeneye, Barrow's (*Bucephala islandica)*	This bird is an uncommon winter resident and spring/fall migrant. A few may breed in the northern mountains such as the Flat Tops Wilderness Area. Goldeneye's prefer alkaline-freshwater lakes in parkland areas and to a lesser extent subalpine/alpine lakes/beaver ponds for breeding.	Absent /No
Brewer's sparrow (*Spizella berweri*)	Neotropical migrant that summers in western Colorado mountain parks and spring/fall migrant at lower elevations. A sagebrush shrubland obligate with an apparently secure conservation status in Colorado.	Absent /No
American Peregrine Falcon *(Falco peregrines anatum)*	Rare spring and fall migrant in western valleys. Peregrine falcons inhabit open spaces associated with high cliffs and bluffs overlooking rivers. The falcon nests on high cliffs and forages over nearby woodlands.	Absent /No
Ibis, white-faced (*Plegadis chihi)*	The species inhabits primarily freshwater wetlands, especially cattail (*Typha* spp.) and bulrush (*Scirpus* spp.) marshes. This bird is a very rare, non-breeding, summer migrant to western Colorado valleys and mountain lakes This species feeds in flooded hay meadows, agricultural fields, and estuarine wetlands. This species breeds in isolated colonies in mainly shallow marshes with "islands" of emergent vegetation. This species is more commonly found on the eastern slope of Colorado (e.g. San Luis valley).	Absent /No

Additional Information on White-nose Syndrome and Bats (Including Townsend's Big-eared Bats and Fringed Myotis). To keep the analysis succinct, impacts to non-special status bat species are included and analyzed in this section. Scoping comments along with this analysis have indicated the greatest potential impact to terrestrial wildlife involves bats, their habitat and the spread of white-nose syndrome. Additional information is provided below to give context for the analysis and address scoping comments.

White-nose Syndrome (WNS). WNS is a newly discovered and poorly understood fungal disease that is not native to North America. It has devastated bats populations in eastern North America but has not yet been observed in Colorado. In some of the worst-hit areas, the hibernacula (areas where bats hibernate in concentrated numbers) mortality rate is over 90 percent (USFWS 2011). It has been reported in 12 European countries but has not been associated with mortality. This suggests that the fungus, *Geomyces destructans*, has been in Europe for tens of thousands of years and European bats have coevolved with the fungus (Raloff 2011).

Since it was first documented in New York in the winter of 2006-2007, WNS has continued to spread rapidly. Currently bats with WNS are confirmed in sixteen states including: Connecticut, Delaware, Indiana, Kentucky, Maryland, Massachusetts, New Hampshire , New Jersey, New York, North Carolina, Ohio, Pennsylvania, Tennessee, Vermont, Virginia and West Virginia; and four Canadian provinces including: New Brunswick, Nova Scotia, Ontario and Quebec. The fungus was confirmed in Missouri and Oklahoma in 2010 (USFWS 2011). The latest Oklahoma samplings in January and February 2011 showed no signs of the fungus in caves or the 22 species of bats native to the state (Newsok 2011).



Map by: Cal Butchkoski, PA Game Commission

Cave-hibernating bats are especially vulnerable because underground caves and mines provide the cool, moist conditions favorable for *G. destructans* to thrive. However, confirmed cases of WNS from bats collected in the fall suggests that the spread of WNS may occur between bats at fall swarming sites as well as during hibernation (USGS 2009). Bats affected by WNS are characterized

by some or all of the following: 1) a white fungus that grows on the nose, ears, and wing membranes; 2) depleted white and brown fat reserves by mid-winter; 3) a reduced capacity to arouse from deep torpor; 4) an apparent lack of immune response during hibernation; 5) ulcerated, necrotic and scarred wing membranes; and 6) atypical behavior causing bats to emerge prematurely from hibernacula in mid-winter (BCI 2008) , including flying outside in the day and clustering near the entrances of hibernacula (USFWS 2011). During the winter there are no insects to eat, so the bats use up their fat reserves (Blehert et al 2009) and literally can starve to death. The fungus basically undermines the survival strategy of more than half the bat species in the U.S. and all species of bats that occur in the higher latitudes of North America (USGS 2011).

Importance of Bats. Bats are an economically important un-domesticated animal and their conservation is important to the agricultural industry through their consumption of forest and agricultural pests as well as for the integrity of ecosystems. The loss of bats in North America could mean an increase in the density of insect pests affecting human health and leading to agricultural losses estimated at more than $3.7 billion/year (Boyles et al 2011).

Spread of the Disease. WNS is not well understood. Our current understanding of the etiology of WNS is incomplete. However, *G. destructans* causes a skin infection that is the hallmark of WNS and continues to be the common link among infected animals (USFWS 2010). A functional impairment is caused by a loss of tone, tensile strength and elasticity (Cryan et al 2010).

All available evidence indicates that WNS is caused by an infectious agent, and therefore can potentially be spread by all known modes of disease transmission, including direct contact, inhalation, ingestion, fomites (inanimate objects), and human or animal vectors (USFWS 2010).

Bat to Bat Transmission - Bats undoubtedly play a major role in spreading the disease from one area to another through local movements and long-distance migration (Castle and Cryan 2010). Bat to bat transmission of *G. destructans* has been documented in laboratory experiments conducted by the National Wildlife Health Center and have shown that bat-to-bat transmission of *G. destructans* can occur in a controlled environment (USGS 2009). The geographic pattern of spread appears to support lab findings. Because of this information the potential distance an infected bat species travels becomes relevant to decision making and the potential consequences of introducing *G. destructans* into this region.

Cave to Bat Transmission - Biologist Sébastien Puechmaille of University College Dublin reports isolating viable fungal spores from cave walls which suggests bats may become infected as they stir up spores while entering caves and mines (Raloff 2011).

Humans to Bats Transmission - Aspects of the geographic spread suggest that humans may be a vector in transmitting WNS from infected sites to clean sites. Since bats do not naturally migrate between Europe and North America (Castle and Cryan 2010) it is likely that *G. destructans* was introduced to the U.S. by some form of human transmission. The discontinuous spread of WNS and *G. destructans* within the United States supports the conclusion that human transmission is a vector for the spread of *G. destructans.* This kind of spread is most likely occurring from clothing and equipment that are not properly cleaned and decontaminated between sites. The fungus likely can be transported inadvertently from site to site on footwear, clothing, and gear of cave visitors. The fungus can grow on many different organic materials, and appears to persist in caves and mines year-round. Fungal

spores and/or other microscopic organisms can easily become attached to skin, hair, clothing, and equipment, and it is possible that spores could remain viable for weeks or months after leaving a subterranean environment. Formal testing of human-spread WNS is ongoing. Because no one yet knows fully how the condition spreads, wildlife and land management organizations have been requesting that the public, especially cavers, limit their activities and decontaminate clothing and equipment. Some State and Federal agencies have closed caves that have known contamination or are at high risk for WNS introduction.

Human Illness. The fungus currently is found in caves and mines that have been visited by hundreds of people during the past three years, yet there have been no reported human illnesses attributable to it. However, scientists are still learning about WNS and we do not know if there is a risk to humans from contact with affected bats.

Bat Species in Colorado. Eighteen species of bats are known to occur in Colorado (Table 8), representing two families and 10 genera. Not all 18 species are likely found within the CRVFO. Sixteen of these are in the family Vespertilionidae -- the so-called common bats, which is the largest family of bats in the world. Nearly all are insect-eaters, and most are cave-dwellers (CDOW 2011). The other species of bats in Colorado are in the family Molossidae, which are commonly known as free-tailed bats. In addition two other species, the cave myotis *(Myotis velifer)* and Allen's big-eared bat *(Idionycteris phyllotis)*, are known to occur near the Colorado border (CDOW 2011) and are likely to occur in Colorado. Two species [Townsend's big-eared bat (*Corynorhinus townsendii pallescens)* and fringed myotis (*Myotis thysanodes)*] are documented as occurring in this Field Office and are listed on the BLM Colorado State Director's Sensitive Species List. The Townsend's big-eared bat is also a state species of special concern.

Table 8. – Bat Species Known or Likely in Colorado .

Name	Habits / Additional Information	Range/Habitat in Colorado (CDOW 2011b)
Family Vespertilionidae		
Allen's big-eared bat *(Idionycteris phyllotis)*	Identified on BLM Colorado State Director's Sensitive List	Known to occur near the Colorado – Utah border but not documented yet in Colorado.
*Big brown bat *(Eptesicus fuscus)*	Species affected by WNS. Year-round resident, hibernating species	Probably exist throughout Colorado in all habitats to elevations of about 10,000 ft.
California myotis *(Myotis californicus)*	Winter range of Colorado's population is unknown, but the animals probably hibernate in the state (CDOW 2011c).	Species has been captured all along Colorado's western boundary except in San Miguel and Dolores counties.
*Cave myotis *(Myotis velifer)*	Species affected by WNS. Likely to occur in Colorado.	Known to occur near the southeast Colorado border but not documented yet in Colorado.
Red bat *(Lasiurus borealis)*	Migratory species, summer resident in Colorado.	Collected in riparian woodlands on the eastern plains in Weld, Arapahoe, Yuma, Otero, and Baca counties.
Fringed myotis *(Myotis thysanodes)*	Hibernating species, identified on BLM Colorado State Director's Sensitive List	Species found widely scattered in coniferous woodlands and shrublands at elevations 7,500 ft.
Hoary bat *(Lasiurus cinereus)*	Migratory species that arrive in Colorado in April and are gone by	Probably occurs throughout Colorado in suitable habitat from the

	November. There is no record of hibernation here.	eastern plains to elevations of 10,000 ft. in the mountains
*Little brown bat *(Myotis lucifugus)*	Species affected by WNS. Some little brown bats hibernate in Colorado, but winter habits are poorly known here (CDOW 2011c).	Common in wooded areas of the western two-thirds of the state at elevations of 5,000-11,000 ft.
Long-legged myotis *(Myotis volans)*	Hibernating species, known to hibernate singly in mines or caves (CDOW 2011c)	Occupies montane forests, piñon-juniper woodlands, montane shrublands, and subalpine forests up to 12,369 ft. in the western two-thirds of the state.
Long-eared myotis *(Myotis evotis)*	Possible hibernating species in Colorado as late fall activity has been documented, but individuals never have been found in winter.	Inhabitant of ponderosa pine forests in Colorado, the long-eared myotis has been taken from scattered areas in the western two-thirds of the state at elevations between 6,000-9,000 ft.
Pallid bat *(Antrozous pallidus)*	Short movements to hibernation sites. Hibernate in Colorado from mid-October to April (CDOW 2011c)	Possible that it occurs in northeastern Colorado.
Spotted bat *(Euderma maculatum)*	Hibernating species, species on BLM Colorado State Director's Sensitive List	Likely in western and south-central Colorado.
*Tri-colored bat *(Perimyotis subflavus)*	Species affected by WNS. Hibernating species of bat.	
Townsend's big-eared bat *(Corynorhinus townsendii)*	Hibernating species, state species of special concern, identified on BLM Colorado State Director's Sensitive List	Occurs over most of the western two-thirds of the state and extreme southeastern Colorado to elevations of about 9,500 ft.
Western pipistrelle *(Pipistrellus hesperus)*	Hibernating species (the only hibernaculum discovered to date in Colorado was in a gold mine at 9,500 feet in the La Plata Mountains above Mancos [CDOW 2011c]),	One of the more common bats in canyon and desert country of the southwestern U.S.
Western small-footed myotis *(Myotis ciliolabrum)*	Year-round resident of Colorado. It hibernates in caves and mines alone or in small groups (CDOW 2011c).	Found at elevations below 8,500 ft. where suitable roosting and foraging habitat is available.
Yuma myotis *(Myotis yumanensis)*	Apparently does not hibernate in Colorado, but its winter haunts are unknown. Arrive in Colorado about April, and they become scarce in September (CDOW 2011c)	Associated with semiarid canyonlands and mesas at lower elevations in southern and western Colorado.
Family Molossidae		
Big free-tailed bat *(Nyctinomops macrotis)*	Migratory species (CDOW 2011c), identified on BLM Colorado State Director's Sensitive List	Five scattered records exist from Mesa, Otero, El Paso, Gunnison, and Weld counties.
Brazilian free-tailed bat *(Tadarida brasiliensis)*	Migratory species, summer resident in Colorado.	Recorded from Garfield, Mesa, Gunnison, Montezuma, Rio Grande, Saguache, Las Animas, and Baca counties.
Silver-haired bat *(Lasionycteris noctivagans)*	Migratory species, summer resident in Colorado.	Probably occurs statewide at elevations of 4,500-9,500 ft. at least during migration.

*Species affected by WNS and/or *G. destructans*

Currently, nine species of hibernating bats have been affected by WNS or documented with the fungus. They include: big brown bat *(Eptesicus fuscus),* eastern small-footed myotis *(Myotis leibii),* little brown myotis *(Myotis lucifugus),* northern myotis (Myotis septentrionalis), Indiana myotis *(Myotis sodalist),* tri-colored bat (Perimyotis subflavus), gray myotis *(Myotis grisescens),* cave myotis *(Myotis velifer)* and southeastern myotis *(Myotis austroriparius)* (BCI 2011). The little brown myotis are sustaining the largest number of deaths, as well as northern myotis (BC&M 2011). It is likely that other species of myotis in the western U.S. could be susceptible to the fungus.

Important Sites. Maternity, swarming, and hibernation are biological functions that attract congregations of bats to specific sites. Thus, these sites offer the greatest potential for the spread of *G. Destructans* and for the greatest introduction of WNS to large number of bats.

Hibernacula. More than half of the 45 species of bats that occur in the U.S. rely on hibernation as a primary strategy for surviving the winter, when insect prey is not available (USFWS 2010). Hibernacula (hibernation roosts) are occupied much longer than other roosts -- up to four months or more in some species, during the coldest months (CDOW2011d). The sites where WNS has caused massive die-offs are those used for hibernation.

Maternity Colonies. Bats disperse in the spring and can form maternity colonies away from the hibernacula. These maternity colonies are largely composed of adult females and their yearling female offspring that may have over-wintered in several different hibernacula. Adult males typically do not roost with females during the maternity period, but instead roost alone or in small groups (BCI 2008). WNS may spread to maternity colonies and cause mortality and/or reproductive failure in bats that survive in infected hibernacula.

Swarming Sites. Swarming sites are where congregations of bats meet in late summer. Evidence strongly suggests that swarming behavior initially evolved in the context of hibernation (Veith et al, 2004). Individuals from different colonies mix at swarming sites. Swarming may involve mating and a transfer of information about hibernacula to young bats.

Roosts . Typical roosts include caves, mines, rock crevices, trees and buildings. Day and night roosts usually are separate and often distinctive. Night roosts serve as temporary havens for active bats. Individuals emerge to feed, then night-roost for a few hours, then feed again and finally retire to a day roost. Day roosts usually provide more protection from changes in temperature (CDOW 2011d).

Bat Information for Proposed Caves. Data on bat use of caves and mines within the CRVFO has be collected and compiled primarily by the BLM, CDOW and caving organizations through their trip reports. File records go back to the 1990's. Table 9 summarizes BLM's existing bat information for the Anvil Points Claystone Cave Complex and the LaSunder Cave only because Dirty Pool Cave has no documented bat use.

Table 9. Bat Information Summary on Proposed Caves for NSS Convention

Site	Gated	Bat Species Known or Likely Present	Information on Bat Presence and Use
ANVIL POINTS CLAYSTONE CAVE COMPLEX (Garfield County)	*No*	*Townsend's Big-eared Bat, Western Small-footed Myotis, Little Brown Bat, Long-eared Bat , Myotis spp.*	• An email report by Donald Davis dated September 25, 1998 noted eight bats were observed of which 6 were likely Townsend's big-eared bats. • An email report by Donald Davis dated September 29, 1998 noted two flying bats were observed near the side entrance, three roosting bats near the uppermost entrance and four bats were observed at the end of the upper breakdown cave. It was noted that the species were likely Myotis spp. and Townsend's big-eared bats. In addition two Townsend's big-eared bats were observed roosting in the Anvil Points North Claystone Cave. • An email report by Donald Davis dated August 7, 2005 noted one unidentified bat flying through the central section of the main passage • An email report by Donald Davis dated November 9, 1998 noted that 3 long-eared bates were encountered in the main stem and that the cave had bat habitat value. • An email report by Donald Davis dated December 1, 1998 noted that on November 28, 1998 nine bats (unidentified species) were seen hibernating on the ceiling of the main cave. • An email report by Donald Davis dated February 17, 1999 noted on February 13, 1999 four hibernating (one apparently a myotis) were observed. • An email report by Donald Davis dated October 27, 1999 noted on September 20, 1999 that three Townsend's big-eared bats were seen – two in the lower main passage and one near the upper end of the major side passage complex. • The results of cave fauna research by David Steinmann (August 28, 2004 noted the presence of Townsend's big-eared bats. • Scoping comments by the Colorado Division of Wildlife noted that the Cave has been documented as a bat hibernaculum on several occasions. • The cave was surveyed in March of 2011 by CDOW and BLM personnel and two hibernating Townsend's big-eared bats were observed. No guano or other signs of bat use were noted.
DIRTY POOL CAVE (Eagle County)	No	No known bat use	• The cave was surveyed in March of 2011 by CDOW and BLM personnel and no bats or evidence of bat use were observed.
LASUNDER CAVE (Garfield County)	Yes	Townsend's Big-eared Bat, Myotis spp., Spotted bat	• The Environmental Assessment (CO-078-4-54) that authorized the installation of the gate noted that a caver observed a single bat in March 1994 about 80 feet from the entrance and that the presence of bats in the far reaches of the cave is unlikely. • A LaSunder Cave trip report dated May 31, 1999 noted one bat was observed near the entrance and scattered droppings were seen near the entrance.. • A LaSunder Cave trip report dated June 15, 1999 noted no bats were observed. • A LaSunder Cave trip report dated September 18, 1999 noted three bats day roosting one of which was a Townsend's big-eared bat. • A LaSunder Cave trip report dated December 9, 2000 noted that

Site	Gated	Bat Species Known or Likely Present	Information on Bat Presence and Use
			the bats seen the previous month were still in residence at the same locations with the exception of the myotis which were closer to the entrance. • A Cave Inventory and Classification for LaSunder Cave, Colorado (August 27, 2004) noted that Townsend's big-eared bat roosting activity in the entrance area is very sensitive to human disturbance. Four to five Townsend's big-eared bats have been observed in the entrance area on several visits. The document identified LaSunder Cave as a bat roost but the roost type was unknown. One spotted bat was noted as being observed. • Scoping comments by the Colorado Division of Wildlife noted the Cave appears to be used as a winter hibernation site for a multiple of bat species including Townsend's big-eared bat, a Species of Special Concern in Colorado. • The cave was surveyed on May 7, 2011, ahead of the convention and one torpid Townsend's big-eared bat was observed in the first room before the gate. Temperatures in the back part of the cave (behind the gate) appear to be too warm for hibernation and too cold for maternity colonies (roughly 45°Fahrenheit and a relative humidity of 68%) which may be why live bats have only been noted near the entrance area (personal communication Dan Neubaum, CDOW Biologist).

Current Agency Policy and Guidance. Caves on private lands are not covered by any specific policy or restrictions. Education and information efforts have been used by wildlife, conservation and user organizations to reduce the spread of WNS in sites on private land. State and Federal policy and guidance affecting Colorado is summarized below.

BLM National Policy. BLM Instruction Memorandum (IM) No. 2010-181 (BLM 2010) provided direction on how to prepare for the anticipated occurrence of WNS on BLM administered lands nationwide. Until more detailed guidance is available, the IM directs Field Offices to implement the BLM-WNS Interim Response Strategy and Containment and Decontamination Procedures. The Containment and Decontamination Procedures (BLM 2010a) included: containment and decontamination procedures, recommended decontamination products, special guidance for abandoned mines**,** as well as the following general guidelines:

- If possible, avoid caves entry and all abandoned mines, and observe closures and advisories.
- Never use gear that was used in a WNS-affected state outside of that state.
- Decontaminate used gear immediately, store gear away, and thoroughly wash and decontaminate any surfaces with which these items may have come into contact (e.g., car trunk, duffle bag, etc.).

BLM Colorado. Current BLM Colorado policy is articulated by the "Stay Out-Stay Alive" campaign which discourages the public from entering underground features on public lands, to reduce the risk of injury or death, and reduce the risk of transferring WNS. BLM Colorado

Instruction Memorandum CO-2011-006 provides a response strategy to prevent the introduction of WNS into new areas. Key direction includes:

- Features with significant populations of hibernating bats that remain physically accessible to the public during the bats hibernation period will have targeted-seasonal closures.
- Targeted-seasonal closures for features having important bat resources will include exemptions for persons conducting search-and-rescue operations, approved WNS related monitoring, research, under-ground abandoned mine surveys and closures, and those authorized for activities granted by the Mining Law.
- Additionally, recreational caving permits may be made available in some areas where bat hibernation disturbance can be demonstrated to be minimal. BLM offices will require decontamination procedures from all exempted parties.
- BLM Colorado will educate its internal and external stakeholders through various forms of media and also participate in the educational efforts of other governmental and non-governmental organizations.

BLM New Mexico. To reduce the risk of mortality to bat populations from WNS the BLM in New Mexico temporary closed caves and abandoned mines (sites) with significant bat resources from January 25, 2011 and not to exceed January 25, 2013 (BLM 2011). The closure immediately affected 28 caves. In addition, the BLM New Mexico may target and close other sites with significant bat resources to public entry. Although other caves and mines on BLM public lands remain open, subject to prior restrictions and/or permit requirements, the public is discouraged from entering any caves and underground abandoned mine features on public lands to limit the potential spread of the fungus. Mandatory decontamination of clothing and gear is required of anyone entering non-commercial caves or mines on federal lands.

United States Forest Service (USFS) – White River National Forest (WRNF). On July 27, 2010 Regional Forester Tony Dixon issued an emergency order that closed all caves and abandoned mines on National Forests and National Grasslands in the Rocky Mountain Region of the USFS: Colorado, Wyoming, South Dakota, Nebraska and Kansas. The emergency closure order is in effect for a period of one year.

On May 26, 2011, USFS issued a Decision Memo entitled "2011 National Speleological Society (NSS) Convention." This decision describes the WRNF's "multiple levels of control and design criteria to prevent the potential introduction and spread of White Nose Syndrome (WNS)…"

1) Caving trips will be limited to caves that do not include any known or potential hibernation, swarming, or maternity use by bats;
2) All cave entries will be controlled, closely monitored and led by trained and skilled trip leaders;
3) Caving gear from states or provinces with known WNS activity will not be allowed to be used during the convention;
4) Only decontaminated gear, or gear not previously used for caving, is allowed for use during cave trips; this includes clothing and footwear. Under no circumstances may gear that was used in a WNS-affected state or region be used on the White River National Forest;
5) Equipment, such as ropes and harnesses, must be dedicated to single sites during the convention;

6) The number of participants in NFS caves at any time will be small, with group sizes limited to 8 people per group, and no caves having more than 1-2 trips per day, with the exception of Fulford Cave, south of Eagle, which may have up to 4 trips per day;
7) Strict decontamination procedures consistent with, or exceeding the most recent US Fish and Wildlife Service (USFWS) protocols must be implemented and monitored for all persons entering caves; and
8) Post-trip decontamination must be completed for all gear and clothing used in caves.

The USFS Decision Memo states under Additional Considerations;
"All caves proposed for use by NSS were screened for any known or potential bat hibernation, swarming, or maternity use. Many were dropped from consideration during the screening process. As a prudent precaution, the only caves for which I considered authorized entry have data that indicates they are not used, or used by few bats. This precautionary approach was intended to further reduce potential negative effects from possible errors in decontamination implementation. Additional stipulations for convention use may be warranted pending additional data to be collected at some caves prior to the convention."

Colorado Division of Wildlife (CDOW). The January 2011 White-Nose Syndrome in Bats Response Plan by the CDOW (CDOW 2011a) described the CDOW's conservation and disease management actions to minimize the spread of WNS. The Plan identifies coordination and outreach actions along with monitoring and surveillance actions to help prevent, detect, contain and minimize the potential of WNS impacts in Colorado.

United States. Fish and Wildlife Service (USFWS). Due to the mobility of bats, the rapid spread of WNS, the potential for human-assisted transmission, and the severity of its consequences the USFWS has developed a national plan to avoid irreversible losses to bat populations, and associated ecological impacts, throughout North America (USFWS 2011a). The seven elements of the national plan are:

A. Communications
B. Data and Technical Information Management
C. Diagnostics
D. Disease Management
E. Epidemiological and Ecological Research
F. Disease Surveillance
G. Conservation and Recovery

To implement the Plan, Federal land management agencies such as the BLM are to develop guidance and policy for addressing WNS in relation to planning and managing Federal lands under their respective jurisdictions. Disease management is composed of three complementary goals: to identify and implement science-based management actions to slow the expansion of WNS in order to delay, for as long as possible, the impacts of the disease reaching unaffected regions of the continent. Goal 2 identifies actions specifically to reduce the risk of WNS transmission by humans. The actions include:

1. Identify the mechanisms for WNS transmission by humans to environment to bats.
2. Provide guidance on regulation or restriction of human actions that are likely to pose a risk for spreading WNS.

- Develop standards for restricting use of potentially contaminated gear (both caving and bat research) at unaffected sites or regions.
- Manage cave access to minimize transmission risk.
- Work with cave owners to implement operating guidelines for commercial caves.
- Modify mist netting and harp trapping protocol/techniques.
- Investigate the potential risks of commercial trafficking of bat guano to the spread of WNS.

3. Develop, implement, and where possible, enforce decontamination/disinfection protocols to guard against

The USFWS website requests that cavers observe all cave closures/advisories and refrain from caving in WNS-affected states and adjoining states at any time and refrain from caving anywhere during bat hibernation to minimize disturbance to bats (USFWS 2011b).

Environmental Consequences/Mitigation:
Convention use authorized by the proposed action, the proposed alternative and the no action alternative would not impact individuals or the habitat for any Federally listed, proposed, or candidate terrestrial wildlife species found in the CRVFO and thus would have no effect on these species or their habitats.

The proposed action or alternative could impact bat species including Townsend's big-eared and Fringed myotis bats which are on the Colorado BLM State Director's Sensitive Species List. The assumptions and environmental consequences of those impacts are discussed below.

Assumptions. When there is incomplete or unavailable information, the BLM makes clear that such information is lacking. In this analysis the CRVFO has little and incomplete information on bat species, bat behavior, and bat habitat on the lands it administers. This analysis also acknowledges that WNS is an emerging infectious disease and biologists are struggling to understand the disease as well as the fungus *G. destructans* that causes the disease, including its spread. In addition, neither the disease nor the fungus is present in Colorado at this time. The lack of this information is relevant because it is difficult to evaluate specific reasonable foreseeable impacts of the proposed action and alternatives without more definitive data and information.

Although there is a lack of conclusive scientific data regarding the vectors that spread WNS, this analysis assumes a possible connection and risk associated with human transmission and bat mortality. As a result this analysis evaluates the relative level of potential risk that each action and alternative presents for introducing the fungus *G. destructans* into the caves being proposed for use by the NSS convention.

Proposed Action: The proposed action would also be consistent with BLM Colorado IM No. CO-2011-006 that allows recreational caving permits to be made available in some areas where bat hibernation disturbance can be demonstrated to be minimal. In addition all caves and mines on private lands and caves on BLM administered public lands, unless gated, are currently open to public use. No matter the decision in this document on the SRP, convention participants (outside of authorized trips) as well as the general public would still be able to access the Anvil Points Claystone Cave

Complex, as well as other un-gated caves on BLM lands under current cave management policies. Caves on BLM lands may receive greater visitation surrounding the convention because some caves on the adjacent WRNF are currently closed.

Decontamination. It is possible that *G. destructans* could be introduced into a cave during convention activities in July 2011 and infect bats at a later time because it is unknown how long a spore of *G. destructans* can survive in the cave environment. There is also a concern that migratory bat populations could be at risk because they are known to share roost sites with hibernating species.

Permitting cave access through an SRP may allow some degree of control over visitation and decontamination procedures. The proposed action includes strict decontamination procedures which are also consistent with the containment and decontamination procedures outlined in IM No. CO-2011-006. Decontamination procedures effective in laboratory conditions are more difficult to administer in the field. Authorizing recreational use with the proposed/required decontamination of gear poses some un-measurable low level of risk of spreading the fungus *G. destructans* by participants as opposed to not authorizing the caving trips. Although decontamination requirements would be in place, there is no way to guarantee efficacy for all equipment in all circumstances (BLM 2011), and the requirements may not adequately address the use of electronic equipment or technical caving gear.

NSS members will be coming from areas where the fungus has been documented so the WNS Decontamination Strategy (Appendix A) includes: (1) restricting gear from a WNS-affected state, (2) providing a decontamination station based on the latest USFWS protocol and (3) creating a cache of new/cleaned gear; reduces the risk of transmission of *G. destructans* by participants.

Participants will also be attending the convention from states where *G. destructans* may be present but has not yet been documented. Thus, the prohibition on gear from any known WNS-affected state may not be sufficient so additional mitigation is proposed to be attached to the SRP.

Mitigation: In order to further minimize the risk of transmission of WNS, the WNS Decontamination Plan in the proposed action should be modified to clearly specify that ALL gear used on authorized trips be decontaminated and labeled as being decontaminated at the supervised decontamination station prior to use in Anvil Points Claystone Cave Complex and LaSunder Cave. No trips will be allowed under this permit unless the NSS Convention's decontamination station is fully operational.

Tours of the caves during the convention would increase the awareness of the caves and may result in additional publicity and visitation following the convention or outside of the permitted trips. This may increase the risk of WNS introduction to these caves.

Important Sites for Bats. Scoping comments indicated that authorization of caves used by bats for maternity roosts, hibernation or for swarming be denied to reduce the risk of transmission of *G. destructans* transmission into sites important for bats. The proposed action would allow for 5 person groups of cavers to enter the Anvil Points Claystone Cave Complex and LaSunder Cave, both known to be inhabited by bats. Available data/information concludes that both the Anvil

Points Claystone Cave Complex and LaSunder Cave are used consistently, year round, by small numbers of bats (see Table 8. Bat Information Summary on Proposed Caves for NSS Convention). But it is not yet known how significant these caves are for: hibernation, maternity roosts, spring or fall swarming, or day/night/transitional roost sites for larger (>30) numbers of bats. More surveys are needed, but at this time neither cave contains large quantities of guano or other signs that large numbers of bats are using the sites.

Disturbance. Day, night, transitional or maternity roosts may be particularly sensitive to human disturbance at the time of the convention. Both caves are likely day/night/transitional roosts for small numbers of bats however it has not been documented that either cave is a maternity roost. The proposed action would be a short-term direct impact to individual bats.

Mitigation of Disturbance: All visitors to the LaSunder Cave (especially the entrance area) and the Anvil Points Claystone Cave Complex will be instructed to keep their voices lowered and pass by any roosting bats as calmly and quickly as possible to minimize disturbance.

Alternative A:

The SRP would be for geology trips only. The SRP would not authorize any trips for the Anvil Points Claystone Cave Complex and LaSunder Cave. . Keeping participants out of the Anvil Points Claystone Cave Complex and LaSunder Cave ensures that convention participants would not inadvertently spread *G. destructans* into the caves or disturb bats and other cave-obligate biota. Although the predominant method of transmission of WNS is likely bat to bat contact, limiting human access to significant bat roosts is considered an essential component in slowing the spread of WNS (BLM 2011). This alternative eliminates the issues of: (1) the effectiveness of decontamination, (2) the impact to important sites for bats, and (3) the potential disturbance of bats. The alternative is consistent with BLM Colorado policy to prevent the introduction of WNS.

No Action Alternative:

Generally impacts to bats would be the same as described in the alternative analysis. The SRP would not authorize any trips for Anvil Points Cave or LaSunder Cave. Keeping participants out of the Anvil Points Claystone Cave Complex and LaSunder Cave ensures that convention participants would not inadvertently spread *G. destructans* into the caves or disturb bats and other cave-obligate biota. The alternative is consistent with BLM Colorado policy to prevent the introduction of WNS.

Summary. The proposed action, as opposed to the alternative and the no action alternative, poses a low but un-quantifiable higher relative risk of convention participants inadvertently introducing *G. destructans* into the Anvil Points Claystone Cave Complex or LaSunder Cave. Although the potential for WNS to continue to spread is currently unknown, the implications of its undermining the survival strategy of so many bat species are enormous (USFWS 2010). If *G. destructans* is introduced there could be long-term negative impacts to bat populations since there is no known practical means of isolating the fungus from spreading or eliminating it if introduced into a cave. Based on the impact of WNS in the eastern US, it is reasonable to

assume that WNS-related mortalities could cause significant population-level reductions in Colorado in up to 13 of the 18 native bat species that rely on cave and mine habitats to some extent (CDOW 2011a). Affected local bats may also carry the disease throughout Colorado and into neighboring populations in surrounding states. Bats are long-lived (approximately 5–15 years or more) and reproduce slowly. Populations affected by white-nose syndrome would likely take a very long time to recover (Castle and Cryan 2010).

Analysis on the Public Land Health Standard 4 for Special Status Terrestrial Wildlife Species: (partial, see also Special Status Plants and Aquatic Wildlife): The proposed action as opposed to the alternative and the no action alternative, poses an un-quantifiable risk of convention participants inadvertently introducing *G. destructans* into the Anvil Points Claystone Cave Complex and LaSunder Cave. If *G. destructans* is introduced and bat populations develop WNS, the local populations may not be maintained at viable population levels commensurate with the species and habitat's potential. The proposed action assumes a low but potential long-term risk of bat populations not being spatially distributed across the landscape with a density, composition, and frequency of species suitable to ensure reproductive capability and sustainability which is an indicator of land health standard 3 and 4..

WATER QUALITY, SURFACE AND GROUND (includes an analysis on Standard 5)

Affected Environment: No consistent stream flow is known to occur into or out of these geologic features. The only water present in the caves results from snowmelt or thunderstorm runoff, and appears as standing water or wet areas in depressions or low areas within the caves. No ground water sources, such as springs or seeps are known to exist in or adjacent to Anvil Points, LaSunder and Dirty Pool caves, as well as the geological features of the Gypsum outcrop or Bair Ranch.

Environmental Consequences/Mitigation:
Proposed Action and Alternative A: The proposed action and alternative are sub-surface activities and would not likely affect water quality. However, cavers should avoid any standing water or wet areas discovered while in the caves.

No Action: No impacts to water quality would occur.

Finding on the Public Land Health Standard for water quality: Land health conditions for water quality would be maintained by the proposed action, alternative and no action alternative.

WILD AND SCENIC RIVERS

Affected Environment: Deep Creek Segment 2 was inventoried by an interagency team under the Wild and Scenic River Act (WSRA) and determined to “Eligible” in August of 1995. The Outstanding Remarkable Values (ORVs) recognized in Deep Creek Segment 2 were its ecological condition-it contains several state and globally rare species along with occurrences of very high-quality natural communities; the scenic, natural, pristine canyon landscapes with very

little disturbance from human activity and the recreational and geologic values associated with the cave formations within the canyon.

The Bair Ranch geology trip stop is a stop off of I-70 that is directly north of the Colorado River Segment 7, determined to be eligible in the Final Wild and Scenic River Eligibility Report, March 2007. The ORVs recognized for this segment include scenic qualities in Glenwood Canyon, recreational (floatboating) opportunities, and geological formations.

Both Deep Creek Segment 2 and the Colorado River Segment 7 will be managed to preserve the identified Outstanding Remarkable Values (ORV's) until such a time as a suitability study is completed. The overall objective is to not allow surface disturbing activities that might impair the identified ORV's or the segment's preliminary classifications, which were classified as wild and recreational.

Environmental Consequences/Mitigation:
Proposed Action: The proposed action would have a negligible impact to the ecological condition of Deep Creek Segment 2 because the path used to access LaSunder is not defined and trip leaders may take different paths to the cave entrance. Therefore, the foot traffic will be dispersed and the impact negligible. The proposed action will not affect the Colorado River ORVs because the trip will stay in the developed site of the Bair Ranch rest stop and use the developed bike path. The proposed action would not preclude any identified tentative classifications nor would it have a negative effect on any suitability determinations.

Alternative A: The alternative would not permit use to LaSunder Cave, and so there would be no impact to Deep Creek. The geology stop at Bair Ranch would occur and the impacts to the Colorado River are the same as the proposed action for the Colorado River. The Alternative will not affect the Colorado River ORVs because the trip will stay in the developed site of the Bair Ranch rest stop and use the developed bike path. The proposed action would not preclude any identified tentative classifications nor would it have a negative effect on any suitability determinations.

No Action Alternative: The no action alternative would have no impact on the ORV's. It would not preclude any identified tentative classifications nor would it have a negative effect on any suitability determinations.

WILDERNESS

Affected Environment: There are no designated Wilderness areas or Wilderness Study areas within the proposed action area. However, LaSunder Cave is within the Deep Creek citizens' proposed wilderness area and Anvil Points Cave is within the Roan Plateau citizens' proposed wilderness area.

Environmental Consequences/Mitigation:
Proposed Action: The proposed action would not directly affect any wilderness characteristics. While the increase in visitation during the week may temporarily affect opportunities for solitude, the increase will be limited and would not affect opportunities for

solitude in the units as a whole. The proposed action would not preclude any wilderness designation opportunities.

Alternative A: The alternative would not include LaSunder Cave or Anvil Points Cave, so no citizens' proposed wilderness areas would be included. Therefore, no impacts to wilderness characteristics would occur.

No Action: The no action alternative would not have any impacts to wilderness characteristics.

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

SOILS (includes a finding on Standard 1)

Affected Environment: According to the *Soil Survey of Rifle Area, Colorado, Parts of Garfield and Mesa Counties* the soils around Anvil Points Cave are classified as Badland soils (NRCS1985). This soil map unit consists of steep, barren land that has been dissected by intermittent drainages. This unit occurs in soft shale, sandstone, and siltstone of the Green River, Wasatch, Mancos, and Mesa Verde Formations (NRCS 2011). This soil map is approximately 85 percent un-vegetated, has very severe erosion hazard, and frequent active erosion (NRCS 2011).

According to the *Soil Survey of Aspen-Gypsum Area, Colorado, Parts of Eagle, Garfield and Pitkin Counties* the soils around Dirty Pool Cave are classified as Gypsum land-Gypsiorthids complex (NRCS 1992). This soil map unit is found on mountainsides, hills, and in drainageways on slopes of 12 to 65 percent (NRCS 2011). Approximately 65 percent of the unit is Gypsum land and 20 percent Gypsiorthids, with the remaining 15 percent of the unit is composed of a mix of map units. The Gypsum land is primarily exposed gypsum material while the Gypsiorthids are moderately deep, well drained and derived from colluvium with high gypsum content (NRCS 2011). Surface runoff for this unit is very rapid and the water erosion hazard is slight to severe (NRCS 2011).

The Gypsum outcrop area is classified as Tridell-Brownsto stony sandy loams (NRCS 1992). This soil map unit is found on terraces and mountainsides at elevations ranging from 6,400 to 7,700 feet and on slopes of 12 to 50 percent (NRCS 2011). Approximately 45 percent of this unit is Tridell soil and 35 percent Brownsto soil with the other 20 percent being a mixture of several soil types. The Tridell soil is deep, well drained and is derived from sandstone and basalt alluvium and colluviums, characterized by rapid surface runoff and moderate water erosion hazard (NRCS 2011). The Brownsto soil is deep, well drained and is derived from calcareous sandstone and basalt alluvium, with rapid surface runoff and moderate water erosion hazard (NRCS 2011).

Bair Ranch area and the soils around LaSunder Cave are classified as Torriorthents-Camborthids-Rock outcrop complex (NRCS 1992). This soil map unit occurs on south-facing mountainsides, hills, and ridges with slopes ranging from 6 to 65 percent (NRCS 2011).

Approximately 45 percent of this unit is Torriorthents, 20 percent Camborthids, and 15 percent Rock outcrop. The Torriorthents are shallow to moderately deep, well drained, and are derived from sedimentary rock (NRCS 2011). The Camborthids are shallow to deep, well drained, and are derived from sandstone, shale, and basalt (NRCS 2011). Both soil types have rapid surface runoff and severe water erosion hazard (NRCS2011). The Rock outcrop component of this unit consists of exposed sandstone, shale, and basalt (NRCS 2011).

Environmental Consequences/Mitigation:
Proposed Action and Alternative A: The proposed action and alternative are sub-surface activities and would not likely affect soils. Though accessing the caves, particularly around the cave entrances, may result in soil compaction and sediment movement. At locations where a defined hiking trail exists to access the caves, users should stay to the trail in single file. At Anvil Points, where a defined trail is not in place, users should disperse across the landscape to avoid soil compaction. At all locations, users should take care to avoid pushing soil into the cave entrances.

No Action: No impacts to soils would occur.

Finding on the Public Land Health Standard for upland soils: Land health conditions for soils would be maintained in the proposed action, alternative and no action alternative.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Vegetation around the Anvil Points Cave and access route consists primarily of open woodlands of Pinyon pine-Utah juniper and sparsely vegetated slopes dominated by native grasses, cheatgrass, and forbs with a few Wyoming sagebrush and shadscale bushes.

Vegetation at the entrance to LaSunder Cave and along the access route includes narrowleaf cottonwood, thinleaf alder, Colorado blue spruce, Pinyon pine, Gambel oak and other mesic mountain shrubs.

Vegetation in the vicinity of Dirty Pool Cave consists primarily of Gambel oak, Saskatoon serviceberry and other mesic mountain shrubs.

Environmental Consequences/Mitigation:
Proposed Action: The proposed action would authorize 12 trips of up to 5 people each for the Anvil Points Claystone Cave and Dirty Pool Cave and 10 trips of up to 5 people for LaSunder Cave. These trips would all occur in a one week period from July 16-24, 2011.

Access to LaSunder Cave would be via foot trail from a parking area near the bottom of Deep Creek. Deep Creek has a trail adjacent to it that serves as a portion of the access route. Hiking on this existing trail should have no impact to vegetation, as the trail already exists. Cross-country foot traffic from the end of the trail to the cave entrance on the hillside may result in minor losses of vegetation. This impact would be expected to be short-term since the trips would

all occur within a one-week period and vegetation would begin to recover during the remainder of the growing season in 2011.

Since the vegetation around the Anvil Points Cave is sparse, the authorized trips associated with this permit would result in very minimal loss of vegetation. The access route to Dirty Pool Cave is very short, so loss of vegetation here would also be minimal. The overall impacts to vegetation are likely short-term and negligible.

Alternative A: Same as the proposed action but only for the Dirty Pool Cave.

No Action Alternative: No trips would be authorized. A decision to deny the SRP permit to enter Anvil Points, LaSunder, and Dirty Pool Caves would not prevent convention participants as well as the general public people from hiking to the these caves. However, the public most likely would not try to access LaSunder Cave because of the difficulty in accessing the cave (difficult hike and accent), difficulty in finding the cave location, and knowledge of the locked gate once they arrive. Caves on BLM lands may receive heavy visitation associated with the convention because caves on the adjacent WRNF are currently closed. Trampling damage along the access route may occur and if the trail to the caves becomes readily noticeable, future incidental visits may increase. Alternative A and the No Action alternative would likely have the same or similar impacts on vegetation as the Proposed Action.

Finding on the Public Land Health Standard for Threatened & Endangered Species:
A formal land health assessment has been conducted on the three landscapes involved in the proposed action. Evaluation Reports have been completed on two of the landscapes, and the proposed action areas were determined to be meeting Standard 3 for plant communities. The third landscape has had the fieldwork portion of the assessment completed, but the Evaluation Report is still in draft form. The draft report indicates that this landscape is also meeting Standard 4 for plant communities. Neither the Proposed Action, Alternative A nor the No Action alternative would result in a failure to meet this Standard.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment:
Fish. The proposed action involves 10 small groups of people hiking on the Deep Creek Trail and crossing one perennial stream (Deep Creek) that contains aquatic wildlife. Deep Creek contains brown, rainbow, and brook trout, and a diversity of aquatic insects. Any water located in the caves such as small perched water-puddles derived from dripping ceilings, and other percolating water sources are not known to harbor aquatic wildlife.

Amphibians. Several amphibians of interest are found within the CRVFO, the Boreal Toad *(Bufo boreas boreas)* and the Great Basin spadefoot toad (*Spea intermontana).* The distribution of the boreal toad is restricted to areas with suitable breeding habitat in spruce-fir forests and alpine meadows generally between 7,500 and 12,000 feet elevation. Breeding habitat includes lakes, marshes, ponds, and bogs with sunny exposures and quiet shallow water. Great Basin spadefoot toads occupy arid grasslands and high sagebrush, desert shrub, and pinion-juniper woodlands. Great

Basin spadefoot toad has been documented in the western third of the field office from the town of Rifle west to the boundary with the Grand Junction Field Office. This represents the eastern extent (fringe) of the species overall range and populations are believed to be small and sporadic.

Environmental Consequences/Mitigation:

Proposed Action: The existing Deep Creek trail crossing and levels of recreation use are not known to be causing impacts to aquatic wildlife in Deep Creek. The small amount of recreation use proposed by issuance of the SRP would cause negligible impacts when viewed separately or in combination with the existing recreation use.

Alternative A: Impacts would be the same or similar to those described in the proposed action.

No Action Alternative: The no action alternative would deny use by NSS Convention participants but continue current management which allows dispersed recreation use of the Deep Creek Trail by unlimited numbers of visitors.

Analysis on the Public Land Health Standard 3 for Aquatic Animal Communities (partial, see also Vegetation and Wildlife, Terrestrial)**:** Due to the short duration, limited group numbers, and minor contact with aquatic habitats, the Proposed Action and Alternatives are not expected to change the status of Public Land Health Standard 3.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

The CRVFO supports a wide variety of terrestrial wildlife species that summer, winter, or migrate through the area. The habitat diversity provided by the broad expanses of sagebrush, mixed mountain shrub, aspen, pinyon-juniper woodlands, other types of coniferous forests, and riparian/wetland areas support many species. The current condition of wildlife habitats varies across the landscape. Some habitat is altered by power lines, pipelines, fences, public recreation use, residential and commercial development, vegetative treatments, livestock and wild ungulate grazing, oil and gas development, and roads/trails. These factors have contributed to some degradation/fragmentation of habitat as well as causing disturbance to some species.

Stygobitic species. Stygobitic species (species generally restricted to subterranean groundwater habitats) such as amphipods, spiders, pseudoscorpions, millipedes, and springtails are known to occur in Colorado caves (USGS 2011a). Unknown mircrobiota may also be present.

Reptiles. Reptile species most likely to occur in the areas of proposed use include the western fence lizard (*Sceloporus undulatus*) and gopher snake (bullsnake) (*Pituophis catenifer*) in xeric shrublands or grassy clearings and the western terrestrial garter snake (*Thamnophis elegans*) along creeks/riparian areas. Other reptiles potentially present along creeks, although more commonly found at lower elevations than the site, are the milk snake (*Lampropeltis triangulum*) and smooth green snake (*Opheodrys vernalis*).

Birds. Passerine (perching) birds commonly found in the areas of proposed use include the: American robin (*Turdus migratorius*), pinyon jay (*Gymnorhinus cyanocephalus*) western scrub-

jay (*Aphelocoma californica*), and black-billed magpie (*Pica pica*). Two gallinaceous species, the wild turkey (*Meleagris gallopavo*) and the Dusky grouse (*Dendragapus obscures*), are found throughout the CRVFO.

Birds of prey (eagles, falcons, hawks, and owls) may migrate through the area or nest in cottonwoods, conifers, or very tall oaks, while the numerous songbirds and small mammal populations provide the primary prey base. Common raptor species in the CRVFO include the: red-tailed hawk (*Buteo jamaicenis*), golden eagle (*Aquila chrysaetos*) American kestrel (*Falco sparverius),* great horned owl (*Bubo virginanus*), Cooper's hawk (*Accipiter cooperii*), and sharp-shinned hawk *(A. striatus*).

Numerous streams, rivers, reservoirs, ponds, and associated riparian vegetation provide habitat for a wide variety of waterfowl and shorebirds. Common species include: great blue herons (*Ardea Herodias*), Canada geese (*Branta canadensis*), mallards (*Anas platyrhynchos*), pintails (*A. acuta*), gadwalls (*A. strepera*), and American wigeon (*A. americana*) are common.

Mammals. Numerous small mammals may be found in the areas of proposed use including: ground squirrels (*Spermophilus spp.),* chipmunks (*Neotamias spp*.), woodrats (*Neotoma spp*.), weasels, (*Mustela spp*.), rabbits (*Sylvilagus spp*.), skunks (*Mephitis mephitis*), and raccoons (*Procyon lotor*). Many of these small mammals provide the main prey for raptors and larger carnivores. These species are most likely to occur in and arouse the caves/geologic sites, along the drainages, near the margins of dense oakbrush, in pinyon-juniper woodland, or in the small area of aspen and spruce/fir. Larger carnivores expected to occur include the bobcat (*Lynx rufus*) and the coyote (*Canis latrans*). Black bears (*Ursus americanus*) make use of caves for denning, oaks and the associated brush for cover and food, while mountain lions (*Felis concolor*) are likely to occur during seasons when mule deer (*Odocoileus hemionus*) are present.

Big Game. The mule deer (*Odocoileus hemionus*) is a recreationally important species that are common throughout suitable habitats in the region. Another recreationally important big game ungulate (hoofed animal), the Rocky Mountain elk (*Cervus elaphus nelsonii*), is also present. Mule deer and elk usually occupy higher elevations, forested habitat, during the summer and then migrate to sagebrush-dominant ridges and south-facing slopes at lower elevation in the winter. BLM lands provide a large portion of the undeveloped winter range available to deer and elk.

Environmental Consequences/Mitigation:
To keep the analysis succinct impacts to non-special status bat species are discussed and analyzed under Threatened, Endangered and Sensitive Species – Terrestrial Wildlife above.

Proposed Action: The authorized use for the NSS convention is higher than what would normally be expected for the proposed locations, especially LaSunder Cave which is gated and managed under a cave management plan that limits use to a maximum of 10 trips per year and 2 trips per month. Recreation use can cause physical damage to cave soils and formations, destroying habitat for wildlife that use caves. However, the authorized use consists of small groups guided by trip leaders which would reduce the risk of negative impacts. It is unknown what the impact of concentrating a year of permitted use into nine days would cause, if any, on

cave-dwelling wildlife in LaSunder Cave. The authorized trips may still cause short-term disturbances (such as temporary displacement or interruption of feeding and resting behaviors) to terrestrial wildlife species that inhabit or frequent the caves or geologic sites or the access routes to the caves or sites.

Alternative: The permit would not authorize any trips for Anvil Points Cave or LaSunder Cave so all potential impacts to caves would be eliminated. The authorized trips may still cause short-term disturbances to terrestrial wildlife species (such as temporary displacement or interruption of feeding and resting behaviors) that inhabit or frequent the geologic sites or the access routes to the caves or sites.

No Action Alternative: No trips would be authorized so all potential impacts described above would not occur.

Analysis on the Public Land Health Standard 4 for Special Status Aquatic Wildlife Species: (partial, see also Special Status Plants and Terrestrial Wildlife): The implementation of any alternative would maintain connectivity of habitat and the presence of corridors to prevent habitat fragmentation. Viable population levels of terrestrial wildlife commensurate with the species and habitats' potential would be maintained. Animals would be present in mixed age classes sufficient to sustain recruitment and mortality fluctuations. It is concluded that all alternatives would maintain land health standard 3 for terrestrial wildlife, excluding bat populations.

OTHER AFFECTED RESOURCES: For the following elements, those brought forward for analysis will be formatted as shown above.

Table 10. Other Resources Considered in the Analysis.

Resource	*NA or Not Present*	*Present and Not Affected*	*Present and Affected*
Access and Transportation		X	
Cadastral Survey	X		
Fire/Fuels Management	X		
Forest Management	X		
Geology and Minerals			X
Law Enforcement		X	
Paleontology			X
Noise	X		
Range Management	X		
Realty Authorizations		X	
Recreation			X
Socio-Economics		X	
Visual Resources		X	
Water Rights	X		

GEOLOGY AND MINERALS

Affected Environment: LaSunder cave is a phreatic and breathing cave in the Leadville Limestone formation (Mississippian-approximately 350 ma) (Bass and Northrup 1963) with Pleistocene (younger than 700,000 years ago; Fred Luiszer of Colorado Cave Survey) to recent fill at an altitude of approximately 7800'.

Like other caves in Deep Creek Canyon it developed under totally flooded conditions. Unlike the upper Deep Creek caves, LaSunder is a single conduit channel with a nearly flat graded floor profile, which probably developed in response to a heavy sediment load which tended to level the floor and restrict solution to the walls and ceiling above it. The cave was probably completed before Deep Creek Canyon (now 600 feet deeper) was cut (Donald Davis, 1992).

LaSunder Cave contains a remarkable amount of features with a high amount of diversity in their form, and/or high scientific value. More than 40% of the cave has speleothem growth. Gypsum (selenite) needles occur in a number of Colorado caves, but those occurring in LaSunder Cave, near the top of the rope climb (Station D1) are very unusual for their size (ranging up to 25 cm long) are still in relatively pristine condition. Many Colorado caves have anthodite formations; however, LaSunder Cave is particularly outstanding for its profuse anthodite displays. Although many of these anthodite clusters are above head level for visitor traffic, others are more exposed, and caution must be exercised when traveling though the cave to move slowly and avoid accidental contact with these speleothems.

Anvil Points Cave is formed in claystone rather than limestone of the Wasatch formation. The walls are dry, crumbly mud and there are no formations to be seen. There is 2,050 feet of known passage, 180 feet of vertical relief, making Anvil Points Cave the largest verified cave of this type in the world. A chaotic mixture of clay, silt, sand, and angular blocks of sandstone sags intermittently into another dendritic stream network. Anvil Points Cave has badlands and other forms of piping pseudokarst that are best known for causing serious engineering problems (Encyclopedia of Caves and Karst Science, 2004). In 2005, a large mass of claystone/sandstone debris fell from the vertical debris wall and/or ceiling above the exit point, almost completely blocking and hiding the usual route to the lower entrance. Any significant rain makes the stream flow through the cave and water come down the skylights and water is thought to have caused the collapse (Donald Davis, 2005). Contact with unstable material would normally be required to trigger a collapse. Where the passage is small enough to require contact with walls and ceiling, the cross-section is also small and therefore inherently stable. Where the cross-section is large, inherent stability is less, but it's seldom necessary to touch the walls or ceiling in the larger parts.

Dirty Pool Cave is a sinkhole feature approximately 20-30 feet deep and 15-20 feet wide with several alcoves at the bottom. Surface geology is classified by the Eagle Valley Formation, with evaporitic facies, gypsum, siltstone, and shale. During a field visit in March 2011, some of the alcoves were noted to have standing water. There are no entrances to explore underground.

Environmental Consequences/Mitigation:

Proposed Action: Every entry into a cave, by any person, creates disturbance. The cumulative impact of even slight changes and disturbances, whether deliberate or otherwise, can lead to

dramatic alterations of the cave environment and geology. Recreational caving may result in breakage, dust accumulation, and other deterioration of features. LaSunder's speleothems are extremely delicate and at the same time are close to the taped trail. Visitors to the cave must move slowly and cautiously along marked trails, watching every step, to avoid accidental destruction of these unique features. At all locations, cavers should avoid touching features and stay to designated routes. With the NSS Convention's permitted trips using up the year's worth of permitted recreation use for LaSunder Cave, human entry would be no greater than that allowed for the yearly total under the LaSunder Cave Management Plan.

Alternative A: Same as the proposed action impacts but only to Dirty Pool Cave.

No Action: No impacts to geology or minerology values would occur.

PALEONTOLOGY

Affected Environment: LaSunder Cave: Fossils are found throughout the cave, including vertebrates and invertebrates, chrinoids, brachiopods, sponges and stromatolites and others. Late Pleistocene to recent bones and teeth are seen on the surface in some areas and are often seen in areas dug to explore new openings. Pack rat middens are evident in crevices, and one of these nests must be crawled over to further access the cave.

The cave has a considerable amount of fill of unknown depth. In places it could range to 10' or more. The floor of the cave is fairly level, and the fill material is mostly dry brown silt and clay with cemented areas of caliche-like calcium carbonate in the fill. Much of this fill shows evidence of bones, teeth, and packrat midden material. It appears that animals were either brought in by predators, or found their way into the cave through the natural entrance and known and unknown crevices, and that the animals would eventually die. Several animal skeletons were seen in repose on top of the current floor fill, including a desiccated rat with fur on the surface of a passageway revealed by recent digging.

In many portions of the cave, there is evidence of recent digging to find new passage leads. When bones have been found in this digging, they have been placed up against a nearby wall and in some cases, small rocks have been ringed around the bones to point them out for protection. A locked gate has been installed beyond 150-200' into the cave to help protect the fossils and other cave resources.

BLM inventories and surveys have not been conducted for Anvil Points Cave or Dirty Pool Cave. Therefore, there is no paleontological data for these caves.

Environmental Consequences/Mitigation:

Proposed Action: The proposed action would allow recreational use into LaSunder Cave beyond the locked gate. Through the trip guide and permit, the participants will be made aware not to touch or take anything from the cave. The proposed action will not affect any known paleontological resources in the other caves or areas.

Alternative A: The alternative will not impact any known paleontological resources in the permit area.

No Action: The no action alternative will not impact any known paleontological resources in the permit area.

RECREATION

Affected Environment: LaSunder Cave, Anvil Points Cave, and Dirty Pool Cave all receive recreational visits annually. LaSunder Cave is the only gated cave where recreational visits require a permit to enter through the gate into the front zone of the cave. All other caves are open to general public recreation. The geology stops include stops at Bair Ranch, a developed Colorado Department of Transportation rest stop and a gypsum outcrop along the CMC Road.

Environmental Consequences/Mitigation:

Proposed Action: The proposed action would allow for 10 recreational trips as prescribed in the LaSunder Cave Management Plan to occur within one short time period. Each LaSunder Cave trip will fill out a monitoring sheet which will help the BLM identify experiences and outcomes along with any changes to the setting. This would mean that no other LaSunder recreation trip would occur outside of the convention permit for 2011 if all 10 trips occurred under the SRP. The general public will not likely attempt to go to LaSunder Cave outside of this permit because of the difficult accent to access the cave, the difficulty in finding the cave, and the locked gate after the big room entrance. The proposed action also allows 12 recreational caving trips to Anvil Points. Currently, the BLM does not have any restriction on recreational caving at Anvil Points Cave. The proposed action may introduce more people to the cave and increase visitation to Anvil Points. The proposed action would also affect the small number of individuals who may be caving in Anvil Points during the convention time. Since accessing Anvil Points include trespassing across private land, this may increase trespasses. The proposed action also has geology trip stops at Dirty Pool Cave, Bair Ranch, and off of the CMC road. These stops are for one day and will have negligible impacts to other recreationists due to the stops being either directly on or near developed roads/areas.

Mitigation: The NSS Convention's permitted trips would use up the year's worth of permitted recreation use for LaSunder Cave, so human entry would be no greater than that allowed for the yearly total under the LaSunder Cave Management Plan.

Alternative A: The alternative has geology trip stops at Dirty Pool Cave, Bair Ranch, and the gypsum outcrop off of the CMC road. These stops are for one day and will have negligible impacts to other recreationists due to the stops being either directly on or near developed roads/areas. Not permitting entry to LaSunder and Anvil Caves would have a negative effect on recreational caving during the NSS convention.

No Action Alternative: The no action alternative would have no impact on general recreation use.

VISUAL RESOURCE MANAGEMENT:

Affected Environment: The GSRA 1984 Resource Management Plan identifies VRM classes in the Colorado River Valley Field Office area. LaSunder Cave is within an area classified as VRM Class I in the GSRA 1984 Resource Management Plan. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; and may allow very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Anvil Points Cave, Dirty Pool Cave, and the geology stop along the CMC Road are within VRM Class II areas. The objective to this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The geology stop at Bair Ranch is within VRM Class III. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should bot dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences/Mitigation:

Proposed Action:
The proposed action should not have any effect on visual resources given the sub-surface location of the caves and the limited one-day visiting of the geology sites.

Alternative:
The alternative should not have any effect on visual resources given the sub-surface location of Dirty Pool Cave and the limited one-day visiting of the geology sites.

No Action:
The no action alternative would result in no permit being issued and would meet VRM objectives for all classes.

CUMULATIVE IMPACTS SUMMARY:

Wildlife (including special status species). Bats, daily and seasonally, move across the landscape and across private and federal land management agency boundaries. So the potential distance a bat travels or bat species migrates becomes relevant to decision making and accessing the cumulative impacts of the proposed action and alternatives. When viewed in combination with the open status of caves on BLM lands and private lands in Colorado, the proposed action poses a minor, but relatively higher additional risk of inadvertently introducing *G. destructans* into local caves and

WNS into local bat populations. The alternative and the no action alternative pose no additional risk of inadvertently introducing the fungus *G. destructans.* However if *G. destructans* is inadvertently introduced, the cumulative impacts will likely be large scale due to: (1) the overall range of bat species in Colorado, (2) their daily and seasonal movements, (3) the long distance migration patterns of some species and (4) their social behaviors.

Geology: Each entry into the caves creates minor impact by raising dust and introducing foreign matter. Over time, these cumulative impacts could degrade the cave geologic features. Mitigation measures to minimize dust and foreign matter introduction would reduce the cumulative impacts of these trips. The mitigation measures proposed for preventing WNS introduction (cleaning boots, wearing coveralls, limiting numbers, requiring trip guides) would also mitigate cumulative impacts on cave geologic features.

Future BLM-CRVFO Actions: At the time of this analysis, the BLM CRVFO is also completing the scoping process and beginning the analysis of a broader WNS Management Actions EA for this Resource Area. Given the current "open" status of caves on BLM CRVFO lands, the decision resulting from that analysis may change the relative cumulative risk of WNS introduction from human transmission. Similar information on bat use is being used for both analyses.

Future Federal Actions: Both the USFS and BLM Colorado State Office are considering larger-scale management actions regarding WNS. Collectively, these actions could either increase or decrease the relative risk of WNS introduction. The proposed action and alternatives presented in this EA represent small relative changes in risk compared with the larger-scale management actions being considered by the federal land management agencies. (For more detail on various agency actions and policies, see section: **THREATENED, ENDANGERED, AND SENSITIVE SPECIES – Terrestrial Wildlife)**

PERSONS / AGENCIES CONSULTED:

- U.S. Forest Service, White River National Forest
- Colorado Division of Wildlife
- U.S. Fish and Wildlife Service

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INTERDISCIPLINARY REVIEW:

Name	***Title***	***Responsibility***
Kimberly Miller	Outdoor Recreation Planner	Wilderness, Wild and Scenic Rivers, Recreation, Travel Management, Paleontology
Carole Huey	Realty Specialist	Lands & Realty Authorizations
Pauline Adams	Hydrologist	Air, Water, Soil, Geology
Carla DeYoung	Ecologist	ACEC, Special Status Plants, Vegetation, Land Health Standards
Brian Hopkins	Wildlife Biologist	Migratory Birds, Terrestrial Wildlife and T/E/S Terrestrial Wildlife, Aquatic Wildlife and T/E/S Aquatic Wildlife
Monte Senor	Rangeland Management Specialist	Invasive, Non-native Species
John Brogan	Archaeologist	Cultural Resources and Native American Concerns
Michael Kinser	Rangeland Management Specialist	NEPA Lead, Wetlands and Riparian Zones, Range Management
Matt Thorburn	Supervisory Natural Resource Specialist	Forest Management, Farm Land, Fuels, Law Enforcement

Appendix A

Supplementary Information for the Special Use Permit Application for the 2011 NSS Convention

WNS Decontamination Plan for the 2011 NSS Convention in Glenwood Springs, Colorado

Strategy:

1) Adhere to the latest version of the Fish and Wildlife Service WNS Decontamination Protocol (currently v. 3)(Appendix 1)
2) Prevent WNS contaminated cave gear from entering Colorado
3) Ensure that only decontaminated gear, or gear not previously used for caving, is used on cave trips this includes clothing and footwear - under no circumstances should gear that was used in a WNS-affected state or region be used in Colorado
4) Ensure that post-cave-trip decontamination procedures are followed

Prior to the start of Convention

The 2011 convention website will have a prominent notice added to the caving activities section telling cavers from within the 17-state (or current extent) WNS affected region to leave their caving gear at home. An overview of the WNS decontamination plan will be on the website as well so that cavers will be familiar with the plan before they even arrive in Colorado. Other communications regarding the convention (newsletter articles, emails, etc.) will also carry this information. Partners such as the National Cave and Karst Research Institute, Project Underground, Cave Research Foundation, and others will also help get the word out about the decontamination plan.

At the Convention site

A decontamination station, with set hours of operation, will be established in the convention campground. The station will open on the day the campground opens and will not close until the day the campground closes. Primary hours of operation will be in the early morning when caving trips depart, and late afternoon/evenings when caving trips return. The decontamination station will be stocked with all the necessary equipment for decontaminating gear and a supply of large plastic garbage bags for transporting clean gear to caves and returning dirty gear to the station. Boxes of Lysol Disinfecting Wipes will be provided to trip leaders for use on caving trips.

Convention staff who will be supervising the decontamination station will meet before the convention to review the latest Fish and Wildlife Service WNS Decontamination Protocol to ensure that it is implemented at the station. During hours of operation, the station will be supervised by at least one caver trained thoroughly in the proper Decontamination procedures. The supervising caver will be responsible for making sure the station is properly stocked and functional and assisting cavers in decontaminating cave gear at the station and making sure that protocols are followed.

A cache of caving gear will be created for cavers to borrow for use on convention caving trips. This will help out cavers from WNS affected states who have to leave their gear at home. The cache will be comprised of equipment loaned or donated by cavers. All gear in the cache will be decontaminated prior to loaning out, and decontaminated upon return to the cache. The

cache will be kept at the decontamination station. The cache will include a variety of helmets, lights, boots, packs, knee pads, coveralls, and other items of clothing.

The FWS poster "Human Spread of White-Nose Syndrome: Why Decontamination Is Important" (Appendix 2) will be displayed prominently at the decontamination station, as well as at the activities desk and other appropriate locations at the convention.

Wild Caving Trips

The motto for WNS decontamination on wild caving trips during the 2011 NSS Convention will be "Every cave, every person, every time". Forest Service caves available for wild caving trips will be decided in coordination with the White River National Forest (WRNF). The number of trips to those caves and maximum number of participants on each trip will also be determined in coordination with the WRNF. Participants will sign up for trips in advance. During convention, sign-up for trips will be coordinated at the activities desk located at the high school. The activities desk will have information on decontamination requirements for cavers signing up for trips and cavers will be informed of those requirements as they sign up for trips.

All wild caving trips during the convention will be led by Colorado cavers or cavers who formerly lived in Colorado that are familiar with the relevant cave. In addition to the normal responsibilities of safety and cave conservation, trip leaders will also ensure that only decontaminated or new (to caving) gear is used on convention cave trips.

All caving trips will meet at the decontamination station in the campground prior to departing from the convention. There, trip leaders will stress the importance of following decontamination procedures, check through trip participants gear to make sure it is decontaminated, and ask questions to determine if the gear has been used in other parts of the country. Trip participants will have an opportunity to do last minute decontamination if needed. Decontaminated caving gear will be placed in knotted plastic garbage bags for transport to the cave.

Vertical caving gear

WNS decontamination procedures may damage or degrade nylon and other materials in equipment used for life-supporting purposes during vertical caving. To avoid having to repeatedly decontaminate vertical gear, ropes will be dedicated for use at the specific caves requiring vertical techniques. Harnesses and other nylon equipment can also be dedicated to specific caves, so that cavers do not have to use and decontaminate their personal harnesses to visit a vertical cave. Dedicated equipment will not be decontaminated between trips and the gear will remain on site at the cave entrance. At the beginning of the cave trip the gear will be removed from a knotted plastic garbage bag. At the completion of the trip, the dedicated equipment will be placed in a knotted plastic garbage bag. The bag will be stored at or near the entrance of the cave. Ropes and harnesses that will serve as dedicated equipment during convention will be either donated or purchased for the convention. After use, dedicated gear will be stored in garbage bags with the loaner gear cache at the decontamination station; however, the bags will not be opened at the loaner gear cache and will be physically separated from the loaner gear.

Upon exiting the cave

When a caving trip is over and cavers return to the cave entrance, they will thoroughly scrape or brush off any dirt and mud from clothing, boots, and gear. All caving gear will be put

in plastic garbage bags and knot the tops closed. Caving gear will be transported back to the convention site in these knotted plastic garbage bags. Cavers can clean themselves after the trip using Lysol Disinfecting Wipes provided by their trip leader.

Upon returning to the convention site

All caving trips will return directly to the decontamination station upon returning to the convention site. The trip leader will direct trip participants to decontaminate their gear immediately under the supervision of the caver in charge of the decontamination station.

Identification of permitted trips

The wild cave trips of the 2011 NSS Convention will be occurring during a blanket closure of all caves on USFS land in Colorado. It may be confusing to members of the general public, or USFS personnel in the field, who see such trips visiting caves during the blanket closure. It may be worth considering giving each Convention trip to a wild cave a paper permit or some other tangible and visible proof that the trip is not in violation of the blanket cave closure.

Forest Service Review

This WNS decontamination plan has been reviewed by USFS National Cave and Karst Coordinator, Cynthia Sandeno and her suggestions and comments have been incorporated. Cynthia has also offered to play a role in coordinating the implementation of this plan during the 2011 NSS Convention.

Decontamination Plan Appendix 1

White-Nose Syndrome Decontamination Protocol (v.3)

U.S. Fish and Wildlife Service – Draft 7.31.2010

The USFWS strongly recommends compliance with all cave closures, advisories, and regulations in all Federal, State, tribal, and private lands. By disregarding this recommendation, you could potentially promote the transmission of the fungus *Geomyces destructans (G.d.)*, likely the causative agent for white-nose syndrome (WNS), which is responsible for significant bat mortality in eastern North America. Should you choose to disregard this recommendation, the following protocol outlines the best known procedures to help reduce the spread of the fungus.

You should not handle bats. If you observe live or dead bats (5 or more individuals in a single location) that may exhibit signs of WNS, contact a wildlife professional in your state wildlife agency (http://www.fws.gov/offices/statelinks.html) or contact your nearest USFWS Ecological Services Field Office (http://www.fws.gov/offices/). Researchers, contact your state or federal agency for permitting requirements.

RECOMMENDED DECONTAMINATION PRODUCTS: The following chemical products were tested in a laboratory setting and were found to be particularly effective against killing the more resistant, spore-form of *G.d.*, as well as the hyphae.

1. Lysol® IC Quaternary Disinfectant Cleaner (0.3% quaternary ammonium compound minimum) - 1 part concentrate to 128 parts water or 1 ounce of concentrate per gallon of water;

2. Lysol® All-purpose Professional Cleaner (0.3% quaternary ammonium compound minimum);

3. Formula 409® Antibacterial All-Purpose Cleaner (0.3% quaternary ammonium compound minimum);

4. A 10% solution of household bleach - 1 part bleach to 9 parts water (an estimate of 1:9 is insufficient);

5. Lysol® Disinfecting Wipes; or

6. Boil submersible gear in water for 15 minutes

BEFORE CAVING: In order to effectively reduce the risk of human transfer of *G.d.*, it is imperative that you follow these decontamination procedures any time you plan cave visits, and **under no circumstances should clothing, footwear or gear that was used in a WNS-affected state or region be used in a non-affected state. If gear cannot** be thoroughly decontaminated or disposed of, we advise that you not enter caves or parts of caves requiring use of this gear. If gear **can** be thoroughly decontaminated and you must enter a cave, isolate and decontaminate these items after last exiting a cave. Gear should not be used in multiple caves in the same day unless the decontamination procedures below can be performed **between each cave visit.**

AFTER EACH CAVE VISIT: Thoroughly scrape or brush off any dirt and mud from clothing, boots, and gear and then place them in a sealed plastic bag or plastic container with lid to be cleaned and disinfected off site. Outer clothing should be removed prior to entering a vehicle after/between a site visit. A clean change of clothing is recommended. To decontaminate clothing, footwear and gear, please follow the procedures listed below.

For Submersible Gear (i.e. clothing and equipment that can be submerged without damage):

Wash all clothing and any appropriate equipment in washing machine or by hand using conventional detergents. Use cold, warm, or hot water. Woolite® fabric wash has been found to be highly effective for this procedure. Rinse thoroughly, and then follow by soaking for a minimum of 10 minutes in one of the decontaminating products above, then rinse and air dry. As an alternative to chemical products, boiling submersible gear at a fast boil for 15 minutes is also recommended, followed by air drying.

For Non-submersible Gear (i.e. equipment that will be damaged by submersion):

Clean thoroughly with soap and water, and then decontaminate by applying one of the recommended products above to the outside surface for a minimum of 10 minutes, then rinse and air dry.

For Footwear:

Where possible, rubber (wellington-type) caving boots (which withstand harsh decontaminating products and are easily cleaned) are recommended. Boots need to be fully scrubbed and rinsed to remove all soil and organic material. Decontaminate rubber and leather boots, (including soles and leather uppers) with a product listed above for a minimum of 10 minutes, then rinse and air dry.

For Ropes and Harnesses:

To date, only Sterling rope and webbing have proved to sustain no damage when using products above. Wash rope/webbing in a front loading washing machine on the gentle cycle using Woolite® Extra Delicates detergent. Immerse in a dilution of Lysol IC Quaternary Disinfectant Cleaner for 15 minutes. Rinse twice in clean water and air dry. Brands of rope/webbing other than Sterling have not yet been tested for integrity after decontamination. Brands not tested should be dedicated to a single cave or not used at all.

For Cameras and Electronic Equipment:

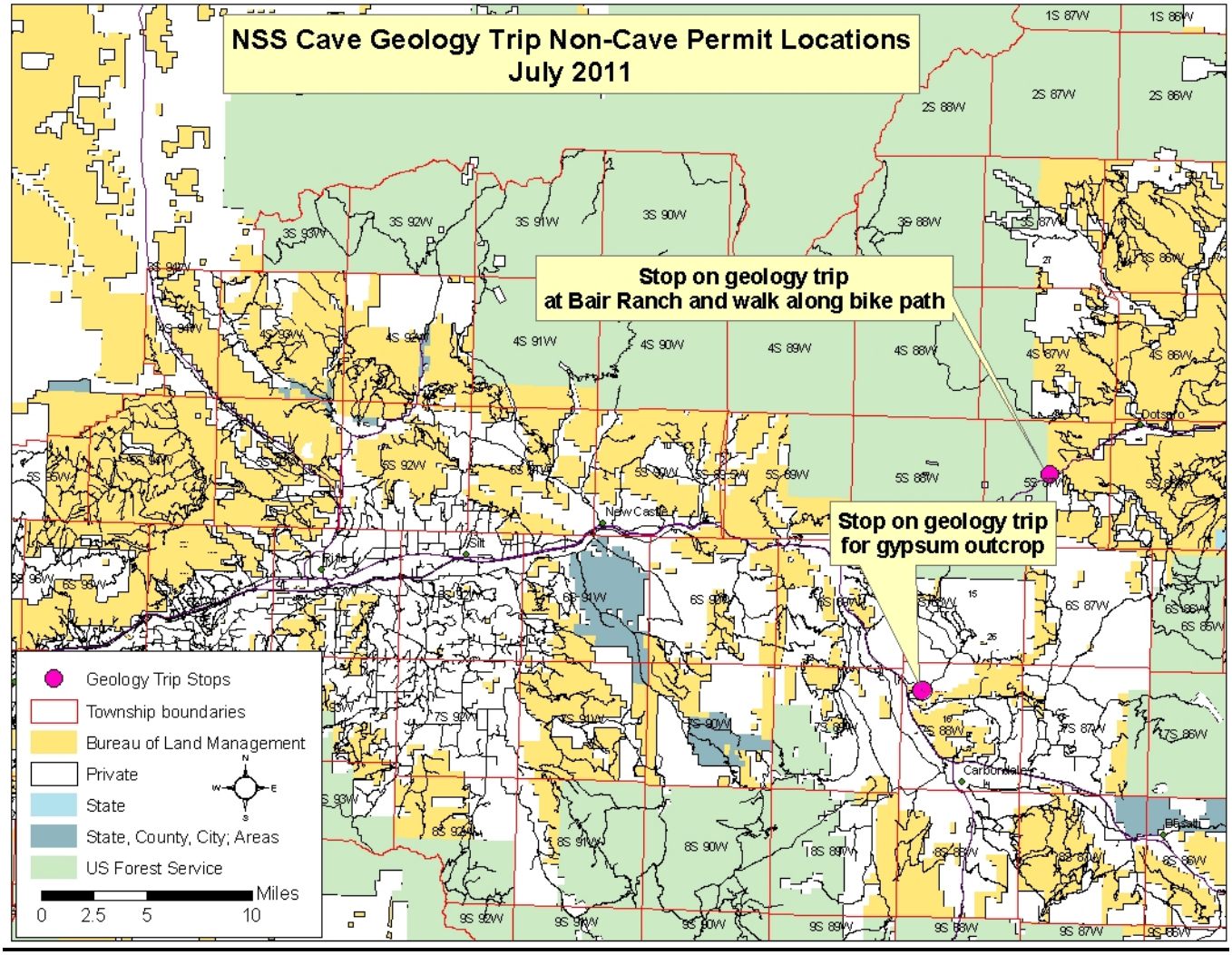
If possible, do not bring electronic equipment into a cave. If practical, cameras and other similar equipment that must be brought to a cave may be placed in plastic casing (i.e. underwater camera housing) or wrapped in plastic wrap where only the lens is left unwrapped to allow for photos to be taken. The plastic wrap can then be decontaminated by using Lysol® Disinfecting Wipes and discarded after use or wipes can be applied directly on camera surfaces or plastic casing.

For Vehicles:

In addition to gear, vehicles used to transport equipment can also harbor spores. Keep vehicles as clean as possible by storing gear in clean containers, and decontaminate those containers with your other equipment using the decontamination products above.

Note: Protocol updated as of 7-31-2010. Please visit http://www.fws.gov/WhiteNoseSyndrome/ for updated materials and for **comprehensive supplemental documents that detail decontamination procedures for 1. cavers, and 2. researchers.**

Appendix B



In conformance with the Federal Cave Resources Protection Act of 1988 (FCRPA), the exact cave locations will not be disclosed in this EA. The caves are located within the Deep Creek drainage, Roaring Fork Valley, and the Roan Plateau area.

Appendix C.

NSS Convention SPR EA - Scoping Comments as of 4-19-2011 with BLM responses.

Organization	Scoping Comment
	Transmission
CBD	The long-distance leaps of *Geomyces destructans* such as the greater than 900-mile jump of the fungus from eastern Tennessee to western Oklahoma between 2009 and 2010, are strongly suspected of being the result of human transmission.
BLM RESPONSE	*BLM is proceeding under the assumption that human transmission could be a vector for WNS. Strict decontamination procedures of all gear and prohibitions against caving gear from WNS affected areas will reduce the risk of human transmission. Decontamination requirements are included in both the Proposed Action and the Alternative.*
CBD	NSS members will be coming from areas around the country, including places where *G. destructans* may be present but has not yet been documented. Thus, the prohibition on gear from any *known* WNS-affected state is inadequate.
BLM RESPONSE	*BLM is requiring all gear to be decontaminated before and after caving trips, regardless of where it has been used previously. This, along with the prohibitions against gear from known WNS areas, will reduce the risk of contamination from locations with present but undocumented WNS outbreaks.*
CBD	Keeping people out of caves and abandoned mines is the only sure tool land and wildlife managers have to slow the spread of the bat disease by human transmission.
BLM RESPONSE	*The Special Recreation Permit application does not include any mines visits, and mine visits are not considered in either the Proposed Action or Alternative A. The relative risk of WNS introduction through this permit is analyzed for both the Proposed Action and the Alternative. Beyond the scope of this permit, BLM promotes a "Stay Out Stay Alive" message to reduce casual entry to caves and mines.*
	Management of Significant/Important Sites
USFWS	Protect all caves that are used by bats as maternity roosts, hibernaculum or for swarming. Maternity roosts may be particularly sensitive to human disturbance at the time of the convention
BLM RESPONSE	*The three caves in the permit have no documented maternity roosts or swarming activity. Anvil Points cave has documented bat use throughout the year, including some hibernation activity. The highest number reported was 9. LaSunder has documented bat use throughout the year, including some use as late as December suggesting some limited hibernation activity (no count available). The highest number reported was 6 during an August visit. Conditions behind the gate at LaSunder do not appear to fall within those needed for maternity or hibernation. The amount and timing of bat use in these caves factored into the development of the Proposed Action and Alternative.**
CDOW	CDOW is recommending that any site with important bat use during any time of year be closed to human recreation during all seasons because it is unknown how long a spore of Gd can survive in the cave environment, the ability of the fungus to infect a bat out of hibernation, or the ability of a bat to carry the fungus between winter and summer roost sites
BLM RESPONSE	**see comment above*
USFS	If any caves being considered for NSS use are known or suspected to be use by bats for hibernation, spring or fall swarming, maternity colonies, or have large numbers of bats or prolonged bat use, the BLM should deny NSS convention use of these sites
BLM RESPONSE	**see comment above*

	Anvil Points Cave
CDOW	Anvil Points Cave - This site has been documented as a bat hibernacula on several occasions, including during a visit in March of this year. As a result, we recommend it not be permitted for use during the NSS Convention.
	Anvil Points Cave exclusion is included in the Alternative.
	Dirty Pool Cave
CDOW	Dirty Pool Cave – This site has no documented bat use and we have no concerns about its use during the NSS Convention. However, the latest USFWS decontamination protocols should still be followed this site.
BLM RESPONSE	*The requirement for decontamination included in both the Proposed Action and the Alternative.*
	LaSunder Cave
CDOW	LaSunder Cave – Based on the available survey results, this site appears to be used as a winter hibernation site for multiple bat species, including Townsend's big-eared bat, a Species of Special Concern in Colorado. We recommend that the site not be used during the NSS convention. Additional information is needed on the full nature of bat use at this site but due to the inability of collecting more thorough winter information before the convention, we are recommending the most conservative approach at this time. Consequently, additional winter surveys at this site are highly recommended in the future.
BLM RESPONSE	*Following the receipt of comments from CDOW regarding LaSunder cave, BLM staff visited the cave with a CDOW biologist. That visit indicated that conditions behind the LaSunder gate would not support hibernation or maternity. The front part of the cave, however did have one torpid bat during the May visit. Bats have been previously reported in the front part of the cave as late as December. LaSunder cave exclusion is included in the Alternative.*
	Requirements for Surveys
USFWS	Bat surveys prior to caving trips may be warranted.
BLM RESPONSE	*During the scoping period, BLM staff and a CDOW biologist conducted surveys of the three caves in this proposed action. Results from those surveys are incorporated into the EA analysis for both the Proposed Action and the Alternative.*
	Decontamination
USFWS	Use USFWS latest decontamination protocol.
	Decontamination protocols are described in-depth in Appendix A. The risk mitigation provided by decontamination and the relative risk of decontamination vs. cave closure are analyzed in the Proposed Action and the Alternative.
USFWS	Gear from a WNS-affected state should not be used.
	**see comment above*
CBD	Further, given the difficulty of achieving complete decontamination, and the impossibility of achieving it for certain types of gear (e.g., electronic equipment) it is possible that attendees will bring gear that is contaminated with *G. destructans*, introduce it to Colorado caves, and in so doing, also contaminate the gear of other cavers who will then unknowingly return to their home locations with it.
	**see comment above*
CBD	Decontamination is not an adequate substitute for complete closure against all non-essential access, and the proposed action sends a contradictory message to the public about the risk of WNS. …no decontamination procedure can ever be 100% effective
	**see comment above*
CBD	BLM proposes to allow cave access for NSS meeting attendees, sending a message to both meeting attendees and the broader public that recreational access with decontamination can be an acceptable substitute for closure.
BLM RESPONSE	**see comment above*

	USFS Closures
CBD	Forest Service has acknowledged this need through its complete closures of caves and abandoned mines in the Eastern, Southern, and Rocky Mountain Regions, starting in 2009. In 2010, the Forest Service issued an emergency closure order (R2-10-01) to protect bats in the Rocky Mountain Region from the introduction of *G. destructans* by human transmission.
BLM RESPONSE	*The latest USFS decision memo is discussed in section titled "Threatened, Endangered, and Sensitive Species."*
	Lack of Species Information
CBD	Three of Colorado's bat species have already been affected by WNS in the eastern half of the United States (*M. lucifugus, Perimyotis subflavus,* and *Eptesicus fuscus*). Other closely related species could prove just as susceptible.
	The species of bats and their susceptibility are discussed in the "Threatened, Endangered, and Sensitive Species" section.
CBD	By its own admission, the BLM knows very little about the bat resources on its lands in Colorado: "In general, bats are very guarded. Thus we have limited knowledge of where bats roost in Colorado.
BLM RESPONSE	*To support a decision regarding the proposed SRP, BLM staff and a CDOW biologist have surveyed the three caves. The results of this survey can be found in Table 8 and have been incorporated into the EA analysis of the Proposed Action and Alternative.*
	Value of Bats to Humans
CBD	Bats are valuable to humans and the human environment and BLM must consider risks to agriculture and other industries from the proposed action.
BLM RESPONSE	*The value of bats to humans is analyzed primarily in the "FARMLAND, PRIME AND UNIQUE" section. The implications for agricultural are analyzed for the Proposed Action, Alternative, and No Action Alternative.*
	Risk to Broader Bat Populations
CBD	The risk of introducing WNS into the West outweighs any recreational and educational benefits of the permit. If WNS reaches Colorado, it may very well have the same catastrophic impact on the state's bats. Mortality rates in affected bat colonies routinely range up to 100 percent after several winters.
BLM RESPONSE	*The risk of WNS introduction is discussed in the "Threatened, Endangered, and Sensitive Species" section. The relative risk of WNS introduction under the Proposed Action and Alternative is discussed in that section as well as the "FARMLAND, PRIME AND UNIQUE" section.*
CBD	The proposed action would allow a significant number of cavers into cave sites that may harbor bats.
BLM RESPONSE	*The number of cavers proposed is discussed under the "Proposed Action" section. The presence of bats is discussed in Table 8. The implications of the caver numbers and bat presence is discussed under both the Proposed Action analyses and Alternative analyses – primarily in relation to terrestrial wildlife (bats) and ACECs impacts.*
CBD	The west slope of the Rockies is a biodiversity hot spot for bat species in Colorado, and this wide array of species should be safeguarded by cave closures to stem the human spread of WNS. West Slope bat populations connect with bats occupying other bat biodiversity hot spots in the Southwest and Mexico. Thus, if WNS is introduced to western Colorado, bats may carry the disease from there into populations located in more southern directions, with potential to affect other vulnerable species.
BLM RESPONSE	*The diversity of bats and implications of WNS introduction for the populations is discussed in the "Threatened, Endangered, and Sensitive Species" section.*
CBD	The proposed action could have a profound and irreversible effect on the environment.

	The consequences include not only the immediate threat of transport of *G. d.* into caves opened for the purposes of the NSS convention, but also, the threat of those meeting participants traveling to other caves in the region that are not closed, such as caves on neighboring BLM land. Also, the BLM must assess, through NEPA, whether the opening of select caves may contradict and undermine the message of just "staying out" of caves as the best policy on western public lands.
BLM RESPONSE	*The implications of WNS introduction and spread are discussed in the "Threatened, Endangered, and Sensitive Species" section.* *The implications of un-permitted cave visitation during the convention is discussed in the Proposed Action and Alternative. Caves outside the scope of this permit are being addressed through the WNS Management Actions EA, which concluded its scoping period on 6/3/2011. A BLM decision is expected on broader cave closures prior to the convention.* *For a number of years, BLM has worked with the caving community to maintain stewardship of LaSunder and other caves. The information provided by the caving community constitutes the bulk of the information available on local cave resources. The Colorado Cave Survey has maintained a good safety and stewardship record at LaSunder cave.*
CBD	The permit poses a serious threat to Colorado bats from the spread of WNS. Once introduced in an area, there is no remedy for WNS, and bats themselves will spread the illness to other bat populations in the state and surrounding states
BLM RESPONSE	*The implications of WNS introduction and spread are discussed in the "Threatened, Endangered, and Sensitive Species" section.*
USFS	As the BLM considers potential cumulative effects, BLM should consider that some NSS participants will visit open BLM caves on their own, outside of any organized trips permitted for the convention. Some NSS members will be coming from states with known WNS occurrence. These cavers would be using their own personal equipment and may not use adequate decontamination procedures.
BLM RESPONSE	*The implications of un-permitted cave visitation during the convention is discussed in the Proposed Action and Alternative. Caves outside the scope of this permit are being addressed through the WNS Management Actions EA, which concluded its scoping period on 6/3/2011. A decision is expected on broader cave closures prior to the convention.*
	Education
CBD	If NSS and the BLM hope to achieve some educational goals regarding WNS for the 2011 convention, they can begin by requiring that cavers follow the stated recommendations of the USFWS, i.e., that humans should stay out of caves for all but the most urgent reasons
BLM RESPONSE	*USFWS policies and recommendations are discussed in the "Threatened, Endangered, and Sensitive Species" section. Specific USFWS recommendations are included in this section. The education coordination between the caving community and the NSS is described in Appendix A.*
	Current BLM Policy
CBD	BLM itself has recognized the serious risk this unprecedented wildlife disease poses to multiple species. Field officials were advised to participate in state-level WNS response planning, and to coordinate with stakeholders to "prevent or contain the spread of WNS." The identification of caves and mines with important bat resources was listed as an important component of WNS response for BLM officials.
BLM RESPONSE	*BLM staff participate in regular interagency discussion of the disease and the Agency has devoted resources to the survey of caves under this permit. Results of those surveys can be found in Table 8.*

CBD	Unlike the Forest Service, the BLM has failed to declare closures of any kind in Colorado, and throughout most of the West. No plan for WNS response in Colorado has yet been developed.
BLM RESPONSE	*The BLM policy on WNS is described in the "Threatened, Endangered, and Sensitive Species" section.*
CDOW	At the national level, the BLM Interim Response Plan has emphasized the need to identify sites that provide important bat resources based on a targeted approach so that prioritized sites can be considered for temporary closures. This approach has been implemented in New Mexico in a way that we believe is more appropriate and protective of the bat resources of Colorado.
BLM RESPONSE	*The BLM policy on WNS (including BLM's New Mexico State Office) is described in the "Threatened, Endangered, and Sensitive Species" section. Many elements of the New Mexico decision have been incorporated into the Proposed Action and Alternative.*
USFS	The opportunity and obligation to manage bats and cave resources cooperatively between agencies is vital, especially in light of the potential for future introduction and spread of WNS into western states.
BLM RESPONSE	*The relevant agency policies on WNS are described in the "Threatened, Endangered, and Sensitive Species" section.*
USFS	Because bats in the regional area of Garfield, Pitkin, Eagle and Rio Blanco counties are highly likely to use cave resources across private and federal land boundaries, and given the deadly nature of WNS to bats, the USFS urges the BLM to manage the proposed NSS convention caving activities in a similar manner.
BLM RESPONSE	*The WRNF issued a decision memo regarding their NSS permit application on 5-26-11. That decision is described in the "Threatened, Endangered, and Sensitive Species" section. Both the Proposed Action and the Alternative correspond with most elements of the USFS decision.*
USFS	Management decisions should consider bat use of cave resources within landscapes with multiple jurisdictions. Areas with clustered caves (e.g. Glenwood Canyon or Deep Creek) are likely being used by many individual bats moving across the landscape.
BLM RESPONSE	*The movement of bats across jurisdictional boundaries is discussed in the "Threatened, Endangered, and Sensitive Species" section. Additionally, BLM solicited the input of USFS in the development of EA to gain an appropriate level of federal land management continuity.*
	Potential BLM Actions Beyond the NSS Convention SRP
CDOW	Based on the current knowledge of this disease and how it persists in the environment, seasonal closures could leave priority sites vulnerable to introduction and spread of the fungus.
BLM RESPONSE	*Since the proposed action will take place exclusively in July, neither the Proposed Action nor the Alternative contains seasonal closures. The efficacy of seasonal closures will be analyzed in BLM's CRVFO WNS Management Actions EA.*
CDOW	CDOW encourages the Colorado State Office of the BLM to consider a site by site approach informed by existing and future inventory and surveillance data.
BLM RESPONSE	*BLM has devoted additional resources to the survey of the caves in this EA as well as additional priority caves. The Agency expects to continue this survey and monitoring effort and incorporate the resulting information into management decisions. The survey and monitoring effort on BLM is being conducted as part of CDOW's larger bat survey project.*
USFS	The USFS is concerned about the open status of caves on adjacent BLM lands. In addition to NSS convention participants, there is also a risk that members of the public may inadvertently introduce the fungus that causes WNS into caves on BLM lands.
BLM RESPONSE	*Through its WNS Management Actions EA, the Colorado River Valley Field Office is analyzing the risk of WNS introduction and the efficacy of cave closures throughout the Resource Area. A decision is expected on this broader EA in July.*

Finding of No Significant Impact

DOI-BLM-CO-N040-2011-0078

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the information contained in the EA, and all other information available to me, it is my determination that the Proposed Action is in conformance with the Resource Management Plan. I have reviewed the environmental assessment and analysis of the environmental effects of the proposed action. The proposed action, with any approved mitigation measures, results in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

_____ _____

Steve G. Bennett Date
Field Manager, Colorado River Valley Field Office

DECISION RECORD

DOI-BLM-CO-N040-2011-0078

DECISION

It is my decision to approve a permit for the National Speleological Society; Organized Group SRP; Recreational cave and geology trips. This includes LaSunder Cave, Anvil Points Cave, Dirty Pool Cave, and geology trips. The SRP will authorize the original permit application with a reduction in the number of LaSunder Cave trips from 12 to 10. The approved Special Recreation Permit (SRP) will contain a number of conditions and mitigation measures to ensure resource protection.

DECISION RATIONALE

1. The geology trips, as permitted, will cause little impact to area resources or BLM visitors. Given the limited potential impacts of the geology trips, this will be authorized.

2. Dirty Pool Cave was surveyed for bats by a BLM biologist and a CO Division of Wildlife Biologist in May 2011. The biologists found no evidence of bat use or significant bat habitat. Rather than a cave, the Dirty Pool Cave is an evaporate solution sinkhole approximately 20-30 feet down and 15-20 feet wide with several alcoves at the bottom. Despite the lack of significant bat use or habitat, BLM is requiring that the trip participants still follow USFWS decontamination protocols at a minimum. This will provide an additional measure of protection for any incidental bats roosting in the alcoves of the Dirty Pool Cave sinkhole. The lack of bats and bat habitat coupled with decontamination requirements adequately reduces the risk of WNS introduction to bats from this trip. The Dirty Pool Cave sinkhole contains no fragile geologic features that could be damaged by trip participants. It appears to be occasionally used as a "party site" for local residents. For these reasons, the trips to Dirty Pool cave will be authorized.

3. LaSunder Cave is reported to have limited bat use in the front part of the cave, including likely use by Townsend's Big-eared Bats, and Myotis spp. A recent survey (May 2011) found one bat. Environmental measurements during that survey suggest that conditions in the back of the cave are not conducive to hibernation, maternity, or other bat use. Previous reporting has revealed low levels of bat use (maximum of six bats counted) during the year, including three hibernating bats. The inclement conditions in most of the cave, small amount of bat use in the front part of the cave, adherence to the proposed Decontamination Plan submitted by the National Speleological Society (NSS), additional measures and conditions outlined below, limited group size, and use of approved trip guides will mitigate the risk of potential impacts to the bats and other sensitive cave resources. Providing convention attendees an outlet for caving under strictly controlled conditions will also help mitigate the risk of convention attendees entering this cave or other caves on their own, without the oversight of experienced local guides and requirements for decontamination protocols. For these reasons, the trips to LaSunder Cave will be authorized.

4. Anvil Points Cave is reported to have bat use throughout the year including likely use by Townsend's Big-eared Bats, Western Small-footed Myotis, Little Brown Bats, Long-eared Bats, and Myotis spp. Conditions in the cave support bat hibernation, with a maximum of nine bats reported during the winter visits. A survey in March 2011 reported two hibernating bats. Considering the proposed Decontamination Plan submitted by the NSS, the additional measures and conditions outlined below, limited group size, and use of approved trip guides, the risk of potential impacts to the bats and other sensitive cave resources are mitigated. For these reasons the trips to Anvil Points Cave will be authorized.

5. Numerous mitigation measures will be incorporated into the terms of the permit to ensure the risk to bats and cave resources is minimized at all permitted sites. Those measures, itemized below, go beyond the measures required by the USFWS as part of the national response to WNS. Collectively, they represent a sufficient mitigation of risk for WNS introduction at the three permitted cave locations (Dirty Pool Cave, Anvil Points, and LaSunder Cave).

6. By allowing limited duration visitation to the three caves that are not used or used by few bats (Dirty Pool Cave, Anvil Points Cave, and LaSunder Cave), under strict protocols, BLM is able to provide carefully controlled cave access that meets the goals of convention participants and represents a low risk to the bats and cave resources. Having a controlled outlet for recreational caving reduces the risk of convention participants visiting BLM caves on their own, outside of the permit and its protective conditions.

MITGATION MEASURES & PERMIT CONDITIONS

1. This is a one-time only Special Recreation Permit (SRP) to the National Speleological Society (NSS) for geology trips and recreational caving on BLM public lands from July 16-24, 2011. The geology trips would be permitted for stopping along public roads and walking on adjacent BLM public lands to view geology at two stops (at Bair Ranch along I-70 and along the CMC road) and to view Dirty Pool Cave on July 17, 2011. (See Appendix B.) The recreational caving trips would be permitted for 10 trips to LaSunder Cave (front zone only) and 12 trips to Anvil Points Cave during July 16-24, 2011. Each trip to LaSunder Cave and Anvil Points Cave would be lead by an approved leader and group sizes will be limited to no more than 5 people.

2. The WNS Decontamination Plan developed by the NSS Convention must be followed (See Appendix A of the Environmental Assessment.). However, all decontamination must meet or exceed the latest USFWS decontamination requirements published at the time of the convention. Absolutely no equipment, clothing, or boots will be allowed from WNS contaminated states or regions. In order to further minimize the risk of transmission of WNS and the fungus *Geomyces destructans*, the WNS Decontamination Plan must be modified to clearly specify that ALL gear used on authorized trips be decontaminated and labeled as being decontaminated at the supervised decontamination station prior to use in LaSunder Cave, Anvil Points Cave, and Dirty Pool Cave. No trips will be allowed under this permit unless the Convention's decontamination station is fully operational.

3. The National Historic Preservation Act (NHPA) requires that if newly discovered cultural resources are identified during project implementation, work/activity in that area must stop and the agency Authorized Officer notified immediately (36 CFR 800.13). The Native American Graves Protection and Repatriation Act (NAGPRA), requires that if inadvertent discovery of Native American Remains or Objects occurs, activity must cease in the area of discovery, a reasonable effort made to protect the item(s) discovered, and immediate notice made to the BLM Authorized Officer, as well as the appropriate Native American group(s) (IV.C.2). Notice may be followed by a 30-day delay (NAGPRA Section 3(d)). Further actions also require compliance under the provisions of NHPA and the Archaeological Resource Protection Act.

Any person who, without a permit, injures, destroys, excavates, appropriates or removes any historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural item, or archaeological resources on public lands is subject to arrest and penalty of law.

4. To protect sensitive cave ecology and microbiota, cavers must avoid any standing water or wet areas discovered while in the caves.

5. At locations where a defined hiking trail exists to access the caves, users should stay to the trail in single file. At all locations, users should take care to avoid pushing soil into the cave entrances.

6. LaSunder's speleothems are extremely delicate and at the same time are close to the taped trail. Visitors to the cave must move slowly and cautiously along marked trails, watching every step, to avoid accidental destruction of these unique features. At all locations, cavers must avoid touching features and stay on designated routes.

7. Each LaSunder Cave trip will fill out a monitoring sheet which will help the BLM identify experience and benefit opportunity outcomes along with any changes to the setting.

8. The NSS Convention's permitted trips would use up the year's worth of permitted recreation use for LaSunder Cave, so human entry would be no greater than that allowed for the yearly total under the LaSunder Cave Management Plan (although it would occur in a more compressed time frame).

9. The permittee will provide the BLM written permission from the private landowner for access and parking on the private land near Anvil Points Cave before any trips occur to Anvil Points Cave.

10. The permittee will provide the BLM written permission from the Eagle County Road and Bridge Department to park along the County Road near Dirty Pool Cave before any trips occur which involve Dirty Pool Cave.

11. If any new information emerges that the risk of WNS is greater than this analysis determined, the BLM will immediately review this decision and may alter permit conditions or revoke the permit. Additionally, non-compliance with the terms of this permit will result in immediate permit revocation.

COMPLIANCE AND MONITORING

- BLM staff will be present at the NSS Convention, providing educational materials about cave resources and cave safety.
- BLM and USFS staff will monitor the decontamination area and trip staging area, to ensure protocols are being followed.
- Local representatives of the Colorado Cave Survey and National Speleological Society will lead the trips. These representatives will closely monitor on-site compliance with decontamination, including post-trip decontamination protocols.
- The permitee will report to the BLM staff each day of the convention with information on the trips to LaSunder Cave, Anvil Points Cave, and Dirty Pool Cave / Geology Field Trips. The permitee will immediately report any incidents of non-compliance and will report on any bat presence or accidental resource damage immediately following each trip.
- A completed monitoring form is required for each trip to LaSunder Cave, per the LaSunder Cave Management Plan. (Submitted with annual report.)
- A post-convention report documenting all trips to LaSunder, Anvil Points, and Dirty Pool Caves will be submitted within one month of the convention's end date.

CONSULTATION AND COORDINATION

- U.S. Forest Service, White River National Forest
- Colorado Division of Wildlife
- U.S. Fish and Wildlife Service

PROCESS FOR PROTESTING

This decision may be protested. Protests shall be filed with the authorized officer at the Colorado River Valley Bureau of Land Management (BLM) Field Office. Protests must be postmarked by the 15th calendar day after publication of this decision. Protests postmarked more than 15 calendar days after publication of the decision will not be considered.

Protests must be in writing. E-mail and faxed protests will not be accepted. The protest letter must be postmarked by the close of the protest period. The protest must include:

1. The name, mailing address, telephone number, and interest of the person filing the protest;
2. A statement of the issue being protested;
3. A concise statement explaining why the authorized officer's proposed decision is believed to be incorrect (this is a critical part of your protest). Document all relevant facts; and
4. A permit number or other identification of the case (i.e. permittee name).

Upon filing of a protest, the authorized officer shall reconsider the decision in light of the evidence submitted by the protestor and in view of other information pertinent to the case. At the conclusion of the review of the protest, the authorized officer shall prepare a recommended decision on the protest, and it shall be reviewed by the next higher authority. If the authorized officer is the Field Manager, the higher level authority is the District Manager. If the authorized officer is subordinate to the Field Manager, the higher level authority is the Field Manager. The decision of the higher level authority shall be the final decision of the BLM. Final decision on protests will be made by the 15th calendar day of the receipt of protests.

PROCESS FOR APPEALING AT THE INTERIOR BOARD OF LAND APPEALS

An appeal is an opportunity for a qualified party to obtain a review of a BLM decision by an independent board of Administrative Judges within the Department of Interior's Board of Land Appeals (IBLA). The IBLA determines whether the BLM followed applicable laws and regulations, adhered to established policies and procedures, and considered relevant information in reaching a decision.

Individuals who believe they are adversely affected by a BLM decision to approve, deny, modify, or cancel a Special Recreation Permit (SRP) may appeal the decision. Appeals are made to the IBLA under Title 43 C.F.R., Part 4, pursuant to 43 C.F.R. 4.411. A person who wishes to appeal to the IBLA must file a notice that he wishes to appeal in the office of the officer who made the decision. Appeal and stay procedures are outlined in Form 1842-1, "Information on Taking Appeals to the Board of Land Appeals."

NAME OF PREPARER

Kimberly Miller, Outdoor Recreation Planner

SIGNATURE OF AUTHORIZED OFFICIAL:

Steve G. Bennett — 6/27/2011

Steve G. Bennett
Field Manager, Colorado River Valley Field Office

Date

APPENDICES:

Appendix A. Decontamination Protocols
Appendix B. Map of Area (Exact locations of caves are omitted.)
Appendix C. Scoping Comments and BLM Responses

ATTACHMENTS:

Form 1842-1, Information on Taking Appeals to the Interior Board of Land Appeals