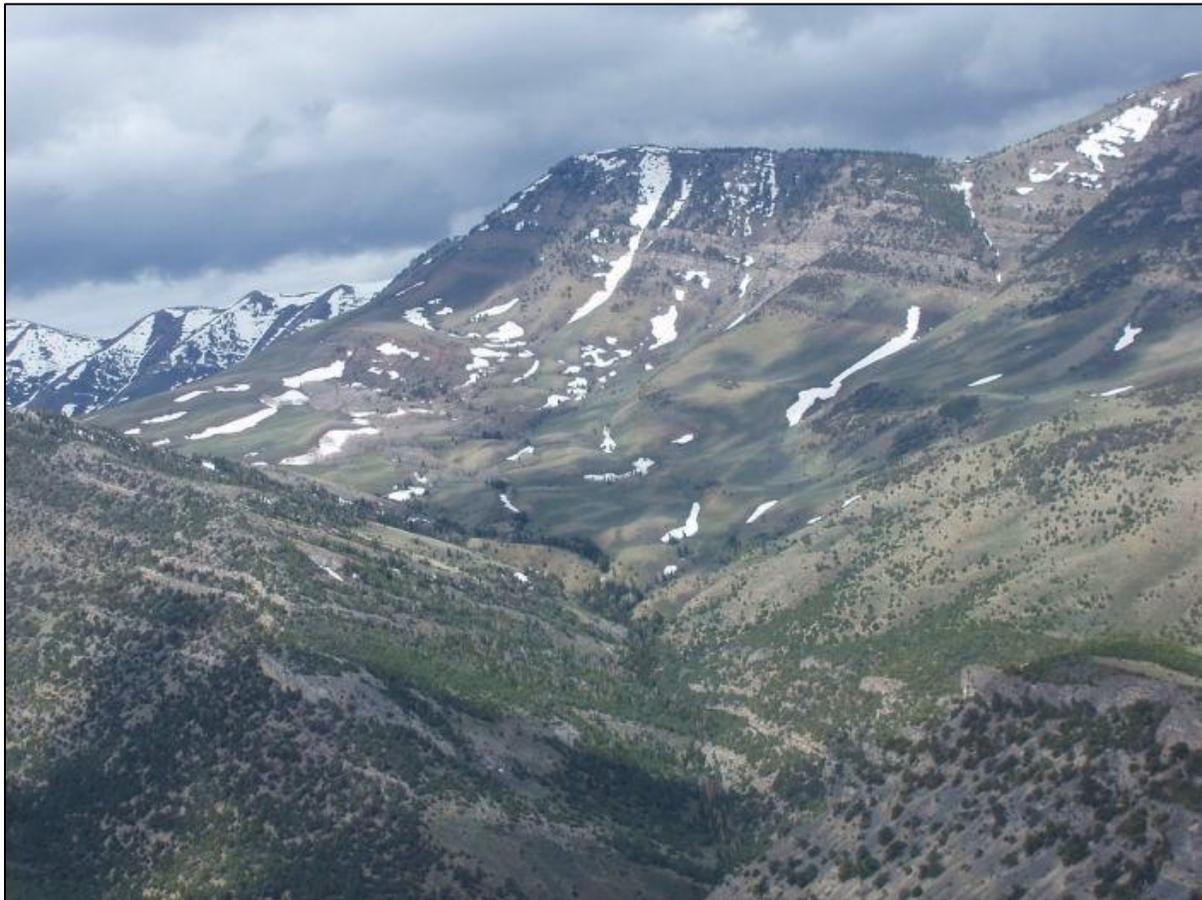


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# **Bristlecone and Goshute Canyon Wilderness**

## **Final Wilderness Management Plan & Environmental Assessment**

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U.S. Department of the Interior  
Bureau of Land Management  
Nevada State Office  
Ely District Office  
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**TABLE OF CONTENTS**

**Wilderness Management Plan**

**1.0. Introduction ..... 1**

**1.1. Purpose of and Need for the Wilderness Management Plan..... 2**

**1.2. Wilderness Overview ..... 2**

**1.3. Wilderness Management Strategy ..... 5**

**1.4. Wilderness Management Actions ..... 7**

**1.5. Management Action Tables..... 20**

**1.6. Monitoring Program ..... 23**

**1.7. Plan Evaluation ..... 24**

**1.8. Activites Associated with Plan Implementation ..... 24**

**Environmental Assessment ..... 26**

**2.0. Introduction and Background ..... 27**

**2.1. Descriptions of Alternatives ..... 31**

**2.2. Affected Environment and Environmental Consequences..... 34**

**2.3. Cumulative Effects ..... 50**

**2.4. Consultation and Coordination ..... 51**

**Appendix A - Maps ..... 54**

**Map 1 – Overview**

**Map 2 – Current Conditions Bristlecone Wilderness**

**Map 3 – Current Conditions Goshute Canyon Wilderness**

**Appendix B. References..... 57**

## 1.0. Introduction

On December 20, 2006, Congress passed the White Pine County Conservation, Recreation, and Development Act of 2006 (WPCCRDA) (Public Law 109-432), Subtitle B specifically addresses Wilderness. Section 323(a) of the WPCCRDA designated citizen-proposed Bristlecone Wilderness at 14,095 acres and Goshute Canyon Wilderness at 42,544 acres in White Pine County, Nevada. The two wilderness areas total 56,639 acres. Map 1 in Appendix A provides a general overview of the two wilderness areas.

The WPCCRDA states that designated wilderness areas shall be managed in accordance with the Wilderness Act of September 3, 1964 (16 U.S.C. 1131-1136). Section 4(b) of the Wilderness Act sets forth BLM's responsibilities in administering wilderness areas, with the primary mandate being the preservation of wilderness character. The Wilderness Act states: "Except as otherwise provided..., each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area."

### Wilderness Background

The Wilderness Act established the National Wilderness Preservation System to ensure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas of the United States. The Wilderness Act defines wilderness, the uses of wilderness, and the activities prohibited within its boundaries.

Congress designates wilderness areas to protect and preserve the lands in their natural state. As such, wilderness areas provide a contrast to lands where human activities dominate the landscape.

Wilderness areas are managed for the use and enjoyment of the American people in a manner that will:

- leave them unimpaired for future use and enjoyment as wilderness,
- protect and preserve wilderness character, and
- allow for the gathering and dissemination of information regarding their use and enjoyment as wilderness.
- Section 4(c) of the Wilderness Act describes uses that are generally prohibited in order to preserve wilderness character, as follows:

"Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area."

Because the above-described uses are prohibited as a rule, limited (rare and occasional) exceptions to the rule must meet the minimum necessary to administer the areas for the purposes of the Wilderness Act, and must occur in a manner that preserves wilderness character. Thus, a

Minimum Requirements Analysis (MRA) is used in conjunction with the National Environmental Policy Act (NEPA) analysis. The MRA is described in BLM Manual 6340, Management of BLM Wilderness, Appendix B Minimum Requirements Analysis. It is used to assist in documenting any decisions involving uses and is organized around answering two fundamental questions: 1) Is any action necessary (regardless of the tool or other use employed); and 2) if so, what is the minimum amount of a prohibited use necessary to address the issue at hand.

## **1.1. Purpose of and Need for the Wilderness Management Plan**

Bureau of Land Management (BLM) Manual 8561 Wilderness Management Plans requires that wilderness areas be managed pursuant to a specific management plan. In fulfillment of the above requirement, the BLM Ely District has prepared this Wilderness Management Plan (WMP) to address future management of Bristlecone and Goshute Canyon Wilderness areas. A consolidated plan was determined appropriate for the two areas due to their relative proximity, comparable natural and cultural resources and values, and similar management issues.

The need for the Proposed Action stems from Section 4(b) of the Wilderness Act, which requires administering agencies to preserve wilderness character. Further, Section 1.4.C. of BLM Manual 6340 (Management of Designated Wilderness Areas) requires BLM District and Field Managers, to develop and implement land use and activity-level plans addressing wilderness areas that conform to the Wilderness Act, the establishing legislation, WPCCRDA and BLM wilderness policies and guidance.

Based on the analysis herein, the BLM will decide whether to manage the wilderness areas strictly according to legislative and regulatory requirements, or whether to implement a management plan that provides additional management actions to manage approved uses while ensuring adequate protection and preservation of resources and values, as well as mitigation for potential impacts to those resources and values.

This WMP describes the existing environment in the wilderness, defined in various sections. The plan proposes management actions to address specific management issues or concerns. The Environmental Assessment (EA) that follows the WMP describes and analyzes potential effects to wilderness character of imposing differing levels of management. This WMP is analyzed as the Proposed Action, which is compared to the Minimal Management Alternative because it incorporates the maximum land use restrictions considered necessary to protect and preserve wilderness character. The Minimal Management Alternative does not include optional management actions. The Proposed Action includes directives from BLM Manual 6340.

## **1.2 Wilderness Overview**

### **Wilderness Character**

The Wilderness Act defines wilderness and mandates that the primary management direction is to preserve wilderness character. The definition of wilderness is found in Section 2(c) of the Wilderness Act, and the qualities of wilderness character are commonly described as follows (Arthur Carhart National Wilderness Training Center, 2011):

- **Untrammeled** - The "earth and its community of life" are essentially unhindered and free from modern human control or manipulation in wilderness areas, "in contrast with those areas where man and his own works dominate the landscape." This quality is important because it helps insure that wilderness management respects the autonomy of nature that allows a place to be wild and free. This quality is impaired by human activities or actions that control or manipulate the components or processes of wilderness ecological systems.
- **Natural** - Wilderness ecological systems are substantially free from the effects of modern civilization. Preserving this quality ensures that indigenous species, patterns and ecological processes are protected and allows us to understand and learn from natural features. This quality is impaired by human actions or activities that leave scars on the landscape that would not be there naturally, like roads, trails, and seeded areas.
- **Undeveloped** - Wilderness retains its "primeval character and influence," and is essentially "without permanent improvements" or modern human occupation. Preserving this quality keeps areas free from "expanding settlement and growing mechanization" and "with the imprint of man's work substantially unnoticeable" as required by the Wilderness Act. Human developments, such as fences, water troughs, developed springs, degrade this quality.
- **Outstanding opportunities for solitude or a primitive and unconfined type of recreation** - The Wilderness Act provides individuals with opportunities to experience primitive recreation, natural sights and sounds, solitude, freedom, risk, the physical and mental challenges of self-discovery and self-reliance, and to use traditional skills free from the constraints of modern culture. This quality is impaired by settings that reduce these opportunities, such as visitor encounters, signs of modern civilization, recreation facilities, and management restrictions on visitor behavior.
- **Unique, Supplemental, or Other Features** - The Wilderness Act states that wilderness areas "may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." Though these supplemental values need not be present for an area to meet the definition of wilderness, where they are present they are part of that area's wilderness character, and must be protected as rigorously as any of the four required qualities.

## Descriptions of the Wilderness Areas

The two wilderness areas lie within the Central Basin and Range, a mosaic of basins, scattered low and high mountains, and salt flats. The area contains diverse landforms and vegetation types, ranging from sagebrush-covered valleys to pinyon and juniper in higher elevations. Bristlecone Wilderness spans 14,095 acres and ranges in elevation from 7,400 feet to 9,800 feet in the central Egan Range. Goshute Canyon Wilderness encompasses 42,544 acres and ranges from 6,000 feet to 10,400 feet in the Cherry Creek Range. See Map 1 Overview, Appendix A. These wilderness areas are located within a two-hour drive from Ely, Nevada. They are located in White Pine County in Nevada.

In 2009, the Bureau of Land Management Ely District Office acquired five parcels of private land within or adjacent to the Goshute Canyon Wilderness. This brought the total acres for Goshute Canyon Wilderness to 45,779 acres. One of these parcels is an inholding, or land that is completely surrounded by the designated wilderness boundary, as such it is incorporated into the

wilderness. The addition provides pristine habitat for a developing Rocky Mountain elk (*Cervus Canadensis nelsoni*) herd that was reintroduced into the Cherry Creek Range. Dusky and sage grouse (*Centrocercus urophasianus*) are also on the property. The Bristlecone pine stands on the upper parcels are a unique ecosystem.

The areas exhibit characteristics valued for wilderness designation. The two areas have retained their natural and wild qualities, but all four qualities of wilderness character are present in each wilderness.

These areas in White Pine County are at the heart of the Great Basin, where magnificent mountain ranges tower over wide valleys of sagebrush. The rugged and scenic landscape supports diverse plant and wildlife species, including mule deer (*Odocoileus hemionus*), cougar (*Felis concolor*), pronghorn (*Antilocapra Americana*), Greater sage grouse (*Centrocercus urophasianus*), raptors, and a host of other birds, mammals, and reptiles. There are numerous small game and furbearers in the project area such as black-tailed jackrabbit (*Lepus californicus*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*). Raptors are commonly found nesting and foraging in the wilderness areas, and these areas provide habitat for numerous non-game species of small mammals, reptiles, and birds.

Preliminary Priority Habitat and Preliminary General Habitat for the Greater sage-grouse, a candidate species for federal listing, has been identified in the high mountain sagebrush communities and along the lower benches of the wildernesses. Other special status species that may occupy or utilize these wilderness areas are ferruginous (*Buteo regalis*) and Swainson's (*Buteo swainsoni*) hawks, golden eagle (*Aquila chrysaetos*), Northern goshawk (*Accipiter gentilis*), peregrine falcon (*Falco peregrinus*), sage thrasher (*Oreoscoptes montanus*), brewer's sparrow (*Spizella breweri*), pinyon jay (*Gymnorhinus cyanocephalus*), black rosy-finch (*Leucosticte atrata*), pygmy rabbit (*Brachylagus idahoensis*) and numerous bat species.

Water sources include some developed and undeveloped springs and Goshute Creek, in Goshute Canyon Wilderness. There are no developed or undeveloped water sources in Bristlecone Wilderness.

Both of the wilderness areas support livestock grazing. Active grazing permits existed at the time of wilderness designation, therefore are authorized to continue under the direction of the Congressional Grazing Guidelines.

The vegetation is various species of sagebrush, grasses and juniper trees at lower elevations, mixed with aspen stands in the middle elevations, and bristlecone pine and fir stands mixed with grasses and forbs at the upper elevations.

Visitors will experience very low levels of human impacts, abundant solitude, and may enjoy several primitive recreational opportunities, such as hiking, hunting, camping, scenic viewing and photography. The wilderness areas provide opportunities to experience a sense of detachment and isolation. The numerous draws, ravines, rocky outcrops, and ridges create secluded locales that provide outstanding opportunities for solitude, particularly when combined with the remoteness of the wilderness areas and the low visitor numbers. Wilderness is managed under Visual Resource Management (VRM) Class I Management Objectives, the objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Two cherry-stem routes provide public access to Bristlecone Wilderness. Cherry-stem routes are usually defined as dead-end routes where the boundary of the wilderness extends up one side of the route, around its terminus, and down the other side. Goshute Canyon Wilderness has nine cherry stem routes. One of the cherry stem roads in Goshute Canyon Wilderness provides access to a portion of Goshute Creek, which provides habitat for a refuge population of Bonneville cutthroat trout (*Oncorhynchus clarki utah*), a subspecies once thought to be extinct.

### **Wilderness Issues and Concerns Being Addressed**

This WMP was prepared to address issues identified through internal agency and public scoping. Interested publics were involved in this process through letters, email, the BLM website, and personal contact. Initial scoping meetings were held during the fall of 2013 in Ely, Nevada. Issues and concerns raised during scoping were considered during development of this WMP and are described in the following sections:

#### **1) Protecting and preserving the untrammled, undeveloped, and natural appearance of wilderness areas**

- Long boundary perimeters increase the amount of wilderness that may be impacted by human-influenced changes to vegetative structure and composition in areas immediately adjacent to the wilderness areas.
- Wildfire suppression and post-fire rehabilitation may affect the natural and undeveloped wilderness character by disturbing soil and changing vegetative composition and structure.
- Human activities may increase the establishment of noxious and invasive plant species, the following in particular: cheatgrass, Canada thistle, Scotch thistle and Bull thistle.
- Numbers of visitors to wilderness areas may increase, which could result in site-specific impacts to wilderness character.

#### **2) Management of non-conforming land uses allowed by Section 4(d) of the Wilderness Act**

- Continued livestock grazing-related activities, including access to and maintenance of existing structures (i.e., developed springs, pipelines, fences), may adversely affect naturalness and undeveloped wilderness character.

### **1.3. Wilderness Management Strategy**

The management strategy for designated wilderness is to manage human use in a manner that protects and preserves the natural, untrammled, and undeveloped wilderness character, as well as the opportunities for solitude and primitive experience, and protecting the unique and supplemental features of wilderness. Some of the unique features in these two areas include; Bristlecone Pine trees, Bonneville trout and Goshute Cave. All these qualities are present in Bristlecone and Goshute Canyon Wilderness and therefore will be managed to protect them from the effects of human-caused disturbances. This WMP considers existing resource and management issues within the wilderness to develop management strategy.

#### **Wilderness Management Goals and Objectives**

This section outlines the goals and objectives that guide this WMP. The goals, along with related laws, regulations, and BLM policies, provide broad management direction and are refined into

specific objectives. Standard Wilderness Goals are identified in BLM Manual 8561, and are required to be part of Wilderness Management Plans. The Wilderness Act suggests overall objectives as retaining primeval character, preserve natural conditions and maintaining an untrammelled quality. Objectives herein are aimed at following the Wilderness Act and are statements of desired conditions stemming from current situations and assumptions about the future.

The Wilderness Act states that wilderness ecosystems should retain their “primeval” character. The dictionary definition of primeval, “of or relating to the earliest ages,” suggests that the Act is directing managers to maintain wilderness ecosystems in a state that existed at some time in the past. The Wilderness Act also states that wilderness ecosystems are to be preserved “in their natural condition.” There is general agreement that preserving natural conditions means ensuring that the current composition, structure and/or functioning of ecosystems are consistent with the conditions that would have prevailed in the absence of humans. Adherence to this direction would mean allowing natural ecosystem change to occur, while avoiding or compensating for changes caused by the activities of people.

The Wilderness Act provides for managing wilderness ecosystems that are untrammelled by man. Synonymous with unconfined, unfettered and unrestrained, however, “untrammelled” actually suggests freedom from human control rather than lack of human influence. Areas qualify as wilderness because they are wild and uncontrolled, despite substantial human influence. Managing for natural conditions—allowing ecosystems to evolve in novel ways, as long as the source of innovation is not human caused—is a more appropriate goal than managing for primeval conditions—such as freezing conditions at a certain state (Cole 2000). All goals and objectives must conform to the mandate to preserve wilderness character.

### **Wilderness Goal 1**

To provide for the long-term protection and preservation of the areas’ wilderness character under a principle of non-degradation. The areas’ natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historic value present will be managed so that they would remain unimpaired.

#### Objectives

- Avoid restoration activities that influence the entire wilderness and/or must be continued indefinitely. This includes restoration activities in which the wilderness goals of naturalness and wildness are clearly in conflict, such as a program of scheduled management fires set to replace natural fire.
- Protect and preserve wildlife habitat to support healthy and viable wildlife populations to retain the wilderness areas’ natural and undeveloped character.
- Maintain the natural quality of wilderness character by reducing or eliminating infestations of noxious weeds and non-native invasive species.

### **Wilderness Goal 2**

To manage the wilderness areas for the use and enjoyment of visitors in a manner that would leave the areas unimpaired for future use and enjoyment as wilderness. The wilderness resource will be dominant in all management decisions where a choice must be made between preservation of wilderness character and visitor use.

### Objectives

- Utilize education and interpretation as a proactive approach to address agency decisions and visitor activities that may impact wilderness character.
- Prevent unauthorized use of motorized and mechanized vehicles and equipment by managing vehicle access points, posting appropriate boundary and informational signs, and blocking and rehabilitating unauthorized routes.

### **Wilderness Goal 3**

To manage the wilderness areas using the minimum tool, equipment, or structure necessary to successfully, safely, and economically accomplish the objective. The chosen tool, equipment, or structure should be the one that least degrades wilderness values temporarily or permanently. Management will seek to preserve spontaneity of use and as much freedom from regulation as possible.

### Objective

- Implement proposed actions as necessary to meet minimum requirements for the administration of the areas as wilderness and to have the least impact to wilderness character.
- Utilize the MRA to determine actions necessary and the minimum necessary, methods and tools while preserving wilderness character to the greatest extent practicable.

### **Wilderness Goal 4**

To manage nonconforming but accepted uses permitted by the Wilderness Act and subsequent laws in a manner that would prevent unnecessary or undue degradation of the areas' wilderness character. Nonconforming uses are the exception rather than the rule; therefore, emphasis is placed on maintaining wilderness character.

### Objectives

- Close or limit access to specific areas when resources, such as soils, vegetation, sensitive plant or animal populations or habitat, or cultural resources are being negatively affected by visitor activities.
- Maintain or enhance the natural wilderness character by removing unnecessary facilities and minimizing or reclaiming human-caused surface disturbances.

## **1.4. Wilderness Management Actions**

Wilderness management actions for these areas are based on national wilderness goals, wilderness management objectives, current situation and assumptions, and wilderness-specific issues that were identified through internal and external scoping. Except for site-specific proposed actions, management actions are the same for all areas because of similar management issues.

Resource programs, such as Fire Management, Noxious and Invasive Weed Management, Range and Wild Horses and Burros, have specific plans to guide their programs that individually address the management goals and activity plans. This WMP considers all related resources involved in wilderness. Non-wilderness resource programs have been evaluated to ensure conformity with wilderness management goals and objectives. Management actions are

described on the following pages. While all of the management actions provide wilderness specific direction, several outline site-specific management actions.

Any ground disturbing activities associated with the following actions would implement Best Management Practices outlined in the Ely District Approved Resource Management Plan (2008). All actions are supplemental to, and consistent with Wilderness laws, regulations, and policies, which must be further consulted in the event of unforeseen issues.

### **Education and Interpretation**

The overall goal of wilderness education and interpretation is to promote respectful use and enjoyment of the wilderness and preservation of its wilderness character. General interpretive information regarding natural and cultural resources and recreation opportunities in wilderness would be located on kiosks outside of wilderness, in brochures, on BLM recreation maps, and on the BLM Ely and State Office websites. Wilderness fact sheets would include area descriptions, maps, interpretive information, and information on wilderness ethics and *Leave No Trace* principles. *Leave No Trace* ethics would also be emphasized in classes and workshops presented at local schools and in the field. Interpretive trails would not exist in wilderness areas.

When feasible, interpretive and informational materials would be developed in collaboration with other agencies, tribes, non-governmental organizations, and interested individuals.

Wilderness boundary signs are simple installations (e.g., carsonite or metal posts) used to delineate wilderness boundaries from adjacent non-wilderness, and would be located in accordance with BLM Manual 6340. Boundary signs may also be used to inform visitors about additional resource concerns (e.g. no fire wood cutting, Archaeological Resource Protection Act).

Key entrance signs would identify the name of the wilderness and would be placed where visitors are likely to contact the wilderness boundary. Entrance signs are large, BLM-brown signs. Currently, there is one key entrance sign at each wilderness area.

Information boards containing one-panel informational and interpretive signs would exist at access points, or at staging areas. These signs would provide local and regional information about wilderness, natural and cultural resources, regulatory information, and interpretation. There is one information sign at Bristlecone Wilderness: at the end of the cherrystem on the southwest side. There are two information signs at Goshute Canyon Wilderness: one at Goshute Creek primitive recreation site and one in Goshute Basin, on the cherrystem. Additional signs would be installed, if visitor needs warrant them.

### **Emergency Stabilization and Rehabilitation**

The overall goal of the wilderness Emergency Stabilization and Rehabilitation (ES&R) program is to maintain the natural quality of wilderness character by facilitating the natural recovery of burned areas, while minimizing or precluding noxious weed and non-native invasive species infestations.

No ES&R treatments have occurred in Bristlecone Wilderness or Goshute Canyon Wilderness since designation.

Pursuant to BLM Manual 6340, ES&R activities should be conducted as part of the fire incident and in accordance with current Department of Interior policy (Departmental Manual 620 DM 3 - Wildland Fire Management Burned Area Emergency Stabilization and Rehabilitation) and BLM ES&R policy (H-1742-1 - Burned Area Emergency Stabilization and Rehabilitation Handbook). Stabilization, rehabilitation, and restoration activities may be intensive when post-fire processes threaten ecological integrity or wilderness character. ES&R activities within wilderness must follow the guidance below:

1. Natural recovery of native plant species is preferable to all other treatments
2. Seeding or planting would be used when objectives for natural recovery cannot otherwise be accomplished and there is a threat to wilderness character and values if no action is taken. The use of native material, preferably of local or regional genetic stock, would be first priority
3. Non-native species may be seeded or planted if no native species are available and/or the non-native species are part of an assisted succession program, which promotes the rehabilitation of native vegetation. The proposed action must meet at least one of the following criteria:
  - a. the natural biological diversity of the treated area would not be diminished
  - b. or exotic and naturalized species can be confined within the treated area
  - c. or ecological site inventory information indicates that a site would not support reestablishment of a species that was historically a part of the natural environment

The District Manager may approve prohibited uses for ES&R projects on a case-by-case basis subject to site-specific NEPA analysis and a MRA. These may include:

- Standard erosion control techniques that prevent or minimize soil movement and loss (i.e. straw bales, wattles, mulch)
- Stabilize and mitigate post-fire related degradation to cultural resources
- Sling loading materials into or out of wilderness using a helicopter
- Helicopters or other aircraft used for aerial seeding

### **Fire Management**

The overall goal of wilderness fire management is to emphasize protection and preservation of wilderness character. This goal requires BLM to facilitate the operation of natural processes and ecological change by allowing fire to function in its natural role of disturbance and succession, except where life, property, and/or high value resources are threatened. An integral part of this process is ensuring that Fire Management Plans (FMPs) are consistent with wilderness legislative requirements and BLM management policies, as well as the goals and objectives of this WMP. The goals and objectives of this WMP would be incorporated into future FMP revisions.

Since designation, three fires have occurred in the Bristlecone Wilderness - all in 2008: Bassett at 0.1 acres, NDF Assist Five at 0.1 acres and Prison at 0.4 acres - all were controlled. Three fires have been controlled in Goshute Canyon Wilderness since designation: Barton (2009) at 0.1 acres, Nat Out Two (2007) at 0.1 acres, Cherry (2007) at 1.5 acres and Snow Creek (2013) at 1052 acres, although less than a mile of handline was constructed.

In addition to the Wilderness Act, fire suppression and rehabilitation activities would be consistent with current National Interagency Standards for Fire and Fire Aviation Operations (NIFC 2011), the FMP and the Ely District RMP. Fire management activities within wilderness areas would utilize Minimum Impact Strategies and Tactics (MIST) (USDI 2010b). The intent of MIST is to manage a wildland fire with the least impact to natural and cultural resources. By minimizing impacts of fire management actions, unnecessary resource damage is prevented and cost savings can be realized. Response to a wildland fire in or near wilderness would consider the full range of fire management strategies and tactics to achieve multiple objectives (ranging from monitoring to full suppression). BLM staff would define the set of objectives to protect and/or enhance wilderness character, while considering situational factors, such as fuel loading, fire behavior, and threats to human life and property.

### Fire Suppression Actions

Pursuant to Section 4(c) of the Wilderness Act, otherwise prohibited uses may be authorized in wilderness areas only when they are determined to be "...necessary to meet minimum requirements for the administration of the area for the purpose of this Act..." While administrative activities should always be accomplished with economic efficiency, both the Wilderness Act and the agency's wilderness policy direct managers away from using either the cost or the time required for implementation as over-riding considerations when evaluating the potential use of otherwise prohibited activities.

An evaluation and approval template for emergency actions has been developed by the Ely District. Requirements for prohibited uses should be incorporated into emergency planning so that the minimum necessary methods and tools can be used to resolve emergencies while preserving wilderness character to the greatest extent possible. Revisions to this approval process would be consistent within the Ely District, as well as with this WMP.

The following process would be used to evaluate the following actions (and any others) that may be considered during development of a proposed emergency fire response.

- Assign a resource advisor with knowledge and experience in wilderness stewardship to the firefighting team to assist in identifying and protecting wilderness character.
- Prevent the establishment of noxious weeds and invasive species to preserve the natural wilderness character:
  - Inspect and wash all suppression equipment prior to wilderness entry, but locate wash-down sites outside of wilderness areas.
  - Locate camps and other assembly points outside of wilderness areas and away from areas infested by noxious weeds and invasive species.
  - Avoid using water sources containing invasive species for suppressing fires in wilderness.
- Use MIST when feasible, as long as the safety of firefighters, human life and property is protected.
- Locate support operations, such as helispots, fire camps, and staging areas outside of wilderness.
- Remove or rehabilitate evidence of human intervention to the maximum extent possible.
  - Repair fire suppression-related resource damage immediately.
  - Plan and implement actions prior to the suppression incident demobilization.

- Repairs to damaged sites or resources may occur with the same type of equipment that was used for suppression. For example, if motorized, earth-moving equipment was used to construct fire lines, then the same type of equipment may be used to contour and rehabilitate.

The District Manager, as the delegated authority, must document their approval of otherwise prohibited uses (listed below), and the documentation must be included with the wilderness fire activity reports.

Type of Prohibited Use:

- Motorized Water Pumps
- Aerial Retardant Application
- Air Transport/Personnel Shuttle (landings) and Supply Drops
- Fence (Facility) Repair or Temporary Fence Installation
- Chainsaws
- Motor Vehicles
  - Engines
  - Helicopter Transports
  - Crew Trucks
  - UTV/ATV
- Helispot Construction (major ground disturbance)
- Heavy Equipment (i.e. bulldozers, excavators)

### **Livestock Management**

The overall goal of livestock management is to provide for continued livestock grazing in wilderness areas in a manner that minimize impacts to the natural, undeveloped, and untrammelled qualities of wilderness character.

Section 4(d)(4)(2) of the Wilderness Act provides for continued livestock grazing where it existed prior to wilderness designation, subject to reasonable regulations deemed necessary by the Secretary of Interior.

Planning related to grazing operations would be guided by the Congressional Grazing Guidelines (House Report 105-405 Appendix A, 1990) and BLM Manual 6340. Livestock grazing in wilderness areas will be administered pursuant to the Northeastern Great Basin Resource Advisory Council Standards so long as the grazing does not conflict with the preservation of wilderness character.

Section 4(c) of the Wilderness Act requires activities in wilderness areas to be accomplished without motorized or mechanized vehicles and equipment unless truly necessary to administer the area, or when specifically permitted by other provisions of the Wilderness Act.

Section 2 of the Congressional Grazing Guidelines (Appendix A of House Report 101-405, 1990) provides the following direction for maintenance of livestock grazing-related facilities and the occasional use of motorized equipment in wilderness:

“The maintenance of supporting facilities, existing in an area prior to its classification as wilderness (including fences, line cabins, water wells and lines, stock tanks, etc.) is permissible in wilderness. Where practical alternatives do not exist, maintenance or other activities may be

accomplished through the occasional use of motorized equipment...Such occasional use of motorized equipment should be expressly authorized in the grazing permits for the area involved. The use of motorized equipment should be based on a rule of practical necessity and reasonableness...Moreover, under the rule of reasonableness, occasional use of motorized equipment should be permitted where practical alternatives are not available and such use would not have a significant adverse impact on the natural environment. Such motorized equipment uses will normally only be permitted in those portions of a wilderness area where they had occurred prior to the area’s designation as wilderness or are established by prior agreement.”

A total nine grazing allotments are located partially within the two wilderness areas. Livestock grazing is currently authorized within the wilderness portions of the allotments.

**Table 1. Grazing Allotments Located Partially Within Wilderness**

Allotment Name	Approximate Acres within Wilderness	Approximate Range Developments	Wilderness
Goat Ranch	1,804	0	Bristlecone
Heusser Mountain	9,350	0	Bristlecone
Step toe	488	1 - fence	Bristlecone
Thirty Mile Spring	2,451	0	Bristlecone
Cherry Creek	17,426	3 - 2 fences, pipeline	Goshute Canyon
Goshute Basin	9,696	0	Goshute Canyon
Indian Creek	2,917	1 - fence	Goshute Canyon
McDermitt Creek	2,465	0	Goshute Canyon
Medicine Butte	10,001	0	Goshute Canyon

*Acreage calculated using GIS.*

Routine livestock management activities in wilderness areas, including project inspection and maintenance (e.g. minor fence repairs or small quantity salt distribution) would normally be accomplished by non-motorized, non-mechanized means. Motorized or mechanized vehicles and equipment would be authorized on a limited basis on existing administrative access routes only for major project maintenance or repair, when needed to transport equipment or supplies that cannot reasonably be accomplished by foot, pack stock, or other non-motorized or non-mechanized means.

Requests by grazing permittees for occasional use of motorized or mechanized vehicles and equipment will be evaluated on a case-by-case basis through a MRA to determine whether they are the minimum tool necessary for administration of the area as wilderness.

Removal

The viability and usefulness of existing wilderness range projects would be evaluated in consultation with the permittee during the permit renewal process. Prior to removal of any structure by the permittee, BLM staff, or authorized volunteers, an evaluation would take place.

If a range project or other structure is determined by an Ely District Cultural Resource Specialist to be eligible for listing on the National Register of Historic Places, it will be recorded. All activities that would impact or affect cultural resources would be subject to prior National Historic Preservation Act (NHPA) review and the Section 106 process.

#### New Developments

Proposals for new livestock water or other developments would not be approved unless they are determined to be the minimum necessary to protect or preserve wilderness character. New project proposals would require both site-specific NEPA analysis and a MRA.

#### Existing Operations

Specific wilderness access requirements and schedules would be included as terms and conditions in affected grazing permits, during renewal periods. Terms and conditions would specify the timeframe during which vehicular access would be authorized, as well as the specific administrative route(s) and the type(s) of vehicles to be used.

Prior to a motorized, mechanized vehicle or equipment entry, a MRA must be conducted and a BLM letter of authorization must be issued to the permittee for the conditions described below:

1. Salt and mineral supplement may be delivered into wilderness areas via motor vehicle in quantities sufficient to ensure only one motorized entry annually. Subsequent distribution of stockpiled salt would be accomplished by foot, horseback, or pack stock.
2. Motorized and mechanized inspection and maintenance for pipelines in Goshute Canyon Wilderness may occur one time per year prior to livestock entry. Maintenance would be identified or accomplished during inspection. For large repair or reconstruction projects, such as pipeline replacement, a one-time motorized equipment entry under this plan would be authorized in conjunction with a MRA to determine the equipment necessary.
3. Fence repair or replacement would be accomplished by foot or pack stock as there is little fence inside the wilderness boundary. The use of the motorized vehicles or equipment may be allowed for replacement or repair to damage otherwise unpreventable through routine inspection and maintenance (i.e. destruction by wildfire, or extensive damage from livestock, wild horses and/or wildlife). It is anticipated that damage which would require the use of motorized equipment or vehicles would not occur frequently.

Administrative access routes for permittee use would not be maintained or repaired except on a site-specific basis with BLM authorization. Prior to authorizing route maintenance, the BLM would complete a MRA to ensure that the minimum tool necessary was to be used to accomplish the objective. If necessary, a gate or bollard, signed as administrative access, would be installed at the entrance to an administrative route to prevent unauthorized motorized access.

### **Recreation Management**

One of the main goals of wilderness management is to provide for visitor use and enjoyment in a manner that leaves wilderness areas unimpaired for future use and enjoyment. Thus, the protection and preservation of wilderness character, and the protection and enhancement of wilderness supplemental values that are of scientific, educational, scenic, or historical value would be dominant in all decisions regarding the promotion or management of visitor use. Opportunities for solitude and primitive and unconfined recreational opportunities exist in both

wilderness areas. Although annual visitation is difficult to quantify in these areas, visitor encounters are infrequent. Year round visitation is possible, but the wilderness areas' remoteness and ruggedness have historically prohibited high levels of recreational use or development.

BLM would use public outreach and education about *Leave No Trace* land use ethics to encourage minimum impact practices to accomplish wilderness recreation goals.

No permits are required for the public to visit the wilderness. The BLM would aim to minimize limitations or controls on visitor use in wilderness areas, while still reducing effects to resources and maintain compliance with wilderness policy.

### Camping

There is one developed campground adjacent to the Goshute Canyon Wilderness boundary along Goshute Creek. Access to the wilderness is easily obtained from the western end of the camping area. No heavily used dispersed campsites exist in either wilderness. Therefore, the following restrictions would be enacted on dispersed and unmanaged camping to minimize potential effects to wilderness character, including impacts to soils, vegetation, and water quality, and conflicts with wildlife and livestock.

- The BLM Nevada occupancy rule: A person may not occupy undeveloped public lands or designated sites or areas for more than 14 days within a 28 consecutive day period. Following the 14 days, a person and their personal property must relocate to a site outside of at least a 25-mile radius from the occupied site for a period of 14 days. An occupancy limitation rule was established to reduce user conflicts caused by long-term occupancy that may hamper reasonable opportunities for other members of the public to camp in or use the same area. Additionally, long-term occupancy can result in vegetation trampling, erosion, wildlife disruption and improper waste disposal. BLM established occupancy limits for camping with the publication of a notice in the Federal Register on Oct. 5, 1993.
- Nevada Revised Statute 503.660, Unlawful manner of camping near water hole. It is unlawful for any person to camp within 100 yards of a water hole in such a manner that wildlife or domestic stock will be denied access to such water hole. Campers must be 100 yards from natural springs or developed upland water sources (e.g., troughs, reservoirs) to limit potential conflicts with wildlife and livestock.
- Campers are encouraged to use *Leave No Trace* principles and bury human waste in catholes dug at least 6" to 8" deep and 200 feet from water, trails, and campsites. Proper disposal of human waste will minimize pollution of water sources, avoid the possibility of someone else finding it, and minimize the potential to spread disease. In addition, visitors are encouraged to utilize pack-in/pack-out land use ethic for all waste to reduce noxious odors, insects and/or unwanted animal encounters.

### Hunting and Trapping

Hunting and trapping are allowed in wilderness. They are not a common activity in Bristlecone Wilderness, but some hunting occurs in Goshute Canyon Wilderness; all federal and state regulations apply.

- Personal, non-commercial trapping is permitted, subject to applicable State and Federal laws and regulations. A trapping license is required by the State of Nevada to hunt or trap

any furbearers. Pursuant to the Wilderness Act, access to traps would be limited to foot or horseback. Commercial trapping is prohibited in wilderness areas.

- Section 4(c) of the Wilderness Act precludes structures and installations in wilderness areas. As such, permanent blinds for hunting, photography, or other purposes are prohibited.
- Temporary, portable or “pop-up” blinds would be permitted for hunting, photography, wildlife observation or similar purposes for a 14-day use period. They must be attended or occupied at least some portion within the 14 days or will be subject to removal.
- Commercial Outfitter and Guiding are authorized by permit.

### Trails and Routes

Hiking to the summit of Heusser Peak in Bristlecone Wilderness is a current recreational activity. Pedestrian or equestrian trails would not be constructed within the wilderness; there is no need to facilitate visitor use or reduce impacts to wilderness. Signs and structures related to recreational use would not be placed in wilderness unless a MRA determined that they are the minimum necessary for administration of the area as wilderness. They may be justified due to an extraordinary hazard or to protect naturalness where it is being impacted from visitor use, but not for visitor convenience.

Remnant two-track roads and user-created trails would be considered part of the wilderness experience and would not be marked or signed, would not receive routine maintenance, and would not be displayed on BLM recreation maps or brochures. As time and funding allow, BLM may take action to rehabilitate surface disturbances with actions similar to those discussed in the fire rehabilitation and weed control sections of this document. Otherwise, trails and two-track roads would be allowed to revegetate naturally unless their continued use causes excessive soil erosion, poses an unacceptable public safety hazard, or adversely affects wilderness character.

Access points are defined as locations along wilderness boundaries where focused entry occurs. Over time, these and other areas used for parking along boundary roads may be impacted to the point at which improvements should be made in order to protect wilderness character. These access points and parking areas may be defined by creating a vehicle turn-around at or before the wilderness boundary and would not extend into wilderness. To ensure that wilderness areas are not impacted by vehicular use of cherry-stem routes, a turn-around at the end of cherry-stem routes will be limited to the total width of the cherry-stem (200'). As necessary, BLM appropriate land use authorization or right-of-ways would be obtained.

### Other Visitor Use

- Traditional geocaching and letterboxing are prohibited to reduce soil and vegetation disturbance caused by object burial and leaving items in wilderness.
- To reduce weed transport and infestation within the wilderness areas, supplemental feed for riding and pack stock should be certified weed-free. Recommend 96 hours before entering public lands, feed pack animals only certified weed free feed. Remove weed seeds from pack animals by brushing them thoroughly and cleaning their hooves.
- Casual collection on foot or horseback (surface only, no digging) of small quantities (<25 lbs.) of renewable and mineral resources would be permitted (i.e., wood, fruit, vegetation, rock and mineral specimens, and common invertebrate and plant fossils).

- To reduce impacts to the natural wilderness character and protect the area for future generations, individuals may not cut, break, or otherwise destroy standing live and dead trees or shrubs for firewood or clear an area for a campsite, visitor convenience, or comfort (RMP FP-5, 9).
- To preserve the area's history, vertebrate fossils and cultural, archaeological, and historic sites and artifacts may not be damaged or removed without BLM authorization. Prior to any action in wilderness, the potential effects on cultural resources will be evaluated per Section 106 of the National Historic Preservation Act of 1966, per Ely District guidelines and the BLM Nevada State Protocol Agreement with the State Historic Preservation Office.

### **Vegetation Management**

The overall goal of vegetation management is to protect and preserve the natural wilderness character by sustaining native plant communities, and reducing or eliminating infestations of noxious weeds and non-native invasive species. Also, make conditions possible for natural fire to return to wilderness.

#### Restoration of Vegetation

Manipulation of vegetation through any one or a combination of prescribed fire, chemical application, mechanical treatment, or introduced biological agents may be permitted in wilderness areas only to preserve wilderness character and values.

The goal of prescribed fire in wilderness is to make conditions possible for natural fire to return to wilderness. Prescribed fire could be used to reestablish the natural role of fire in the ecosystem, as described in BLM Manual 6340, Section 1.6.C.7.c. Both of the following conditions must be met prior to approving prescribed fire in a wilderness area:

- The natural role of fire cannot be returned solely by reliance on wildfire, or, relying on wildfires might create unacceptable risks to life, property, or natural resources outside the wilderness; and
- The use of fire or other fuel reduction treatments outside of wilderness is not sufficient to reduce the risks from wildfire within the wilderness to life, property, or natural resources outside the wilderness.

Any consideration of restoration treatments must include a requirement for post-treatment monitoring to determine the success of the objectives and fire effects on values (Miller, C., 2005).

#### Noxious Weeds and Non-Native Invasive Plants

The goal of weed management is to protect and preserve the natural wilderness character by sustaining native plant communities, and reducing or eliminating infestations of noxious weeds and non-native invasive species.

The Restoration and Vegetation Management section (Section 1.6.C.15.) of BLM Manual 6340 outlines the protocol and approval process for vegetation treatments in wilderness. Current noxious weeds and invasive plant infestations within or adjacent to wilderness areas include, but are not limited to Bull thistle (*Cirsium vulgare*), Canadian thistle (*Cirsium arvense*), Musk thistle (*Carduus nutans*), Scotch thistle (*Onopordum acanthium*), Water Hemlock (*Conium maculatum*)

and cheatgrass (*Bromus tectorum*). The potential exists for further infestations of these and other species from surrounding areas.

The Bristlecone and Goshute Canyon Wilderness areas have long perimeters compared to the area within their boundaries. These long wilderness boundaries increase the potential for the spread of noxious weeds and non-native invasive plants from surrounding areas. The wilderness areas must be managed to maintain the degree of wilderness character that existed at the time of designation.

If, through a MRA, the BLM authorized officer determines that weed treatment is necessary, emphasis would be placed on controlling small infestations. Treatment methods would include #1 and 2 (listed below) and are analyzed in the EA. Infestations requiring treatment methods #3-5 (listed below) would be considered separately, since they could involve several treatment applications or associated tactics. Post-treatment seeding and/or transplant projects would follow guidelines contained in the ES&R section of this plan. BLM Ely District weed management protocols would guide the use of herbicides. Subsequent to an MRA, treatments would be prioritized in the following order, though it is likely that treatment combinations would be necessary in some situations:

1. Manual removal with hand tools if weeds can be controlled or eradicated without causing re-sprouting, without undue soil disturbance leading to expansion of infestations, and where infestations are of a size manageable by hand crews.
2. Herbicides applied by backpack or pack stock (horse, mules, or llamas).
3. Biological control approved by APHIS or US Fish and Wildlife Service.
4. Herbicides applied aerially or with motorized equipment, where control is feasible, where control impacts may be quickly and readily rehabilitated, and where the infestation is of such size that herbicide(s) cannot be effectively applied without motorized equipment.
5. Alternative treatments, including targeted grazing by livestock.

For treatments involving herbicides, Standard Operating Procedures, the manufacturer's label, and mitigation and conservation measures listed in the Record of Decision for the Vegetation Treatments Using Herbicides Programmatic EIS (USDI 2007) (or more current decision), as well as the Ely District Integrated Weed Management Plan and Environmental Assessment (DOI-BLM-NV-L000-2009-0010-EA) (or more current decision) would be followed. Treatments would be designed to facilitate movement toward native vegetative composition and structure.

Actions to rehabilitate the effects from fire or other natural disasters are considered emergency actions and could be authorized in locations where natural seed sources are inadequate to compete with non-native vegetation and/or where substantial unnatural soil loss is expected (also see ES&R Section above). Managers would adjust the level of response by considering current ecological health and vigor against the potential for invasion by undesirable species.

Chemical treatment may be necessary to prepare habitat for the reestablishment of native species, to protect or recover habitat that supports federally-listed threatened, endangered, or candidate species, or to correct unnatural conditions resulting from modern human influence. Management actions must comply with label directions and regulatory requirements for chemical application near water bodies.

## Wildlife Management

The overall goal of wildlife management in wilderness areas is to protect, preserve, and where appropriate, enhance habitat to retain the wilderness areas' natural character at the time of designation, and to support healthy wildlife populations. To facilitate these efforts, the current BLM-Nevada Department of Wildlife (NDOW) Memorandum of Understanding (MOU 6300-NV-930-0402(2012)), as amended, would be adhered to. Under this agreement, NDOW annually submits a letter of proposed projects. In addition, the forthcoming Nevada and Northern California Greater Sage – Grouse Land Use Plan Amendment and EIS guidance would be adopted.

While NDOW has the primary and critical role in fish and wildlife population management (43 CFR 24), fish and wildlife management activities in wilderness would be administered in conformance with the Wilderness Act's purpose of securing an "enduring resource of wilderness" for the American people through the preservation of wilderness character. It is expected that nature, not human intervention, would play the dominant role. Therefore, to be authorized in wilderness proposed wildlife actions would need to be determined necessary to protect or preserve wilderness character.

Any ground disturbing activities in wilderness would be restricted by the following wildlife timing stipulations:

- Sage grouse – within four miles of active leks from March 1 – July 15 during breeding, nesting, and early brood-rearing seasons.
- Migratory birds – during the migratory bird nesting season from April 15 - July 15. If disturbance occurs during this time, a bird nest survey must be completed one week prior to disturbance.
- Raptors – within a half-mile of active raptor nests and one mile from eagle nests from April 15 – July 30; unless the nest has been determined to be inactive for at least 5 years.
- Big Game – within big game calving/fawning/kidding grounds from April 15 – June 30 and within crucial winter range from November 1 through March 31.

Although wilderness overflights are not precluded by the WPCCRDA, every effort would be made to coordinate with wildlife managers and researchers so that overflights minimize disturbance to both wildlife and visitors. For requests, involving only the management of a wildlife population(s) and/or that involve no 4(c) prohibited actions, the MRA and a letter of authorization with associated terms and conditions would suffice as approval.

According to the BLM-NDOW MOU (2012), wildlife relocation may be permitted if necessary: 1) to perpetuate or recover a threatened or endangered species; or 2) to restore the population of indigenous species eliminated or reduce by human influence. Additionally, NDOW may submit requests for use of helicopter in wilderness areas in order to retrieve data from radio telemetry collars which have dropped off study animals or from animals that have died.

### Wildlife-Related Facilities

Water developments for wildlife in wilderness would only be considered to replace existing natural sources lost because of human influence. Restoration of existing natural water sources is preferred and will be analyzed for wildlife benefit prior to considering artificial water developments. Any new facilities would be considered outside of wilderness first. The BLM

Wilderness Specialist would work with the requesting agency to complete a MRA to evaluate the agency's request. An environmental analysis, MRA and associated decision document would be needed for proposals involving ground disturbance, or 4(c) prohibited actions (e.g. motorized or mechanized use).

There are two wildlife-related developments in Goshute Canyon Wilderness. The BLM built two gabion/fish structures on Goshute Creek in 1976 to protect the stream from head cutting and support the Bonneville cutthroat trout. A flood rendered the lower structure and fish ladder nonfunctional in 1983. Currently the upper structure is still working in the wilderness.

### **Wild Horse Management**

The goal within a Herd Management Area (HMA) is to “maintain and manage healthy, self-sustaining wild horse herds ... within appropriate management levels ... to ensure a thriving natural ecological balance” (RMP, 2008b). Management of wild horses is accomplished by activity plans created by the BLM Wild Horse & Burro Specialist. The Triple B HMA overlaps 67% of the Goshute Canyon Wilderness. Bristlecone Wilderness does not overlap a HMA. There are no burros in the two wilderness areas.

During horse gathers aircraft, including helicopters, may be used to survey, capture, and monitor wild horses. During gathers, helicopters are likely to fly over wilderness and herd horses across them. However, aircraft may not land inside wilderness boundaries except in cases of emergency or by approval from the Ely District Manager. BLM and contract personnel participating in the gathers may drive along access and cherry-stemmed roads to accomplish their objectives. Otherwise on-the-ground horse management activities would be accomplished on foot or by the use of pack stock. In cases where impacts to springs and riparian systems result from wild horses, mitigation measures may be employed to prevent further degradation or to restore wilderness character.

## **1.5. Management Action Tables**

One of BLM's goals for wilderness management is to provide opportunities for solitude and primitive and unconfined recreation by limiting the number and type of land use restrictions that visitors must follow, while still maintaining compliance with wilderness policy. To that end, and pursuant to the discussions of the affected environment, Table 2 contains a consolidated list of legislatively-required restrictions and proposed visitor use restrictions, and indicates whether a use: 1) is authorized without further requirements, 2) is authorized, but restricted in some manner, 3) requires prior BLM authorization, or 4) is prohibited. Table 3 contains BLM wilderness management decisions not specifically related to use regulation.

All wilderness actions are subject to a MRA, to determine the action necessary. Any action authorizing the use of an action prohibited in Section 4(c) of the Wilderness Act or would significantly impact wilderness character would require site-specific NEPA analysis (see BLM Manual 6340 Part 1.6 D. 3.).

**Table 2. Proposed Wilderness Use Restrictions.**

Use is authorized	Motorized or mechanized vehicles and equipment may be used in wilderness areas during emergencies involving search and rescue, the health or safety of individuals, or the rescuing of sick or stranded animals. Individuals must notify the BLM authorized officer immediately following completion of emergency activities. The removal of downed airplanes or other vehicle accidents, associated equipment, parts, or debris is not considered an emergency, and would require prior BLM authorization subject to a MRA.
Use is authorized	Only temporary, portable or “pop-up” blinds would be permitted for hunting, photography, wildlife observation or similar purposes for a 14-day use period. They must be attended or occupied at least some portion within the 14 days or will be subject to removal.
Use is authorized	Casual non-commercial surface collection (no digging) of small quantities (<25 lbs.) of renewable and non-renewable resources would be permitted (i.e., dead and down wood, fruit, vegetation, rock and mineral specimens and common invertebrate and plant fossils).
Use is authorized	Personal, non-commercial trapping on foot or horseback would be permitted subject to State and Federal regulations.
Use is restricted	Backcountry camping would be limited to 14 days in any one location. After 14 days, camps must be moved at least 25 miles from the previous campsite.
Use is restricted	Campers must pack-in/pack-out all trash.
Use is restricted	Campers may not cut, break, or otherwise destroy standing live and dead trees or shrubs for firewood (or clear an area for a campsite, visitor convenience, or comfort, such as cutting out poison ivy). Firewood collection permits are not issued for wilderness.
Use is restricted	Campers must bury human waste in catholes dug at least 6” to 8” deep and 200 feet from water, trails, and campsites.
Use requires authorization	Administrative access routes for permittee use may not be maintained or repaired without BLM authorization.
Use requires authorization	Motorized or mechanized vehicles and equipment may be authorized in wilderness areas following a MRA for: <ul style="list-style-type: none"> <li>a. Wildlife management projects</li> <li>b. Emergency stabilization and rehabilitation</li> <li>c. Weed control projects</li> </ul>
Use requires authorization	The scientific study of paleontological resources, such as vertebrate fossils, or cultural resources, such as archaeological and historic sites and/or artifacts, will be permitted through a fieldwork authorization in instances where mitigation measures are determined to be necessary.
Use requires authorization	Reclamation of surface disturbances associated with mining claims would be authorized subject to Federal regulations at 43 CFR 3809.

Use requires authorization	The Wilderness Act allows some commercial services to be permitted "to the extent necessary ... for realizing the recreational or other wilderness purposes of the area" (Section 4(d)(6)). BLM would continue to issue SRPs to the following entities as long as they operate within the terms and conditions of their SRP: <ul style="list-style-type: none"> <li>a. Licensed commercial outfitters and guides for activities involving: <ol style="list-style-type: none"> <li>1. Hunting</li> <li>2. Pack trips</li> <li>3. Hiking</li> <li>4. Camping</li> <li>5. Nature viewing</li> </ol> </li> <li>b. Entities whose mission includes the promotion of wilderness ethics, <i>Leave No Trace</i>, or environmental education, and</li> <li>c. Entities whose primary purpose is to support individuals with disabilities.</li> </ul>
Use requires authorization	Research and monitoring activities and devices may be authorized subject to a MRA if the information cannot be collected outside of wilderness.
Use requires authorization	New water or other developments could be permitted for livestock management or wildlife purposes if they are determined to be the minimum necessary to protect and preserve; or enhance wilderness character.
Use requires authorization	Wildlife management proposals may be authorized subject to a MRA.
Use is prohibited	Motor vehicles are prohibited for livestock monitoring, herding, and gathering.
Use is prohibited	Motorized and mechanized travel and equipment are prohibited in wilderness areas, including, but not limited to: off-highway, over-snow, and other vehicles, chainsaws, power drills, suction dredges, generators, motorboats, bicycles, game carts, wagons, and wheelbarrows. Development of new access routes is also prohibited.
Use is prohibited	Livestock grazing is prohibited in burned areas until vegetative recovery objectives are met.
Use is prohibited	Motorized vehicles, helicopter landings and trap sites would not be constructed in wilderness during wild horse gathers.
Use is prohibited	Unattended personal property not associated with an active campsite may not be left.
Use is prohibited	Traditional geocaching and letterboxing activities are prohibited.
Use is prohibited	Collection of any resource for the purpose of commercial sale is prohibited.
Use is prohibited	Communication sites.
Use is prohibited	Land Use Authorizations (Rights-of-Way, Permits, Leases, Easements, and Unauthorized Uses).

Use is prohibited	Ground-based military maneuvers and associated activities are prohibited except in support of emergency actions, as previously described.
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**Table 3. Proposed BLM Wilderness Management Decisions.**

<p>BLM would continue to authorize livestock grazing in wilderness, and grazing would be administered subject to the Northeastern Great Basin Resource Advisory Standards. Planning related to grazing operations would be guided by the Congressional Grazing Guidelines (House Report 105-405 Appendix A, 1990) and BLM Manual 6340.</p> <p>BLM would authorize the livestock-related administrative access according to guidelines defined in Livestock Management section of the WMP. Prior to a motorized, mechanized vehicle or equipment entry, a MRA must be conducted and a BLM letter of authorization must be issued to the permittee for the conditions described below:</p> <ol style="list-style-type: none"> <li>1. Salt and mineral supplement may be delivered into wilderness areas via motor vehicle in quantities sufficient to ensure only one motorized entry annually. Subsequent distribution of stockpiled salt would be accomplished by foot, horseback, or pack stock.</li> <li>2. Motorized and mechanized inspection and maintenance for pipelines in Goshute Canyon Wilderness may occur one time per year prior to livestock entry. Maintenance would be identified or accomplished during inspection. For large repair or reconstruction projects, such as pipeline replacement, a one-time motorized equipment entry under this plan would be authorized in conjunction with a MRA to determine the equipment necessary.</li> <li>3. Fence repair or replacement would be accomplished by foot or pack stock as there is little fence inside the wilderness boundary. The use of the motorized vehicles or equipment may be allowed for replacement or repair to damage otherwise unpreventable through routine inspection and maintenance (i.e. destruction by wildfire, or extensive damage from livestock, wild horses and/or wildlife). It is anticipated that damage which would require the use of motorized equipment or vehicles would not occur frequently.</li> </ol>
<p>BLM would temporarily close or limit access to specific campsites or areas (at its discretion) when recreational or other activities are negatively affecting wilderness character.</p>
<p>BLM would consider commercial enterprises proper for realizing wilderness recreational purposes if the enterprises: 1) are wilderness-dependent, 2) contribute to <i>Leave No Trace</i> or environmental or wilderness education, and 3) do not degrade wilderness character. Enterprises currently meeting these criteria include commercial outfitting and guide services, and therapy pack trips.</p>
<p>BLM would not place signs and structures in wilderness unless a MRA determines that they are the minimum necessary for administration of the area as wilderness.</p>
<p>BLM would not maintain, repair, or enhance any routes along old roadbeds or game trails.</p>
<p>BLM managers may consider the full range of fire management strategies and tactics (ranging from monitoring to full suppression) to protect multiple values.</p>

Repairs to resource damage caused by fire suppression activities may be accomplished with the same or similar type of equipment that was authorized for fire suppression.

The following activities may be authorized during ES&R subject to a MRA, site-specific NEPA analysis and District Manager approval:

Install temporary emergency structures (i.e., fences, hydrologic monitoring devices).

Install erosion control (i.e., straw bales, wattles, mulch).

Repair or replace burned or damaged facilities (i.e., fences, boundary signs).

Stabilize and mitigate post-fire related degradation to cultural and historic sites and resources.

BLM would remove existing structures and installations if they: 1) are not associated with a valid existing right, 2) are not of historical or cultural value, or 3) are not the minimum necessary for the administration of the area as wilderness.

BLM would treat surface disturbances subject to a MRA, using methods that have the least impact to wilderness character.

## 1.6 Monitoring Program

### Wilderness Monitoring

The current wilderness monitoring strategy (BLM Manual 6340, Appendix C) evaluates impacts to the four wilderness qualities identified in the Wilderness Act - “untrammeled,” “natural,” “undeveloped,” and “solitude or a primitive and unconfined type of recreation.” There is also a fifth quality of wilderness identified in the Wilderness Act, Section 2 (c) as “A wilderness...(4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.” These wilderness qualities form the foundation of the monitoring protocol, and each character is divided into monitoring questions, indicators, and measures to allow measurement of trends.

Wilderness monitoring activities would assess the effects to wilderness character from visitor use, activities conducted under a valid existing right, activities conducted under BLM permit, natural events (i.e., wildfire, floods, insects), and management decisions. A single activity may affect several wilderness qualities. Monitoring the effects of activities to multiple qualities of wilderness character would improve understanding of the overall effects on wilderness character.

The monitoring program would provide a greater understanding of the condition and trend of each wilderness area. Effects of intentional, unintentional, and unauthorized activities would be captured. Information generated during wilderness monitoring would help managers determine:

- the current state of wilderness character;
- if and how wilderness character is changing over time;
- if and how stewardship actions are affecting wilderness character; and
- what stewardship priorities and decisions would best preserve and sustain wilderness character.

If monitoring reveals that visitor use is damaging cultural resources, BLM staff, in

consultation with Native American Tribes and the Nevada State Historic Preservation Office, would develop a management strategy to minimize further damage, including, but not limited to education, signage, and natural barriers.

All field reports, photographs, and monitoring data, with the exception of archaeological information would be maintained in the official file for each wilderness at the BLM Ely District Offices. All archaeological information is considered proprietary and confidential and will be kept in a separate file for each wilderness area at the BLM Ely District cultural records repository. Monitoring will also provide wilderness managers with more complete information, which will improve the evaluation of future proposed activities.

### **Law Enforcement**

BLM law enforcement rangers would enforce Federal laws and regulations in wilderness areas. State and local law enforcement, BLM staff, contractors, and volunteers may indirectly assist BLM law enforcement by providing information regarding wilderness-related violations. Law enforcement rangers and other BLM staff would patrol the wilderness perimeter with motorized vehicles, and would conduct patrols within wilderness on foot or horseback. Motorized vehicles and equipment, including helicopters and fixed wing aircraft, may be used for temporary emergencies involving search and rescue operations, violations of law, and/or the pursuit of fugitives, and would be immediately followed up with notification to the appropriate BLM District Manager and subsequent incident report.

## **1.7. Plan Evaluation**

The WMP will be revised when the management actions or a change in the existing situation no longer meets wilderness management objectives. If the decision were made to revise this plan, it would be accomplished with public input. Where it would not conflict with the enabling legislation or other pertinent laws and regulations, the WMP may be revised if necessary to conform to future land use planning documents or revisions.

## **1.8. Activities Associated with Plan Implementation**

The following list reflects the implementation priority for management actions identified in this WMP. Actual implementation would be subject to staff and funding availability outside the control of this plan.

### **Ongoing Activities**

- Maintenance of boundary and road closure signs
- Visitor information and education
- Wilderness monitoring:
  - Wilderness character monitoring
  - Visitor use monitoring
  - Resource condition monitoring

### **Future Activities**

- Reclamation:

- Vehicle routes not used for authorized administrative access
- Undesirable or highly impacted campsites
- Unauthorized vehicular impacts
- Signs:
  - Vehicle access points
  - Off-site information signs
- Modify or remove unused or unnecessary livestock developments or other structures
- Control infestations of noxious weeds and non-native invasive plant species
- Monitor noxious weeds and non-native invasive plant infestations and proactively treat small infestations to prevent large-scale landscape changes
- Issue Special Recreation Permits to licensed outfitters and guides for hunting, fishing, and other commercial and group activities
- Subsequent Environmental Analysis

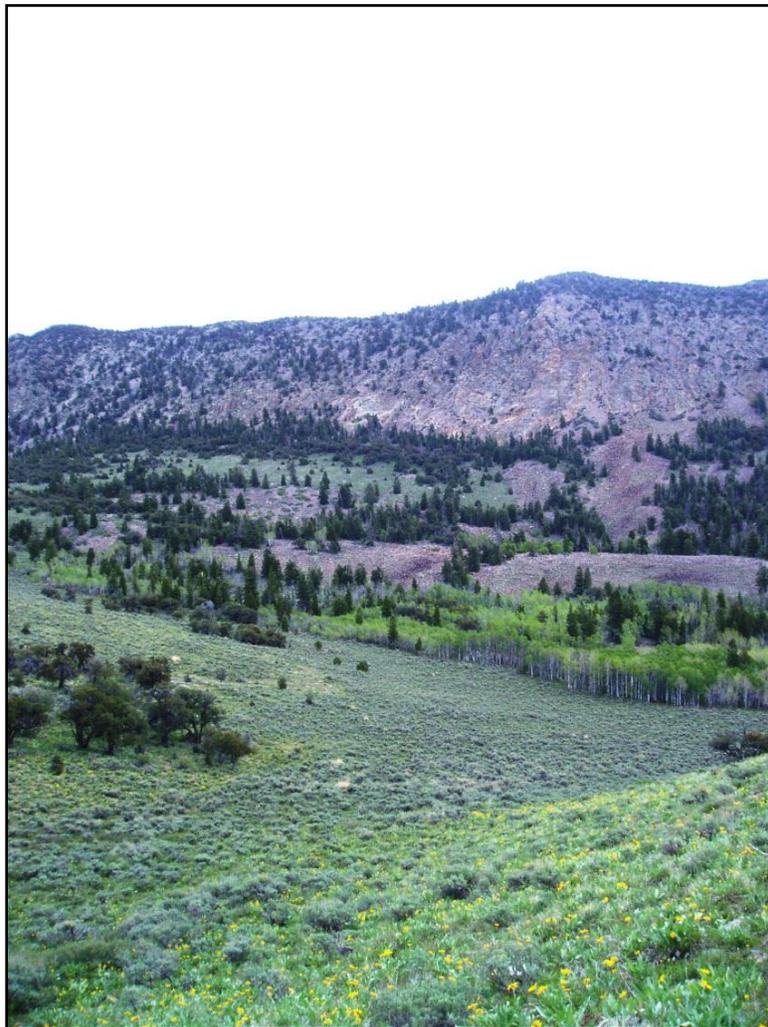
#### Subsequent Environmental Analysis

If in the future, conditions change sufficiently to warrant subsequent actions not already addressed in this WMP, additional environmental analysis may be required.

# **Environmental Assessment**

## **Bristlecone and Goshute Canyon Wilderness Management Plan**

DOI-BLM-NV-L000-2014-0001-EA



## **2.0. Introduction and Background**

Section 1503 (a) of the White Pine County Conservation, Recreation, and Development Act of 2006 (WPCCRDA) (Public Law 109-432) designated approximately 56,639 acres of wilderness in White Pine County, Nevada, as Bristlecone and Goshute Canyon Wilderness. The WPCCRDA requires the wilderness areas to be managed in accordance with the Wilderness Act of 1964 (16 U.S.C. 7202). This Environmental Assessment (EA) covers management actions described in the Wilderness Management Plan.

Wilderness management actions described in the Wilderness Management Plan (WMP) form the Proposed Action and are analyzed here. The Proposed Action will be analyzed against an alternative that would normally be considered a continuation of current management; however, Section 4(b) of the Wilderness Act requires administering agencies to preserve wilderness character. Land uses and activities that are inconsistent with this legislative guidance are prohibited within the designated areas.

BLM is required to manage the wilderness areas according to standards that were not in effect when the lands were previously managed under FLPMA for multiple use. As such, a No Action Alternative (continuation of current management) does not exist, since new requirements were imposed through wilderness designation. As such, Alternative A is being termed the Minimal Management Alternative because it contains the minimum land use restrictions deemed necessary to protect and preserve wilderness character and to comply with applicable laws and regulations. Alternative B is the Proposed Action and contains most of the management actions.

The analysis in this EA will focus mainly on the Proposed Action's management actions to determine: 1) whether the actions individually and cumulatively fulfill legislative requirements to protect and preserve wilderness character, and 2) whether the actions individually or cumulatively involve significant environmental effects.

### **Purpose of and Need for the Proposed Action**

The purpose of the WMP is to implement guidelines and actions designed to preserve wilderness character by identifying conditions and opportunities that will be managed for over at least the next ten years, or as changes in wilderness character and/or resource conditions require.

The need for the Proposed Action stems from Section 4(b) of the Wilderness Act, which requires administering agencies to preserve wilderness character. Further, Section 1.4.C. of BLM Manual 6340 (Management of Designated Wilderness Areas) requires BLM District and Field Managers, among other things, to develop and implement land use and activity-level plans addressing wilderness areas that conform to the Wilderness Act, the establishing legislation, and BLM wilderness policies and guidance.

Based on the analysis herein, the BLM will decide whether to manage the wilderness areas strictly according to legislative and regulatory requirements, or whether to implement a management plan that provides additional management actions to ensure adequate protection and preservation of resources and values, as well as mitigation for potential impacts to those resources and values.

## **Compliance with Existing Laws and Regulations**

The WMP complies with the Wilderness Act and the enabling WPCCRDA, as well as numerous other applicable laws, regulations, and executive orders, including 43 CFR Parts 6300 and 8560.

The WPCCRDA states, “the boundary of any portion of a wilderness area designated by subsection (a) that is bordered by a road shall be at least 100 feet from the edge of the road to allow public access; (d) Withdrawal- Subject to valid existing rights, the wilderness areas designated by subsection (a) are withdrawn from-- (1) all forms of entry, appropriation, and disposal under the public land laws; (2) location, entry, and patent under the mining laws; and (3) operation of the mineral leasing and geothermal leasing laws.” Further, subsection 324(d) states “Nothing in this subtitle--shall affect any water rights in the State (including any water rights held by the United States) in existence on the date of enactment of this Act;”

Bristlecone Wilderness does not contain private and/or State-owned inholding properties within its boundaries. Goshute Canyon Wilderness contains three private edge holdings. These three private parcels, located in the northern half of Goshute Canyon Wilderness are not true inholdings since there are cherry stem routes into them. There are no authorized Right of Ways (ROW) inside Bristlecone Wilderness. However, in Goshute Canyon Wilderness there is a county 60’ road ROW (N-62834) authorized to the White Pine County Commissioners (Rd # 1024-Goshute Road), it occurs entirely inside the cherry stem. Nothing in this Plan negates valid and existing rights.

No active mining claims are located within Bristlecone Wilderness and portions of 17 claims are located within Goshute Canyon Wilderness. The 17 claims were located in November of 2012, therefore there are no valid and existing rights to minerals within the wilderness boundary, as the wilderness was designated before the claims were located.

## **Conformance to Existing BLM Land Use Plan**

This WMP has been analyzed within the scope of the Ely District Approved Resource Management Plan (2008) and has been found to be in conformance with the goals, objectives, and decisions of the Decision Summary and Record of Decision.

BLM planning regulations (43 Code of Federal Regulations 1610.3.2[a]) require that BLM resource management plans be consistent with officially approved plans of other federal, state, local, and tribal governments to the extent those plans are consistent with federal laws and regulations applicable to public lands. Although this regulation does not apply to other official plans created after the land use plan is implemented, the BLM strives for management decisions to be consistent with other official plans.

Specific management actions from the RMP (listed below) provide direction to meet the goals and objectives of wilderness management.

- Visual Resources: VR-1: Manage designated wilderness...for scenic qualities under Visual Resource Management Class I objectives.
- Communication Sites: LR-37: Establish designated wilderness as exclusion areas.
- Land Use Authorizations: LR-41: Establish designated wilderness as exclusion areas.

- Renewable Energy: RE-5: Establish designated wilderness as exclusion areas.
- Travel Management: TM-1: Close designated wilderness to motorized and mechanized travel according to policy and enabling legislation.
- Recreation: REC-5: Manage for recreation facilities and services such as trails, trailheads, staging areas, and associated structures in extensive recreation management areas following activity-level plans and NEPA analysis for the management of designated wilderness...for management of recreational impacts to natural and cultural resources.
- Fuelwood Collection:
  - FP-5: Allow collection of fuel wood from both live and dead trees for personal use (pinyon, juniper, and mountain mahogany) and commercial use (pinyon and juniper) throughout the planning area, except in closed areas (e.g., wilderness study areas, designated wilderness).
  - FP-9: Make pinyon, juniper, and white fir available for personal use throughout the planning area, except in closed areas (e.g., wilderness study areas, designated wilderness).
- Minerals:
  - MIN-7: Closed to leasing – Close approximately 1.5 million acres to leasing including designated wilderness and wilderness study areas.
  - MIN - 12: Closed to leasing – Close approximately 1.6 million acres to solid mineral leasing. This includes designated wilderness and wilderness study areas.
- Special Designations: SD-5: Manage 22 designated wilderness areas in accordance with the Wilderness Act of 1964; the Nevada Wilderness Protection Act of 1989; the Lincoln County Conservation, Recreation, and Development Act of 2004; the White Pine County Conservation, Recreation and Development Act of 2006. Twenty-two designated wilderness areas totaling approximately 1.1 million acres have been designated by Congress in this decision area. This includes six citizen-proposed areas of wilderness quality that were not managed by the Ely District Office as wilderness study areas.
- Monitoring – Special Designations Management - Areas managed, as a special designation (such as ACECs, backcountry byways, and designated wilderness) will be monitored annually to determine if the resource values for which the area was designated are stable. Monitoring will focus on threats to resource values and the effectiveness of management provisions in protecting and preserving those resource values. Monitoring will assist the BLM in tracking resource conditions and making effective decisions to improve conditions for the special resource over time. Where necessary, the monitoring strategy for special designation areas will be refined during activity level planning, e.g.,...designated wilderness management plans.

### **Consistency with State and Local Plan**

The WMP is consistent with the management direction contained in the 2007 White Pine County Public Lands Policy Plan.

### **Consistency with BLM Policy Manuals and Handbooks**

The WMP is consistent with the requirements and management direction contained in the following BLM and Departmental policy manuals and handbooks:

- BLM Manual 1626 - Travel and Transportation Manual
- BLM Manual 6340 - Management of Designated Wilderness Areas
- BLM Manual 6842 – Special Status Species Management
- BLM Manual 8100 – The Foundations for Managing Cultural Resources
- BLM Manual 8140 – Protecting Cultural Resources
- BLM Manual 8150 – Permitting Uses of Cultural Resources
- BLM Manual 8400 – Visual Resources Management
- BLM Manual 8561 - Wilderness Management Plans
- BLM Handbook H1742-1 - Burned Area Emergency Stabilization and Rehabilitation
- BLM Handbook 1790-1 – National Environmental Policy Act

### **Decisions to be made**

The WMP implements legislative and regulatory direction from the Wilderness Act and the WPCCRDA. Management actions common to both alternatives consist of restrictions on activities that could potentially affect wilderness character. Use restrictions common to both alternatives that implement legislative and regulatory direction to preserve wilderness character will not be analyzed herein.

The following management categories contain management actions that address issues identified during scoping related to the following uses:

- Fire management
- Hunting and trapping
- Livestock management
- Noxious weed and non-native invasive plant management
- Wildlife management

The EA will focus on the potential environmental effects of management actions, as well as their effect on wilderness character. Based on their potential effects, the authorized officer will decide whether to implement some or all of the proposed actions.

### **Scoping and Alternative Development**

Internal meetings were held, and a public notification was mailed in November 2013. A public meeting is planned in October 2014 at the Ely District Office, to further solicit comments on wilderness and BLM management objectives for these areas. The meeting will provide a forum for public input regarding specific wilderness issues. BLM also posted information on its website about the planning process, which provided the public with another venue for submitting comments or information regarding their use of and interest in these areas. Additionally, BLM staff consulted directly with individuals and organizations interested in wilderness. The proposed action addresses relevant internal and public issues and concerns.

Based on an analysis of the issues raised during public and internal scoping, the BLM Interdisciplinary Team identified the following issues:

- Long boundary perimeters increase the amount of wilderness that may be impacted by human-influenced changes to vegetative structure and composition in areas immediately adjacent to the wilderness areas, especially following large-scale wildfires.
- Continued livestock grazing-related activities, including access to and maintenance of existing structures (i.e., pipelines, fences), may adversely affect naturalness and undeveloped wilderness character.
- Human activities may increase noxious weed and invasive plant infestation and spread.
- Visitor use activities may affect wilderness character.

Management guidelines for resolution of these issues are included in Proposed Action.

## **2.1. Descriptions of Alternatives**

Wilderness areas are designated by Congress for the purpose of protecting and preserving wilderness character. BLM must manage various land uses and activities consistent with the purposes for which the Wilderness Areas were designated. Land uses and activities that are inconsistent with guidance provided by the Wilderness Act, the WPCCRDA, and House Report No. 101-405 are prohibited within the affected areas.

Based on the above guidance, a true No Action Alternative does not exist, since BLM is required to manage designated wilderness areas according to standards that were not in effect prior to their designation. Alternative A is described as the Minimal Management Alternative because it contains the minimum land use restrictions deemed necessary to protect and preserve wilderness character and to comply with applicable laws and regulations. Alternative A contains no discretionary management actions.

Alternative B is the Proposed Action. The difference between the two alternatives is that the Proposed Action includes management actions designed to preserve wilderness character including: 1) addressing the effects of past human activities, 2) managing or responding to natural processes, such as wildfire, and their effects on wilderness character, and 3) providing limited authorizations for otherwise prohibited activities. The WMP contains specific details of the Proposed Action.

### **Management Actions Common to Both Alternatives**

The following management actions are either expressly authorized by the enabling legislation or are standard land use authorizations and/or restrictions deemed necessary for the proper management of the designated wilderness areas. As such, the actions are incorporated in both alternatives. Table B in the WMP contains a consolidated list of legislatively-required actions and proposed visitor use restrictions, and indicates whether a use: 1) is authorized without further requirements, 2) is authorized, but restricted in some manner, 3) requires prior BLM authorization, or 4) is prohibited. Table C in the WMP contains BLM wilderness management decisions not specifically related to use regulation.

Management Actions Common to Both Alternatives:

1. Pursuant to WPCCRDA Section 324(b), livestock grazing would continue to be authorized in allotments located wholly or partially in wilderness areas that existed prior to designation, consistent with Section 4(d)(4) of the Wilderness Act and the guidelines in Appendix A of House Report 101-405. Grazing would continue to be administered subject to the Northeastern Great Basin Resource Advisory Standards.
2. Motorized or mechanized vehicles and equipment may be used in wilderness areas during emergencies involving search and rescue, the health or safety of individuals, or the rescuing of sick or stranded animals. Individuals must notify the BLM authorized officer immediately following completion of emergency activities. The removal of downed airplanes (or other vehicle accidents) and associated equipment, parts, or debris is not considered an emergency, and would require prior BLM authorization subject to a MRA.
3. Pursuant to Section 4(c) of the Wilderness Act, the use of motor vehicles for livestock monitoring, herding, and gathering is prohibited.
4. Livestock grazing would be prohibited in burned areas until vegetative recovery objectives are met.
5. Existing structures and developments would be removed if they: 1) are not associated with a valid existing right, 2) are not of historical or cultural value, or 3) are not the minimum necessary for the administration of the area as wilderness. Eligible structures and installations would be retained in accordance with BLM Manual 6340, Section 5.d.
6. Traditional geocaching and letterboxing would be prohibited.
7. Casual non-commercial surface collection (no digging) of small quantities (<25 lb.) of renewable and non-renewable resources would be permitted (i.e., wood, fruit, vegetation, rock and mineral specimens, shed antlers, and common invertebrate and plant fossils) unless or until it results in unacceptable effects to wilderness character.
8. Vertebrate fossils and cultural, archaeological, and historic sites and artifacts, may not be damaged or removed without prior BLM authorization.
9. Temporary, portable or “pop-up” blinds would be permitted for 14 days only while occupied.
10. The Wilderness Act allows some commercial services to be permitted "to the extent necessary ... for realizing the recreational or other wilderness purposes of the area" (Section 4(d)(6)). BLM would continue to issue Special Recreation Permits to the following entities as long as they operate within the terms and conditions of their permits:
  - a. Licensed commercial outfitters and guides for activities involving:
    1. Hunting,
    2. Fishing,
    3. Pack trips,
    4. Hiking,
    5. Camping, and
    6. Nature viewing.

- b. Entities whose mission includes the promotion of wilderness ethics, *Tread Lightly!*, *Leave No Trace*, or environmental education, and
  - c. Entities whose primary purpose is to support individuals with disabilities.
11. Commercial filming is considered a “commercial service”, and is not permitted in wilderness unless it is necessary for realizing the recreational or other wilderness purposes of the area and does not otherwise utilize a prohibited use.
  12. Campers must pack-in/pack-out all trash.

### **Alternative A – Minimal Management**

The Minimal Management Alternative represents the baseline condition of managing designated wilderness areas with the fewest restrictions possible consistent with legislatively authorized activities, as well as those deemed necessary to protect and preserve wilderness character. Requirements or restrictions imposed in this alternative are those that are either: 1) specifically mandated by legislation, or 2) are designed to preclude or minimize, but not treat, the impacts of human use on wilderness.

Alternative A includes the following management actions in addition to the common management actions identified in the previous section:

1. Off-road and over-snow travel and development of new routes would be prohibited, and existing administrative routes would not be maintained or repaired.
2. Motorized or mechanized vehicles and equipment would not be authorized for:
  - a. Project or facility inspection, maintenance, or repair;
  - b. Delivery of livestock salt and/or supplement;
  - c. Wildlife management proposals;
  - d. Wildfire suppression;
  - e. Emergency stabilization and rehabilitation; and
  - f. Weed control projects.
3. Pedestrian or equestrian trails would not be designated, maintained, or repaired.
4. No new water or other developments would be permitted for livestock or wildlife purposes.

### **Alternative B – Proposed Action**

The WMP is the Proposed Action and incorporates the common management actions identified in sections of the WMP. In addition, the Proposed Action incorporates management actions to address otherwise prohibited uses in a manner that best preserves wilderness character. Future proposals not discussed herein would be evaluated through a MRA and subject to site-specific NEPA, to determine if they utilize the minimum tools needed to protect or enhance wilderness character.

Alternative B includes the following management actions in addition to the common management actions identified in the previous section:

1. BLM would continue to authorize livestock grazing in wilderness, and grazing would be administered subject to the Northeastern Great Basin Resource Advisory Standards.
2. BLM would authorize the livestock-related administrative access according to guidelines defined in Livestock Management section of the WMP. Authorizations would be subject to a MRA, and if approved, would be added as terms and conditions to existing grazing permits.
3. BLM would temporarily close or limit access to specific dispersed camp areas (at its discretion) when recreational or other activities are negatively affecting wilderness character.
4. BLM would consider commercial enterprises proper for realizing wilderness recreational purposes if the enterprises: 1) are wilderness-dependent, 2) contribute to *Leave No Trace* or environmental education, and 3) do not degrade wilderness character. Enterprises currently meeting these criteria include commercial outfitting and guide services, and therapy pack trips.
5. BLM would not place signs and structures in wilderness unless a MRA determines that they are the minimum necessary for administration of the area as wilderness.
6. BLM would not maintain, repair or enhance any routes along old roadbeds or game trails.
7. BLM managers may consider the full range of fire management strategies and tactics (ranging from monitoring to full suppression) to protect multiple values.
8. Repairs to facilities or resources may be accomplished with the same or similar type of equipment that was authorized for fire suppression.
9. Temporary structures, erosion control, repair of facilities and cultural site stabilization may be authorized during ES&R subject to a MRA, site-specific NEPA analysis and District Manager approval.
10. BLM would remove existing structures and installations if they: 1) are not associated with a valid existing right, 2) are not of historical or cultural value, or 3) are not the minimum necessary for the administration of the area as wilderness.
11. BLM would treat surface disturbances subject to a MRA, using methods that have the least impact to wilderness character.

## **2.2. The Affected Environment and Environmental Consequences**

The Wilderness Act requires land managers to preserve wilderness character. As such, both alternatives contain basic and requisite land use restrictions designed to carry out this legislative direction by precluding or minimizing, but not treating, the effects of human use on wilderness. The Proposed Action includes measures designed to manage approved uses on these areas.

This environmental analysis focuses on the environmental effects of the management actions described in Alternative B, while also describing their effect on wilderness character. Since wilderness character reflects the natural and undeveloped nature of designated areas, they are representative of the resources that would normally be considered in the effects analysis section of an environmental document.

The cumulative effects analysis considers the past, current, and potential future conditions of resources affected by a given action as the result of past, ongoing, and future foreseeable actions. The enabling legislation limits the management of wilderness character to the areas incorporated within the designated boundaries.

The effects analysis for wilderness evaluates proposed actions on wilderness character. Specifically, the analysis will determine if actions proposed in the WMP will affect the natural, untrammelled, and undeveloped character of wilderness, including associated opportunities for solitude or primitive and unconfined recreation.

**Description of the Affected Environment**

The two wilderness areas covered by the Proposed Action are located in White Pine County in the Great Basin ecoregion. The critical elements of the human environment, as identified by the BLM Manual 1790-1, are listed in EA Table 4. Elements that may be affected are further described in this Environmental Assessment. Rationales for those elements that would not be affected are also listed in EA Table 4. These critical elements will not be considered further in this document. Some of these items are being considered to ensure compliance with laws, Supplemental Authorities, Executive Orders, or regulations that impose requirements on all Federal actions.

**EA Table 4. Critical Elements of the Human Environment and Rationale**

<b>Resource or Concern</b>	<b>Analyzed (Y/N)</b>	<b>Rationale for dismissal from Analysis or requiring detailed Analysis</b>
Air Quality	N	No effect. Proposed action would not increase air pollutant concentrations.
Cultural Resources	N	May affect. Proposed projects that have the potential to affect cultural resources would be subject to a MRA, as well as a National Historic Preservation Act, Section 106 review, including SHPO and Tribal consultation. Affected areas would be inventoried to identify cultural resources, and if approved, activities must avoid adversely affecting cultural resources. Cultural resources within the designated wilderness areas would be analyzed on a case-by-case basis.
Environmental Justice	N	No effect. No minority or low-income groups would be affected by disproportionately high and adverse health or environmental effects.
Fish and Wildlife	Y	May effect. The proposed action through NDOW proposals (collar retrieval, overflights, facilities) may affect fish and wildlife populations or habitat.
Floodplains	N	Resource is present but not affected.
Forest and Rangeland	N	No effect. The proposed action and minimal action would not have a direct impact to Forests and Rangelands. Project does not meet HFRA criteria.
Migratory Birds	N	No effect. Following BLM’s management guidance for the Migratory Bird Treaty Act would prevent or diminish impacts to migratory birds.
Native American Religious Concerns	N	No effect. There are no known specific concerns to local tribes.
Threatened and Endangered Species	N	Not present. No federally listed plants or animals species are identified in these two wilderness areas.

Wastes, Hazardous or Solid	N	No effect. Human waste may be generated during visitor use of the areas. Proposed monitoring would track this element, and public education and adaptive management would manage for this element to protect Wilderness character and natural resources.
Water Quality, Drinking/Ground	N	No effect. No actions to affect.
Wetlands-Riparian Zones	N	May effect. Control measures for fire or rehabilitation may enhance riparian zones.
Wild and Scenic Rivers	N	Resource is not present.
Wilderness	Y	May effect. Proposed actions seek to maintain, restore, or enhance wilderness character.

In addition to the Critical Elements of the Human Environment, the BLM considers other resources that occur on public lands, or issues that may result from the implementation of the Proposed Action. A brief rationale for either considering or not considering the issue or resource further is provided.

**EA Table 5. Other Resources and Issues and Rationale for Analysis**

<b>Resource or Concern</b>	<b>Analyzed (Y/N)</b>	<b>Rationale for dismissal from Analysis or requiring detailed Analysis</b>
Fire Management	Y	May effect. Fire suppression and management actions may affect wilderness character through suppression actions. Under the proposed action, management tools that would otherwise be prohibited within the wilderness areas may be allowed for fire management.
Livestock Grazing Uses	Y	May effect. The WPCCRDA provides for continued livestock grazing in wilderness areas. Appendix A of House Report 101-405 describes allowable uses and maintenance of range developments in wilderness.
Invasive Non-native Plant Species (includes noxious weeds)	Y	May effect. The proposed action may allow tools when necessary to potentially reduce the risk of increased invasive annual grasses, reduce the potential need for ES&R treatments and protect wilderness character where it is determined that it is being threatened.
Recreation	N	The proposed action to implement the wilderness management plan would not restrict current recreation uses; however, the structure and framework of the proposed action would better manage current and future uses benefitting recreational uses while protecting wilderness values.
Special Status Animal Species	Y	May effect. The proposed action does not affect special status animal species in the wilderness areas. However, special status animal species are present and future activities may modify habitat.

Special Status Plant Species	N	There are no documented special status plant species in the Wilderness Areas.
Vegetation/Soils/Watershed	Y	May effect. Constructing staging areas and route decommissioning would affect small areas of vegetation. Soils would not be destroyed or removed and watershed function would not be affected. Fire management, weed management, reclamation, and recreational activities may affect soils and vegetation.
Visual Resource Management	N	The proposed action is consistent with Visual Resource Management (VRM) Class I objectives for wilderness.
Water Resources (Water Rights)	N	BLM is subject to State of Nevada water right laws.

### Assumptions for Environmental Consequences Analysis

The impact analysis is based on the following reasonable assumptions for the foreseeable future:

- Noxious weeds and invasive plant species could become more established in these wilderness areas.
- In the event of a fire, active emergency stabilization and rehabilitation treatments may be necessary to preserve ecosystem function and integrity.
- Recreational visitor use will slowly increase and types of popular use will become more diversified over the life of the Plan. More user-created primitive campsites may develop in and around the boundaries of these areas to accommodate higher levels of use. User-created trails may also develop in these wilderness areas.
- Increased visitation would result in increased impacts to resources.
- Opportunities for solitude will most likely continue to be readily available in these wilderness areas over the life of the Plan.
- Vehicle access to the wilderness would be maintained to the conditions existing at time of designation.
- The BLM will continue to manage for dispersed access points and staging areas for these wilderness areas. The BLM will also continue to attempt to deter motorized trespass into these areas.
- Educating the public about wilderness is an important component of protecting wilderness resources and preserving wilderness character.
- There will be a need for emergency, programmatic, or administrative use of mechanized or motorized equipment in one or more of the wilderness areas during the life of this plan.
- Livestock grazing will continue in these wilderness areas subject to the terms and conditions of the relevant grazing permits, which may include limited motorized access for management of livestock and in cases of emergency. Active range developments in these wilderness areas will remain and be maintained based on grazing permit conditions.
- Small-scale surface disturbances, such as former motorized routes in wilderness areas, will be rehabilitated unless those disturbances are associated with periodic motorized administrative access allowed by the terms of grazing permits. When human structures or artifacts do not have a historic value or a permitted use, they will be removed.
- Hunting guide services and outfitters will continue to be permitted to operate in these wilderness areas. Other commercial uses that may be permitted include academically oriented

organizations whose primary purpose is wilderness or environmental education and organizations whose service is primarily for the support of people with disabilities.

## **Fire Management**

### Affected Environment

The Bristlecone Wilderness area lies within the Ely/Lund Watershed & WUI and Northern Benches Fire Management Units (FMUs) as designated within the Ely District Fire Management Plan (FMP). The Goshute Canyon Wilderness occurs within the Kern/Snake/Cherry Creek/Park Mtn and the Northern Benches FMUs. All of these FMUs allow for the use of wildland fire for resource benefit as an option for fire management. Since designation, three fires have occurred in the Bristlecone Wilderness - all in 2008 and were controlled at less than an acre. Four fires have been controlled in Goshute Canyon Wilderness since designation at less than 1,054 acres.

The fire season generally occurs between May and October. The primary cause is lightning strikes. Fires in these FMUs are wind-driven, and live fuel moisture plays a very small role in variability of fire size. Most lightning-caused fires are associated with the summer monsoon season.

Fuel trends within the wilderness areas are typical of most of the northern Ely District where, due to past influences on the historic fire regime, vegetation has shifted to later seral communities dominated shrubs and/or conifers. Fuels in this state have the potential to support large higher severity fires than is thought to have occurred within these vegetative communities prior to human influence. Fire behavior that occurs at these levels combined with the presence of invasive annual grasses can lead to an increased potential for invasions and vegetative conversions. Fires that occur at moderate to low intensity and severity has less of a chance of promoting invasive species while promoting early seral vegetation with good representation of native species.

### Consequences of Proposed Action

Fire management objectives in these wilderness areas would be structured in accordance with the Ely District Fire Management Plan (FMP) as updated. Following fire, Emergency Stabilization and Rehabilitation (ES&R) activities may be undertaken in accordance with current Department of Interior policy (620 DM 3 Wildland Fire Management Burned Area Emergency Stabilization and Rehabilitation) and Bureau of Land Management policy (H-1742-1 Burned Areas Emergency Stabilization and Rehabilitation Handbook). BLM Manual 6340 provides detailed categories related to fire management are as follows:

- Fire Use Guidelines
- Fire Suppression Guidelines
- Suppression Activity Damage
- Emergency Stabilization and Rehabilitation Activities

The overall emphasis of managing fire in wilderness is to allow the frequency and intensity of an ecosystems natural fire regime to play its inherent role in that system.

### Consequences of Minimal Management Alternative

Fire management activities would occur without the guidance of a comprehensive wilderness management plan and only to enhance wilderness character.

### Impacts of Proposed Action

The environmental impacts associated with the Proposed Action, would include a reduced capacity to manage wildland fires regardless of the potential impacts. These restrictions on fire management may result in fires being able to grow larger and burn at higher severity levels than would occur if additional management tools were available. This would only apply to fires where the Ely District would engage in suppression or fire management activities where the potential impacts of the fire would outweigh the impacts to the untrammelled character of the wilderness areas. These impacts may also extend outside of the wilderness boundaries. Fires have the potential to grow to a more complex level prior to crossing outside of the wilderness where these tools would then become available for suppression and fire management.

Under the proposed action, management tools that would otherwise be prohibited within the wilderness areas may be allowed for fire management. These tools would provide the authorized officer greater ability to respond with either suppression or other management actions once the potential risks and benefits of the fire have been evaluated. Suppression tactics would continue to follow MIST standards and thereby attempt to minimize the impacts of the actions upon wilderness character. The ability of managers to utilize these tools when necessary would potentially reduce the risk of increased invasive annual grasses, reduce the potential need for ES&R treatments and protect wilderness character where it is determined that it is being threatened.

The re-introduction of fire to the landscape using prescribed fire and allowing naturally ignited fires to burn would further enhance the naturalness of the wilderness. The implementation of prescribed fires would minimize the risk of negative impacts resulting from wildfire as well as increase the rate at which the desired future condition would be achieved.

There is potential for vegetation treatments to occur within the wilderness areas as reference within the proposed action. Any proposed treatments would be conducted in accordance with all applicable laws, policies and regulations. Proposed treatments would be subject to site specific NEPA and would be covered in additional analysis. Currently, there are no proposals within the wilderness and therefore no impacts to fuels or fire management.

### Impacts of Minimal Management Alternative

The Minimal Management Alternative would not allow prohibited uses in wilderness, which would eliminate the impacts associated with normal suppression tactics. However, limiting suppression to the use of MIST could substantially increase fire size, which could increase the spread of invasive species or noxious weeds.

## **Fish and Wildlife**

### Affected Environment

Wildlife species characteristic of the Great Basin are supported by the diverse habitat types found in these wilderness areas. Key habitats, as defined in the Nevada Wildlife Action Plan (2006), can be used to infer likely occurrences of wildlife species assemblages when survey data is lacking, as is the case for many species in these wilderness areas. Key Habitats include primarily lower montane woodlands and sagebrush, and Inter-mountain conifer forests and woodlands (Nevada Wildlife Plan Action Team 2006).

The big game species that occupy these wilderness areas are Rocky Mountain elk, for which almost the entire western portion is crucial summer habitat; mule deer, for which most of the interior is crucial summer and the outside crucial winter habitat; and pronghorn, for which there is a small amount of crucial winter habitat in the Cottonwood Bench area. There are numerous small game and furbearer species in the project area such as black-tailed jackrabbit, gray fox, bobcat, mountain lion and coyote. Raptors are commonly found nesting and foraging in the wilderness areas, and these areas provide habitat for numerous non-game species of small mammals, reptiles, and birds.

#### Consequences of Proposed Action

Management of wildlife populations is the responsibility of the Nevada Department of Wildlife (NDOW) and management of wildlife habitat is the responsibility of the BLM. The BLM policy, Manual 6340, includes direction on many aspects of wildlife management that requires BLM to ascertain whether the proposed action is necessary to preserve wilderness character before granting approval. Any phrases in policy that seem to direct agency deference to the states should not be taken out of context of the Constitutional authority, legislation, case law, or the whole of the policy. Over the life of this plan, it may be necessary to implement wildlife or habitat management activities to prevent degradation to or allow enhancement of wilderness character by promoting healthy, viable and more naturally distributed wildlife populations. Under the NDOW/BLM MOU, specific proposed projects are submitted annually for review. No new water developments are proposed. Detailed guidelines are found in the Wildlife section of the WMP.

#### Consequences of Minimal Management Alternative

A comprehensive wilderness management plan would not guide wildlife or habitat related management actions. Activities within these wilderness areas would be conducted in conformance with the current and subsequent BLM-NDOW Memorandum of Understanding (MOU) and guided by the BLM Manual 6340.

#### Impacts of Proposed Action

Authorized livestock activities and ground-disturbing methods relating to fire management activities, vegetation treatments, noxious and invasive weed treatments and ES&R could have short-term impacts on behavior and movement of individuals. Wildlife would be temporarily displaced, however once these actions have concluded, wildlife may return to these areas. Wildlife timing stipulations outlined in the WMP will lessen these impacts.

Vegetation treatments, noxious and invasive weed treatments, and emergency stabilization and rehabilitation would improve habitat for all wildlife by increasing native plant composition for forage and cover, as well as increasing habitat diversity. Vegetation treatments that remove encroaching trees from riparian areas, sagebrush communities, and aspen stands will improve habitat for all wildlife. Route decommissioning and restoration will reduce habitat fragmentation in the wilderness for all wildlife species.

#### Impacts of Minimal Management Alternative

Under the Minimal Management Alternative, wildlife habitat quality has the potential to deteriorate without limiting or excluding motorized and mechanized vehicles and equipment for wildfire suppression, ES&R, and weed control. While certain areas may benefit from wildfire, large and intense fires could remove important wildlife habitat, prolong natural recovery in desert ecosystems, and increase the risk of invasive nonnative grasses.

## **Livestock Grazing**

### Affected Environment

There are nine grazing allotments partially located within the wilderness areas. Livestock grazing allotments in the wilderness are managed entirely by the Ely District Office and the Egan Field Office. Livestock numbers may vary based on rotational grazing systems and the terms and conditions of the individual term grazing permits. Range developments currently exist in support of rangeland health and the management of livestock grazing. Existing range developments identified through administrative records and field reconnaissance within the wilderness areas are depicted in Maps 2 & 3. The grazing permittee is responsible for maintenance of all livestock grazing facilities in the wilderness areas by cooperative agreements. Detailed descriptions are found in the Livestock Management section of the WMP.

### Consequences of Proposed Action

Both alternatives prohibit the use of motorized or mechanized vehicles and equipment for livestock monitoring, herding, and gathering. As such, livestock grazing that meets rangeland health standards is consistent and compatible with the protection and preservation of wilderness character. However, constraints on vehicles and equipment would not prohibit maintenance of existing facilities or response to emergencies, both alternatives would inhibit the trend toward mechanization in livestock monitoring and management. The Proposed Action would allow for the minimum motorized access needed for livestock grazing-related purposes and specific guidance for the maintenance and repair of livestock grazing-related facilities. Regular maintenance of range improvements and facilities would be distinguished from emergency operations.

### Consequences of Minimal Management Alternative

No difference from the proposed action except all requests would be required to have site-specific NEPA analysis for each repair or maintenance action.

### Impacts of Proposed Action

The Proposed Action for management of livestock grazing provides specific guidance for the maintenance of facilities and activities in support of a livestock-grazing program. Administrative access routes would be clearly defined and regular maintenance of structures in support of livestock grazing would be distinguished from emergency operations. This may enhance the ability of the BLM to manage livestock grazing activities within wilderness and eliminate time delays in approval for access to maintain range developments and respond to emergency situations. The proposed action intends to minimize the spread of invasive, non-native plant species. Wildlife may benefit from the maintenance of rangeland water developments as they provide additional sources of water.

### Impacts of Minimal Management Alternative

Administrative access and maintenance needs for livestock grazing operations would occur on a case-by-case basis. Site-specific NEPA for developments would be required for all inspection, maintenance and repair. Impacts to and from other resources would not differ from the proposed action.

## **Invasive Non-Native Plant Species**

### Affected Environment

Noxious and non-native invasive weeds are frequent obstacles to maintaining wilderness character in the Central Basin Ecoregion. Current noxious and invasive weeds in or near wilderness include, but may not be limited to, Bull thistle (*Cirsium vulgare*), Canadian thistle (*Cirsium arvense*), Musk thistle (*Carduus nutans*), Scotch thistle (*Onopordum acanthium*), Water Hemlock (*Conium maculatum*) and cheatgrass (*Bromus tectorum*). The ongoing recreational and grazing activities may contribute to the spread of noxious and invasive species. Rehabilitating small-scale surface disturbances would include methods such as soil decompaction, scarification, and pitting that could stimulate the growth of noxious and invasive weeds. Vegetation restoration projects may cause disturbances that increase noxious and invasive weed populations. Motorized access could be authorized for ES&R, wildlife management, range project maintenance, or fire-management; all of which could exacerbate weed establishment and spread. The adaptive management provided for in the Proposed Action for managing weeds and invasive plants, combined with proper grazing management, would optimize the protection and restoration of wildlife habitat. Vegetation treatments and proper grazing management would help re-establish and maintain a balanced mixture of vegetation stages (age classes) and types essential for the habitat needs of wildlife species within the wilderness areas.

### Consequences of Proposed Action

Management emphasis in wilderness would be placed on controlling small infestations with the potential to spread and displace native plants. Treatments for large infestations (defined by the BLM Ely District Weeds Program) would be considered separately. Treatment methods include hand-pulling, herbicides, biological control, reseeding, and alternatives such as targeted grazing would be considered for infestations.

### Consequences of Minimal Action Alternative

Noxious weeds would be treated on a case-by-case basis as per the District Noxious Weed Plan and BLM Manual 6340. When a vegetation treatment is deemed appropriate following an environmental analysis and a MRA, management activities would emphasize protection and enhancement of wilderness character.

### Impacts of Proposed Action

In general, the management actions outlined in the proposed action, apply best management practices and standard operating procedures that are focused on preventing the spread of weeds by vectors such as vehicles or equipment. Weed treatment procedures within these areas would be clearly defined and compatible with limiting or eliminating noxious and invasive weeds. The continued presence and anticipated increase of recreational activities, including hunting, camping, hiking, and horse packing, may contribute to the spread of noxious and invasive species as a result of trampling of native species and the possibility of spreading noxious and invasive seeds into wilderness. Allowable motorized access could occur through emergency stabilization and rehabilitation, wildlife management and livestock access projects may cause small, local disturbances that could increase local noxious and invasive weed populations.

### Impacts of Minimal Management Alternative

Weed introduction from individuals hiking and from vehicles along cherry-stemmed routes and wilderness boundary roads may occur. Compared to the proposed action, weed treatment would be sporadic and would not occur in a timely manner. Additionally, when weeds are found, site

specific NEPA would be guided by the noxious weed program as outlined in the RMP without the additional benefit of specific wilderness guidance provided by the WMP, further slowing down the ability to treat weeds in a timely manner.

## **Special Status Animal Species**

### Affected Environment

The wilderness areas provide habitat for numerous special status species. Preliminary primary habitat (PPH) and preliminary general habitat (PGH) for the Greater sage grouse, a candidate species for federal listing, may occur in the high mountain sagebrush communities and along the lower benches of the Goshute Canyon and Bristlecone Wilderness areas. Other BLM special status species that may occupy or utilize these wilderness areas are Swainson's hawk, golden eagle, Northern goshawk, peregrine falcon, sage thrasher, brewer's sparrow, pinyon jay, black rosy-finch, pygmy rabbit and numerous bat species.

### Consequences of Proposed Action

Over the life of this plan, it may be necessary to implement wildlife or habitat management activities to prevent degradation or enhance wilderness character by promoting healthy, viable, and more naturally distributed populations of special status species. Future Nevada and Northern California Greater Sage Grouse Land Use Plan Amendment guidance would be adopted.

### Consequences of Minimal Management Alternative

Wildlife activities would rely solely upon the (2012) BLM-NDOW Memoranda of Understanding (MOU) (BLM-MOU-6300-NV-930-0402), as amended, and the RMP without specific wilderness oriented guidance that the WMP provides. Activities within these wilderness areas would be conducted in conformance with the current and subsequent MOU and guided by the BLM Manual 6340.

### Impacts of Proposed Action

The impacts of the Proposed Action to special status species are the same as fish and wildlife. None of the actions outlined in the WMP would cause a special status species to become listed under the Endangered Species Act (ESA). Greater sage grouse and migratory bird timing stipulations outlined in the WMP will lessen impacts to these species.

### Impacts of Minimal Management Alternative

The impacts of the Minimal Management Alternative to special status species are the same as fish and wildlife. Important Greater sage grouse habitat could be lost without adequate wildfire suppression. This alternative would not cause a special status species to become listed under the ESA.

## **Vegetation/Soils/Watersheds**

### Affected Environment

These wilderness areas lie entirely within the Central Basin and Range Ecoregion (Great Basin). (U.S. Environmental Protection Agency 2007). Biophysical setting (BPS) models have been developed for most major vegetation types. These models describe the vegetation, geography, biophysical characteristics, succession stages, disturbance regimes, and assumptions for each vegetation type. Great Basin pinyon-juniper woodlands prevail throughout the areas, with

mountain ascents and peaks marked with montane seral aspen, mixed conifer forests and montane sagebrush communities. Descending from range to valley, foothill mountain mahogany communities transform to shrub land.

Sagebrush communities are dispersed throughout the two wilderness areas. On higher elevation, deep-soil slopes consist of sagebrush communities composed of mountain sagebrush with snowberry, serviceberry, and abundant perennial grasses. In the lower elevations, well-drained alluvial fans and valley floors consist of sagebrush shrub land communities composed of Basin big sagebrush with greasewood, saltbrush, and a few perennial grasses.

The rocky outcrops of mountain foothills are marked by mountain mahogany, associated antelope bitterbrush, green leaf manzanita, and currants. On the dry rocky ridges and slopes of higher west-facing slopes, limber and bristlecone pines are found.

#### Consequences of Proposed Action

The proposed action outlines management actions designed to protect wilderness character near access points, cherry stem roads and old vehicle routes where access impacts from recreational, livestock grazing and other activities would have the most impact on vegetation. Trails and two tracks would be allowed to regenerate. Parking areas would be defined as necessary to prevent vehicles from unauthorized travel inside wilderness, thus limiting impacts to vegetation.

#### Consequences of Minimal Management Alternative

Visitors would be able to park their vehicles and access wilderness from any public point outside of the wilderness boundary. No vehicle staging areas would be designated or defined to direct recreational use to most desired and suitable access points.

#### Impacts of Proposed Action

These actions are proposed on relatively disturbed sites, thus, there would be nominal impacts to vegetation communities. Vehicle barriers would be constructed outside of wilderness to prevent vehicles from unauthorized travel inside wilderness, thus further limiting impacts to vegetation. Small amounts of vegetation may be temporarily impacted along cherry-stemmed or administrative access routes from authorized motorized access that may occur through future emergency stabilization and rehabilitation, wildlife management, grazing permittee administrative access, or fire management actions. Rehabilitating decommissioned routes will reduce or eliminate further unauthorized incursions and new plant growth will enhance the vegetation communities in proximity to these former routes. Small areas of vegetation could be disturbed or destroyed if vegetation is cut back or removed to protect sensitive archaeological and historic resources, such as prehistoric rock art, from wildland fire.

Approved research on native plant communities or wildland fire for resource benefit and monitoring could improve and restore vegetation communities within wilderness. The prohibition of geocaching would prevent disturbance to vegetation that could occur through object burial and the development of social trails relating to geocaching.

#### Impacts of Minimal Management Alternative

Without the guidance of a management plan and subsequent monitoring, altered vegetation communities may persist or further degrade impacting wildlife habitat and increasing fire frequency and severity. Unmonitored recreational use of the wilderness areas could result in impacts to vegetation on foot-worn paths and at campsites. Not designating administrative access

routes, staging areas, or pullouts, could lead to degradation of vegetative communities through an increase in motorized trespass and poor wilderness ethics from recreational users.

## **Wilderness**

### Affected Environment

The Wilderness Management Plan addresses management of the Bristlecone and Goshute Canyon Wilderness areas. Wilderness character is described by five qualities: untrammled, naturalness and primeval character, undeveloped, outstanding opportunities for solitude or a primitive unconfined form of recreation, and other features of scientific, educational, scenic, or historical value.

Trammels are modern human controls or manipulations, which hinder and restrict components or processes of wilderness. These areas have few trammeling activities. Trammeling activities include various measures in the management of wildland fire and weeds, the presence of authorized allotment fences and pipelines, the presence of former vehicle routes and the rehabilitation work that has been done on them.

These areas appear to be substantially free from the effects of modern civilization, having been primarily affected by the forces of nature, and their primeval character is mostly preserved. Some changes to the native vegetation composition have occurred, including the introduction of the invasive annual cheatgrass. These areas have few permanent improvements or other evidence of modern human presence. Structures include range developments such as fence lines and pipelines, as well as wildlife water developments, abandoned mining claims, and former vehicle routes.

Outstanding opportunities for solitude and primitive, unconfined recreation are present in all wilderness areas. Remote ridges, canyons, and drainages in these areas provide excellent opportunities for solitude. The rugged terrain, scattered rocky outcrops, and valleys provide for recreation opportunities such as hiking, camping, hunting, nature study, and horseback riding. Only the 14-day stay limit for camping confines recreational opportunities.

### Consequences of Proposed Action

*Untrammled:* Current trammeling structures and actions, as noted above, would continue under the guidance of the wilderness management plan. The use of the MRA process is essential, and emphasized throughout the management action section of the WMP, to ensure the actions taken are truly the minimum necessary for the preservation of wilderness character.

*Naturalness and Primeval Character:* Management prescriptions detailed in the proposed action would ensure protection of wilderness areas' naturalness.

*Undeveloped:* Several management actions described in the WMP, such as use of motorized vehicles for fire management, livestock grazing, ES&R or other restoration actions, including aerial dropping of supplies or equipment, would have short term impacts to the undeveloped quality for the duration of their use.

*Outstanding Opportunities for Solitude or a Primitive and Unconfined Form of Recreation:* No additional regulations would be put in place to confine or restrict recreational activities. Management actions that confine use may be implemented if visitor use and encounters increase to an extent that wilderness character is negatively impacted. Short term impacts to solitude may

occur when management actions (e.g. fire management, livestock grazing, ES&R or other restoration actions) take place with personnel and, potentially, equipment in the area.

#### Consequences of Minimal Management Alternative

Under this alternative, management of the Bristlecone Wilderness and Goshute Canyon Wilderness would be considered on a case-by-case basis as directed by the Ely District Resource Management Plan as well as guidance from 43 CFR 6300 and the National BLM Wilderness policy as set forth in BLM Manual 6340. Management would remain generally passive, and react only as issues arise. All other programs operating within wilderness such as recreation, wildlife, range, cultural resources and fire would operate without consolidated guidance and all new actions would be considered in a separate environmental analysis, following the requirements of the National Environmental Policy Act.

*Untrammelled:* No new actions would be proposed that would trammel these wilderness areas. Current management activities that may continue include the management and suppression of wildland fire or non-native invasive weed treatments. New trammeling activities would be considered on a case-by-case basis.

*Naturalness and Primeval Character:* The naturalness and primeval character would remain mostly intact. Non-native plants such as cheatgrass would remain in and/or spread in portions of the wilderness. Fewer actions may be taken in fire management to prevent further conversion of native to non-native vegetation communities compared to the Proposed Action.

*Undeveloped:* Personal property, unauthorized structures, or installations would be removed as encountered as long as they are not historically significant. Removal of these items would maintain or improve the existing undeveloped character.

*Outstanding Opportunities for Solitude or a Primitive and Unconfined Form of Recreation:* No additional regulations would be put in place to confine or restrict recreational activities. Management actions that confine use may be implemented if visitor use and encounters increase. Under this alternative, there would be less public information available regarding these areas. This may result in greater opportunities for solitude than the other action alternative.

#### Impacts of Proposed Action

Impacts of the Proposed Action result primarily from the six categories below:

##### 1) Fire Management, including ES&R

*Untrammelled:* Activities associated with fire suppression degrade the untrammelled quality. When compared to the range of possible trammeling actions, the use of MIST would be the minimum requirement once a decision is made to suppress a fire to preserve the other qualities of wilderness character is made. A reduction in ground-disturbing actions that aggressively manipulate ecological processes would reduce the trammeling effects. Prohibited uses, including vehicles and equipment, are more efficient, but aggressively manipulate ecological processes that cause longer-term trammeling effects. Post-fire ES&R projects would degrade the untrammelled quality the wilderness.

*Natural:* Actions may be taken in fire and fuels management as well as restoration and reclamation projects to prevent further conversion of native to non-native vegetation communities. Consequently, the natural and primeval character would be enhanced. Fire suppression detracts from the natural role of fire as an ecological process. Suppression activities

affect soils, vegetation, wildlife, and possibly cultural resources. Fireline construction, even using MIST, would disturb soils and displace vegetation, and would change the natural course of a wildfire. Although, fire suppression and fireline construction degrade the natural quality, the activity could reduce infestation and spread of noxious weeds and non-native invasive plants. The degree of effect would depend on the current ecological condition of the affected area(s), fuels and climatic conditions at the time. The use of MIST would limit suppression-related impacts to soil and vegetation, and thus better balance the degradation to naturalness by minimizing the spread and density of noxious or invasive weeds and maintaining native vegetation diversity. The use of retardant is considered less of an impact than heavy equipment (e.g. dozer).

*Undeveloped:* Preserving this quality prevents a noticeable imprint from “man’s work”. The use of any prohibited, motorized, or mechanized activity degrades this quality. Using MIST would minimize or eliminate the use of equipment that would modify the environment. The undeveloped character would not be substantially affected by managing fire using MIST.

*Outstanding opportunities for solitude and primitive and unconfined recreation:* The presence of fire suppression resources, even those using MIST, would reduce solitude in the short-term, during fire suppression activity. The use of motorized and mechanized vehicles and equipment adversely affect solitude in the short-term to a greater degree than fire personnel with hand tools. These actions would also be a movement away from the use of traditional skills.

## 2) Wildlife Management

*Untrammelled:* In general, wildlife management activities, including transplants (i.e., removal, augmentation, or reintroduction) would degrade the untrammelled quality of wilderness character. Habitat alteration needed to address adverse impacts of human activities on wildlife populations would cause trammeling effects. The extent of the impacts would depend on the type of alteration and how quickly the affected area responded to the treatment.

*Natural:* Wildlife actions would be designed to preserve the diversity of wildlife and the resilience of special status species, and as such, would serve to protect and preserve the natural quality of wilderness character.

*Undeveloped:* The use of motorized equipment, the landing of aircraft, and the development of any facility would degrade the undeveloped character in the short- or long-term, depending on the type of facility or structure.

*Outstanding opportunities for solitude and primitive and unconfined recreation:* Personnel working on a wildlife project, the use of motorized equipment, landing of aircraft, or the temporary use of a structure would adversely affect wilderness solitude in the short-term. Noise, visual impact and disruption of unconfined recreation experience may result in the short-term. Installations would affect the primitive wilderness experience of visitors.

## 3) Livestock Management

*Untrammelled:* Livestock grazing and project maintenance manipulate the environment and cause trammeling effects (e.g. removal of vegetation or manipulation of water resources), especially along administrative travel routes and at livestock concentration points. Although legislatively permitted, livestock management reflects man’s influence on the landscape. Since grazing occurred long before wilderness designation, trammeling would not change substantially under the proposed action.

*Natural:* Livestock grazing conducted within rangeland health standards would have minimal effects to naturalness, except for the long-term effects around livestock concentration areas, such as salt licks and water sources. Livestock grazing could result in overgrazing of vegetation, incised “cow paths”, manure-strewn slopes and trampling, all of which degrade recreation and scenic values. There is a potential for livestock to contribute to the spread of invasive weed seeds into wilderness.

*Undeveloped:* Livestock grazing would not affect the undeveloped quality of wilderness character; however, the presence of grazing-related structures and improvements and the motorized/mechanized maintenance of which degrades the undeveloped quality. Permanent structures and projects would have the same adverse effect. The continued use of motorized and mechanized vehicles and equipment for project maintenance impacts the undeveloped quality for as long as permittees continue their operations. Administrative access routes would remain and would affect the undeveloped quality of wilderness character.

*Outstanding opportunities for solitude and primitive and unconfined recreation:* Some individuals regard livestock as being unnatural intruders on the native ecosystem, and thus, an impact to their solitude. Temporary effects would include livestock-related impacts that detract from both solitude and unconfined primitive recreation.

#### 4) Vegetation Management

*Untrammeled:* Any actions taken to restore native vegetation composition or resilience would impair the untrammeled quality. Noxious and invasive weed control activities also negatively impact the untrammeled quality, although both would be undertaken only to preserve the natural quality.

*Natural:* Preserving the natural quality of wilderness character through the preservation of native plant communities or the prevention of the spread of noxious weeds and invasive species in wilderness areas would minimize the effects of modern civilization, thus improving naturalness.

*Undeveloped:* Motorized or mechanized activities (e.g. motorized aerial- or ground-based herbicide delivery, or mechanized equipment) would degrade the undeveloped quality of wilderness character for the duration of their use. Weed or restoration treatments that use backpack or horse pack delivery methods would not degrade this quality. Motorized or mechanized vehicle use has a higher likelihood to increase the spread of noxious and invasive weeds if standard prevention procedures are not taken (e.g. washing down equipment prior to use). This may then require more aggressive methods at a later date that could include prohibited uses, thus further degrading the undeveloped quality.

*Outstanding opportunities for solitude and primitive and unconfined recreation:* Vegetation treatments for weeds or restoration would temporarily impair opportunities for solitude while personnel are in the area. The use of any detect and destroy methods for weeds would include employees and/or equipment in the wilderness, which would degrade this quality.

#### 5) Recreation Management

*Untrammeled:* Management actions described in the proposed action for recreation would not impact – positively or negatively – the untrammeled quality of wilderness character.

*Natural:* Encouraging the use of certified weed-free feed for recreational livestock use in wilderness would ensure preservation of the natural quality by reducing a source of weed influx.

Management direction to preserve the native vegetation and to protect vertebrate fossils would preserve the natural quality.

*Undeveloped:* Requirements for temporary hunting blinds would reduce the use of permanent blinds thereby maintaining the undeveloped quality. Further the prohibition of geocaching or letterboxing would help maintain the undeveloped quality.

*Outstanding opportunities for solitude and primitive and unconfined recreation:* Minimizing limitations or restrictions on visitation (e.g. requiring permits) preserves the opportunity for unconfined recreation in these areas. The recreation management restrictions defined in the WMP (14-day stay limit, camping near water hole, Leave No Trace) are considered the minimum necessary to preserve wilderness character, and overall pose little impact to the unconfined quality. No developments (trails, signs) are proposed at this time, and their

#### 6) Wild Horse Management

*Untrammled & Natural:* Management actions described in the proposed action for wild horse management would not impact – positively or negatively – the untrammled or natural qualities of wilderness character.

*Undeveloped:* Keeping gather activities for wild horses outside wilderness will help preserve this quality. Requiring on-the-ground activities to utilize primitive skills (hiking or horseback riding) would preserve the undeveloped quality.

*Outstanding opportunities for solitude and primitive and unconfined recreation:* Wild horse gather operations may be visible from portions of the wildernesses, particularly during overflights.

#### Impacts of Minimal Management Alternative

*Untrammled:* Impacts to the untrammled quality of wilderness would remain as under the Proposed Action. These trammeling actions include suppression of fires, ES&R activities, and control on non-native invasive plants including noxious weeds.

*Natural:* The naturalness and primeval quality of wilderness character would remain mostly unchanged under this alternative, or may be degraded. Invasive non-native plants including noxious weeds would remain and may spread in portions of the wilderness areas. Fewer actions may be taken in fire management and ES&R to prevent further conversion of native to non-native vegetation communities compared to the Proposed Action. Weed-free feed for recreational livestock would not be recommended which may impact the naturalness.

*Undeveloped:* No trails would be designated, but former vehicle routes would be available for use by hikers and equestrian riders. Personal property, unauthorized structures, or installations would be removed as long as they are not culturally significant. Removal of these items would improve the undeveloped quality of wilderness character. When compared to the Proposed Action, the undeveloped quality may be better preserved under the Minimal Management Alternative as fewer allowances are made for motorized/mechanize use. However, each action would need to be analyzed separately and in reaction to each individual issue as it arose without the comprehensive guidance provided in the management plan.

*Outstanding opportunities for solitude and primitive and unconfined recreation:* Opportunities for primitive and unconfined recreation would remain throughout the wilderness areas. No additional regulations would be implemented to confine or restrict recreational activities.

### **2.3. Cumulative Effects**

Cumulative impacts result from the incremental impact of an action when added to other past, present, and future actions, regardless of what agency or other person undertakes such other actions. Cumulative impacts could result from individually inconsequential but, collectively significant actions, taking place over a period of time.

This section identifies past, present and reasonably foreseeable future actions so that their contribution to cumulative impacts can be considered. Past actions are those that have been completed to date, present actions may have been started in the past but are ongoing and are not yet completed, and future actions are those for which there is a reasonable confidence they will occur.

The purpose of the cumulative effects analysis for the Proposed Action is to evaluate the combined, incremental effects of human activity within the scope of the project. The Council on Environmental Quality (CEQ) regulations define scope and state that connected actions, cumulative actions, and similar actions should be included in the effects analysis (40 CFR 1508.25). The cumulative impacts analysis should be limited to those issues and resource values identified during scoping that are of major importance. Issues of major importance identified during internal and external scoping focused on the qualities that give these areas their value as wilderness: untrammeled, naturalness, primitive and unconfined recreation, and solitude. Wilderness character, therefore, is the focus of the cumulative impact analysis.

The geographic area of analysis is the area encompassed by each of the wilderness areas and the timeframe for analysis, which is the projected life of this Wilderness Management Plan, is 10 years.

#### *Past Actions*

These two wilderness areas were designated in November of 2006. Prior to designation, opportunities for solitude and primitive, unconfined recreation were outstanding. There were vehicle routes within the areas, which were closed by wilderness designation. Most routes have been actively reclaimed. There are some portions of the areas that have annual invasive cheatgrass. Livestock grazing is an authorized use. Fire suppression was common.

#### *Present Actions*

Current actions include increased educational programs regarding wilderness ethics and Leave No Trace principles, increased signing efforts, as well as BLM staff and volunteer monitoring patrols. There has been a small increase in public interest in these wilderness areas for their recreational opportunities. Livestock grazing operations, adjacent fuels treatments, hunting and commercial outfitting and guiding, are all ongoing activities.

#### *Reasonably Foreseeable Future Actions*

Populations in Nevada continue to grow and expand. It is expected that opportunities for solitude in these areas could decrease in the future as the result of increased population growth. Other anticipated results of population growth and subsequent increased use of these wilderness areas include increased impacts to vegetation, wildlife and cultural resources, as well as the possibility that more cultural resources may be discovered. It is expected that the invasive annual cheatgrass would continue to expand within these wilderness areas. It is expected that wildland fire would continue to require some trammeling management actions. Livestock grazing would also continue to be an authorized use in these wilderness areas, and maintenance of the existing range developments would be required over time.

There are few activities in the Proposed Action that, when combined with other activities, result in a cumulative impact. These include:

1. Actions that may include motorized incursions.
2. Actions that may disturb soils, vegetation, or other natural or cultural resources.

Motorized wilderness use may cause direct and indirect effects usually associated with noise and/or visitor experience and would impact the undeveloped and opportunities for solitude quality of wilderness character. Such operations pertain to grazing, emergency access situations, wildfire suppression, emergency stabilization and rehabilitation, treatment of large weed infestations, or vegetation manipulation.

Cumulative impact may result from activities that occur simultaneously even when separated by space. However, there is a low probability for this cumulative impact to occur due to the low frequency of motorized incursions into the wilderness. The impact is considered negligible and is related mostly to authorized livestock operations.

Authorized actions in wilderness may involve disturbance to soils, vegetation, or other natural or cultural resources. Actions considered for their contribution to cumulative impacts to natural resources include wildfire suppression, emergency stabilization and rehabilitation, weed treatments, and livestock concentration areas.

In conclusion, cumulative impacts associated with past, present, or reasonably foreseeable actions within the analysis area would have an estimated negligible, but net positive effect on the environment. When added to other foreseeable actions in the analysis area, management actions included in the Proposed Action would preclude, minimize, or mitigate natural and human-caused impacts to natural resources and wilderness character.

## **2.4. Consultation and Coordination**

### **Public Involvement**

Input was solicited during the planning process on several occasions. A Notice Of Proposed Action (NOPA) was sent in November 2013, as well as a public comment period for the draft Wilderness Management Plan in August 2014 seeking wilderness-related issues and concerns. Public input was used in the development of alternatives and management actions proposed in the WMP.

### **List of Preparers**

S. Gus Malon, Wilderness Planner, Ely District Office  
Emily Simpson, Wilderness Specialist, Ely District Office

**List of Specialists Consulted**

Rob Frisk, Fire Management Specialist, Ely District Office  
Miles Kreidler, Geologist, Egan Field Office  
Erica Husse, Rehabilitation Manager, Ely District Office  
Marian Lichtler, Wildlife Biologist, Egan Field Office  
Cynthia Longinetti, Realty Specialist, Ely District Office  
Chris McVicars, Natural Resource Specialist, Ely District Office  
Dave Mermejo, Wilderness Coordinator, Nevada State Office  
Jill Moore, Field Manager, Egan Field Office  
Erin Rajala, Outdoor Recreation Planner, Egan Field Office  
Leslie Riley, Archaeologist, Egan Field Office  
Mindy Seal, Assistant Field Manager, Egan Field Office  
Scott Standfill, Rangeland Management Specialist, Egan Field Office  
Garett Swisher, Rangeland Management Specialist, Egan Field Office  
Ruth Thompson, Wild Horse Specialist, Egan Field Office  
Stephanie Trujillo, Realty Specialist, Egan Field Office  
Elvis Wall, Native American Coordinator, Ely District Office  
Travis Young, Planning and Environmental Coordinator, Ely District Office

## **Agencies and Groups Consulted**

The following agencies, organizations, and individuals were briefed or consulted with during preparation of the Final WMP:

Shoshone Tribes

U.S. Forest Service

Nevada Department of Wildlife

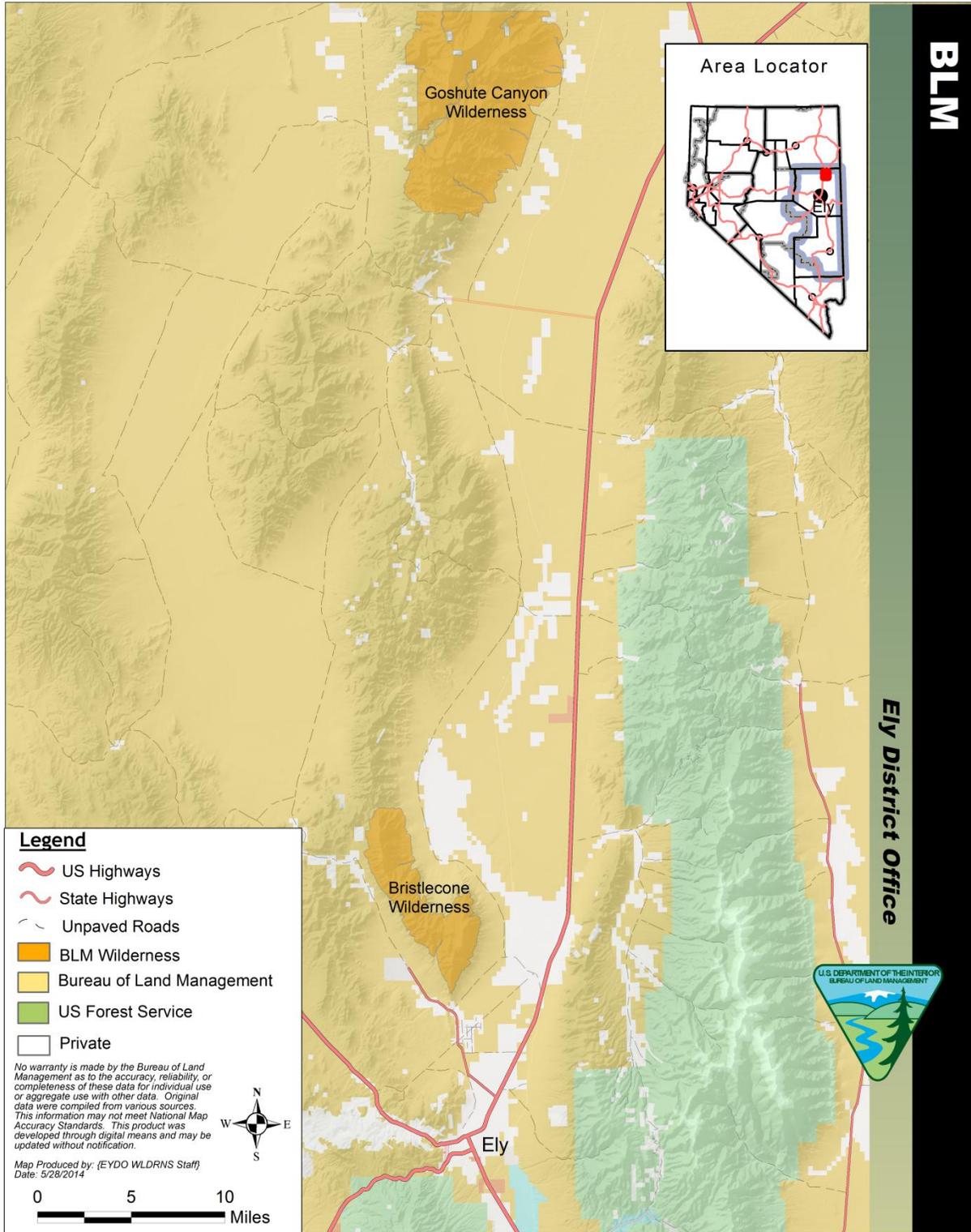
Southern Nevada Water Authority

White Pine County

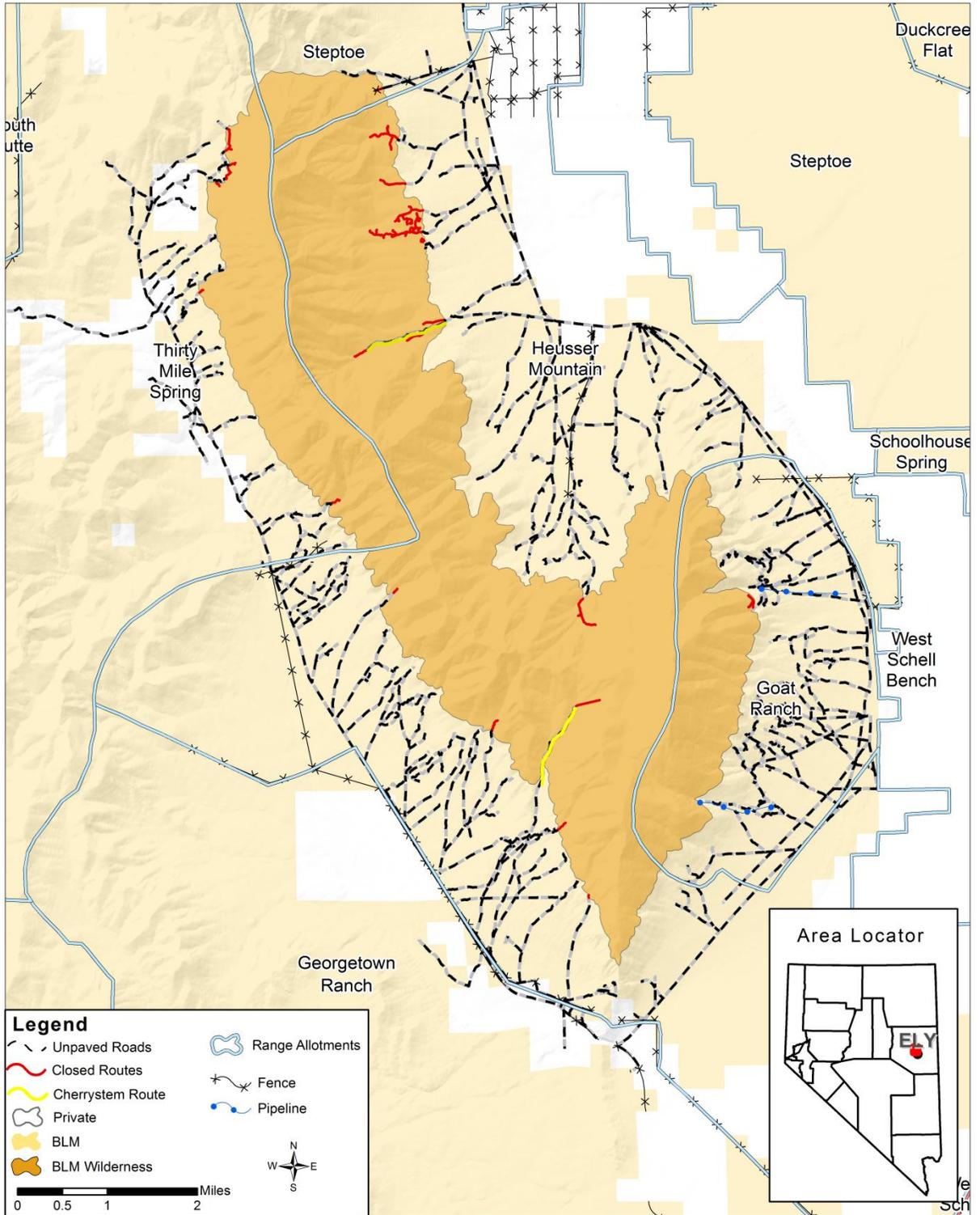
Nevada Outfitter & Guide Association

# Appendix A. Maps

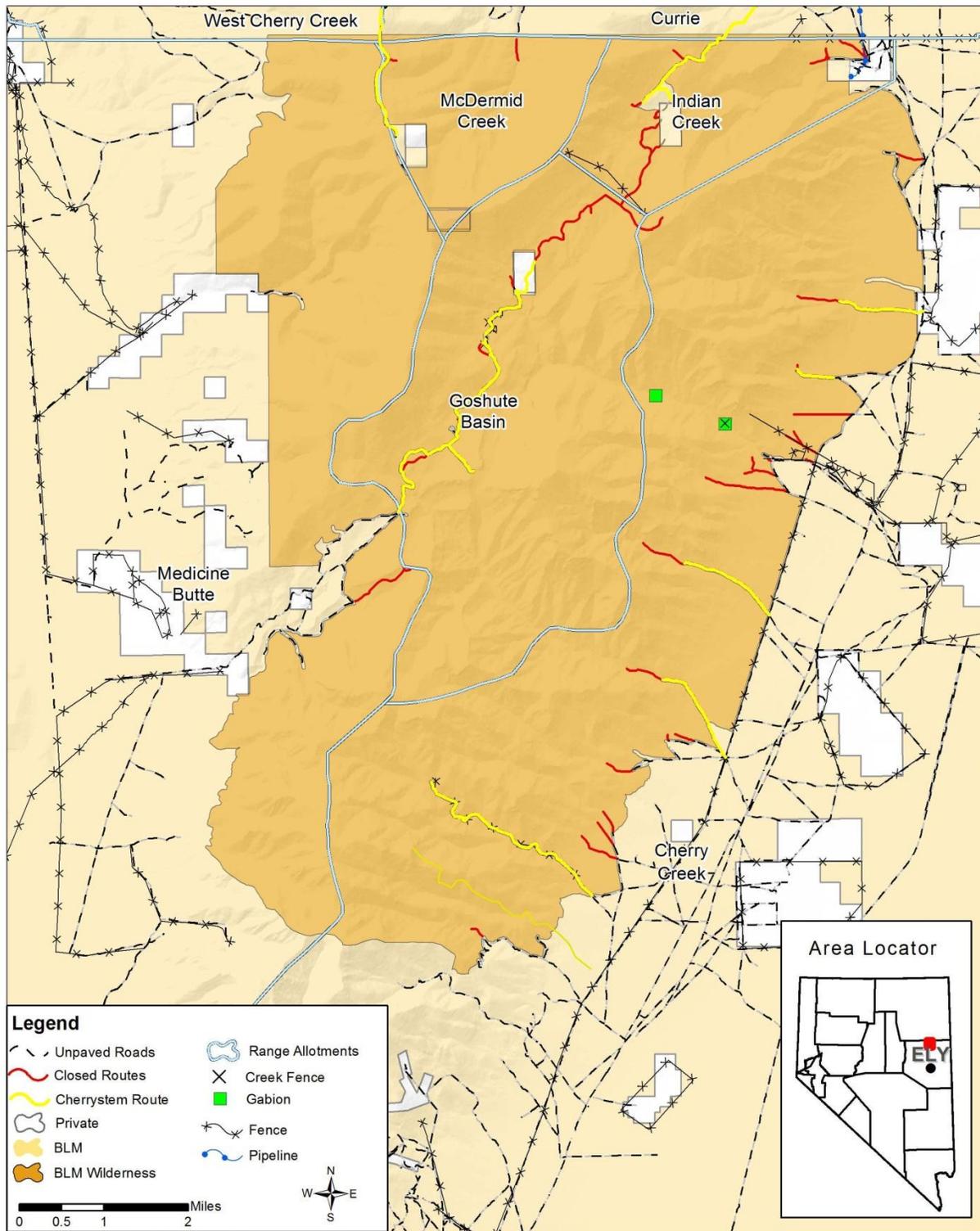
## MAP 1: OVERVIEW WILDERNESS



MAP 2: CURRENT CONDITIONS BRISTLECONE WILDERNESS



MAP 3: CURRENT CONDITIONS GOSHUTE CANYON WILDERNESS



## Appendix B. References

- Arthur Carhart National Wilderness Training Center. 2011. "Minimum Requirements Analysis." Wilderness.net. 30/07/2012. <[http://wilderness.net/MRDG/documents/MRDG\\_instructions.pdf](http://wilderness.net/MRDG/documents/MRDG_instructions.pdf)>. (October 3, 2012).
- BLM 2008. White Pine County Wilderness Ground Disturbance Reclamation Plan. U.S. Department of the Interior, Bureau of Land Management, Ely District Office, Ely, Nevada. April 2008.
- BLM 2008b. Ely District Approved Resource Management Plan. U.S. Department of the Interior, Bureau of Land Management, Ely District Office, Ely, Nevada. November 2008.
- BLM 2009. Wilderness Signs & Information Kiosks Categorical Exclusion. U.S. Department of the Interior, Bureau of Land Management, Ely District Office, Ely, Nevada.
- BLM, 2010. Ely District Integrated Weed Management Plan, U.S. Department of the Interior, Bureau of Land Management, Ely District Office, Ely, Nevada.
- BLM, 2010. Ely Fire Management Plan, U.S. Department of the Interior, Bureau of Land Management, Ely District Office, Ely, Nevada.
- BLM 2011. Updated Bureau of Land Management (BLM) Sensitive Species List for Nevada. Instruction Memorandum NV-2011-059. June 27, 2011.
- BLM 2012. Manual 6340 - Management of Designated Wilderness. July 13, 2012.
- Cole, David N. 2000. Paradox of the primeval: Ecological restoration in wilderness. *Ecological Restoration*. 18(2): 77-86.
- Cole, David N. , Young, Laurie. 2010. *Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change*. Island Press: 88-101.
- Landres, P., C. Barns, J. Dennis, T. Devine, P. Geissler, C. McCasland, L. Merigliano, J. Seastrand, and R. Swain. 2008. Keeping it Wild: an interagency strategy to monitor trends in wilderness character across the National Wilderness Preservation System. Gen. Tech Rep. RMRS-GTR-212. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 77 pp.
- Landres, P., 2008. "Preserving Wilderness Character" Powerpoint. Accessed at [http://www.wilderness.net/toolboxes/documents/WC/Presentation%20\(with%20notes\)%20preserving%20wilderness%20character.pdf](http://www.wilderness.net/toolboxes/documents/WC/Presentation%20(with%20notes)%20preserving%20wilderness%20character.pdf) on February 19, 2014.
- Lucas, Robert C. 1973. Wilderness: A management framework. *Journal of Soil and Water Conservation* 28:150-154.
- Miller, C. 2005. When to prescribe. *Wildfire Magazine* July/August. Pages 16-21.

NIFC. 2011. Interagency Standards for Fire and Fire Aviation Operations. National Fire Equipment System (NFES) Publication 2724. Produced by the Federal Fire and Aviation Task Group, National Interagency Fire Center, Boise, Idaho.

USDI. 2007. Record of Decision – Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States. U.S. Department of Interior, Bureau of Land Management, Washington D.C.

USDI. 2010b. Incident Response Pocket Guide 2010. National Wildfire Coordinating Group, Product Management System #461. < <http://www.nwccg.gov/pms/pubs/pubs.htm>>. (October 3, 2012).

