

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

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**Environmental Assessment  
DOI-BLM-ID-B010-2014-0029-EA**

**Soulen Crossing Permit  
Paddock Valley and Bannister Basin Allotments**

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U.S. Department of the Interior  
Bureau of Land Management  
Four Rivers Field Office  
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Boise, ID 83705



**Environmental Assessment # DOI-BLM-ID-B010-2014-0029-EA**  
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# **Environmental Assessment # DOI-BLM-ID-B010-2014-0029-EA**

## **Soulen Crossing Permit – Paddock Valley and Bannister Basin Allotments**

### **1.0 Introduction**

The Four Rivers Field Office (FRFO) is divided into 317 grazing allotments on 1,352,000 acres of BLM-administered lands. Livestock grazing use occurs year-round and is administered according to management areas (MAs), which generally follow watershed boundaries. The trailing routes analyzed in this EA are located in both Payette and Washington Counties and cross the northwest portion of the Big Willow MA (122,499 acres) and the southern portion of the Weiser River MA (221,394 acres). These MA are generally grazed in the spring, summer, and fall seasons. Soulen Livestock Company has historically trailed their sheep from the Snake River Plain south of Nampa Idaho in the winter to private lands near Donnelly Idaho in the summer and back. Corrals and sheering facilities are located in Letha Idaho (10 miles west of Emmett Idaho) and these facilities are used in the spring and fall after the sheep come off their winter feeding destination to the south and their summer feeding destination to the north. Soulen Livestock Company has grazing preference in the Paddock Valley and Crane Creek Allotments (part of the Weiser River MA). These allotments are used during the spring and early summer for lambing and grazing prior to moving onto the Payette Forest and private lands for the summer and early fall months. Other portions of Soulen Livestock Company's trail across BLM administered lands have been analyzed in the FRFO Programmatic Crossing EA #DOI-BLM-ID-B010-2012-0008 and were authorized in 2012. The 22 miles of trail through the Big Willow and Weiser River MAs were not included in the previous FRFO Trailing EA due to the potential for effects to a special status plant species and the need for a more detailed analysis.

Trailing is defined as domestic livestock walking from one location to another under the control of one or more herders. A crossing permit is required when livestock are being trailed across BLM-administered land, or other land under BLM control, where the applicant does not have authorized use or the trailing would occur outside their authorized use period. A crossing permit includes a specified timeframe, a defined route, and other terms and conditions to meet resource objectives (43 CFR 4130.6-3). Grazing permittees or other livestock producers needing to trail livestock across BLM-administered lands must submit their applications prior to the proposed trailing. If a crossing permit is issued, it specifies the allotment(s) and/or BLM-administered lands to be trailed across, period of use (dates), and number and kind of livestock.

Trailing of cattle, sheep, and horses occurs at different times throughout the year, in order to facilitate these general seasons of grazing use. Furthermore, timing of needed trailing events can vary annually based on factors such as forage production, drought, resource conditions, weather, wildfire, court decisions, and individual livestock operations. Trailing events across BLM-administered lands have ranged in distance from less than one mile to approximately 60 miles, and in duration from less than one hour to 10 days.

In September 2013, Harry Soulen of Soulen Livestock Company (hereafter referred to as trailing applicant), a BLM grazing permittee who holds permits in the FRFO, submitted an application to trail his bands of sheep across the Banister Basin Allotment in late March 2014, and across both Bannister Basin and Paddock Valley Allotments in late October 2014.

## **1.1 Need for and Purpose of Action**

The BLM is required, under the Federal Land Policy and Management Act (FLPMA) and the Taylor Grazing Act to respond to requests for livestock trailing/crossing permits on BLM-administered lands.

The purpose of the action is to respond to the trailing applicant's application for a crossing permit by identifying areas and terms and conditions for authorizing livestock trailing across BLM-administered lands. Authorizing the livestock trailing, while considering the needs of other resources, would be in accordance with 43 CFR 4130 and 4160, and consistent with the provisions of the Taylor Grazing Act and the FLPMA.

## **1.2 Decision to be Made**

The FRFO will decide whether to approve the trailing applicant's application for a crossing permit through the Bannister Basin and Paddock Valley Allotments. If a crossing permit is approved, the FRFO will decide whether to authorize the historic route applied for by the trailing applicant, or an alternative route that has been modified to avoid or reduce impacts to resources of concern.

## **1.3 Summary of Proposed Action**

The project involves issuing one crossing permit to the trailing applicant for sheep trailing events occurring every spring (March) and Fall (October) across BLM-administered lands in the Paddock Valley and Bannister Basin grazing allotments. Crossing events would occur twice each year and the term of the permit would be ten years in length. Crossing would be applied for, and approved by the BLM, on a yearly basis. Spring trailing events would last 1 day with an average daily movement ranging from 10-11 miles. Fall trailing events would last 4-5 days with an average daily movement ranging from 8 to 11 miles.

## **1.4 Conformance with Applicable Land Use Plan**

The BLM land use plan that applies to the project area is the Cascade Resource Management Plan (RMP) (USDI 1988). The Cascade RMP provides for 72,571 animal unit months (AUMs) of active preference for livestock grazing and identified 41,390 acres of stock driveways for livestock trailing. However, the rights-of-way associated with the stock driveways expired in 2003 and 2004. A crossing permit for the trailing applicant and associated trailing would be in conformance with the following RMP objectives:

### Livestock Resources

- Manage 449,059 acres of rangeland to provide forage for livestock and wild horses

### Vegetation Resources

- Protect candidate or special status plants
- Protect and manage 13 specific sites containing candidate, sensitive, or uncommon plants or valuable plant communities

### Wildlife Resources

- Manage 181,640 acres of elk habitat, 275,250 acres of deer habitat and 4,400 acres of antelope crucial winter habitat and provide forage to support proposed populations of these animals
- Manage 185,860 acres of sage grouse habitat to improve brooding and nesting habitat
- Maintain existing habitats for other wildlife species

#### Riparian and Aquatic Resources

- Incorporate riparian pastures, grazing systems, and/or special measures in AMPs to improve all riparian and aquatic habitat

### **1.5 Relationship to Statutes, Regulations, and Other Requirements**

The proposed action identified in this EA is consistent with other statutes, regulations, and other requirements, including the Public Law 113-76 Consolidated Appropriations Act of 2014. Federal regulations authorize BLM to issue crossing permits, with associated terms and conditions, to any applicant showing a need to cross public land with livestock for proper and lawful purposes (43 CFR 4130.6-3). Permittees may graze livestock on BLM-administered lands that are designated as available for livestock grazing in a land use plan. In addition, the following laws, acts, manuals, policies, and regulations provide the foundation for managing livestock use on the BLM-administered lands.

#### Livestock Management

The Taylor Grazing Act (TGA) of 1934 as amended: Provides for the orderly use of public land. The goals of the TGA were to stop injury to the public grazing lands by preventing overgrazing and soil deterioration; to provide for their orderly use, improvement, and development; to stabilize the livestock industry dependent upon the public range; and for other purposes.

The Federal Land Policy and Management Act (FLPMA) of 1976: Authorized the following: Inventory and identification of BLM-administered lands, land use planning, public involvement and participation. FLPMA also provides BLM with broad management authority under principles of multiple use and sustained yield. Land use planning resulted in the preparation of the Cascade RMP.

The Public Rangelands Improvement Act (PRIA) of 1978: Mandates that livestock grazing be managed to improve range condition and maintain the highest level of productivity.

Title 43 CFR, Subpart 4100 – Grazing Administration, Exclusive of Alaska: The regulations embody the Acts, as amended, listed above. Specifically, 43 CFR 4180.2 is the regulatory requirement that implements Idaho’s Standards for Rangeland Health and Guidelines for Livestock Grazing Management, 1997 (USDI 1997).

#### Fish, Wildlife, and Special Status Plants

*Special Status Species Management Manual for the Bureau of Land Management* (BLM Manual 6840): National policy directs BLM State Directors to designate sensitive species in cooperation with the state fish and wildlife agency and in Idaho the Governor’s Office of Species Conservation. This manual establishes policy for management of species listed or proposed for listing pursuant to the ESA and Bureau sensitive species which are found on BLM-

administered lands to conserve sensitive species, including their habitats, and to mitigate adverse impacts. Where relevant to the activities associated with this project, effects to special status species are analyzed in this EA.

*Migratory Bird Treaty Act, Executive Order 13186, and BLM Memorandum of Understanding WO-230-2010-04* (between BLM and US Fish and Wildlife Service [USFWS]): Federal agencies are required to evaluate the effects of proposed actions on migratory birds (including eagles) pursuant to the National Environmental Policy Act of 1969 (NEPA) “or other established environmental review process;” restore and enhance the habitat of migratory birds, as practicable; identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird populations; and, with respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service. Effects to migratory birds are analyzed in this EA.

*Bald and Golden Eagle Protection Act of 1940 as amended* (16 USC 668-668d): Provides for the protection of bald and golden eagles by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. Agencies are required to evaluate: (1) whether take is likely to occur from activities associated with the proposed activity and (2) the direct, indirect, and cumulative impacts the proposal may have on the ability to meet the preservation standard of the Act, which the USFWS has interpreted to mean “compatible with the goal of stable or increasing breeding populations.”

Executive Order 13186 expressly requires that Federal agencies evaluate the effects of proposed actions on migratory birds (including eagles) pursuant to NEPA “or other established environmental review process;” restore and enhance the habitat of migratory birds, as practicable; identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird populations; and, with respect to those actions so identified, the agency shall develop and use principles, standards, and practices that will lessen the amount of unintentional take, developing any such conservation efforts in cooperation with the Service.

*Greater Sage-grouse Interim Management Policies and Procedures* (BLM Instruction Memorandum WO-IM-2012-043): Provides conservation policies and procedures to maintain and restore habitat for sage-grouse while the agency determines how to incorporate long-term measures into Land Use Plans. These interim measures include direction for grazing management practices that will minimize adverse effects on greater sage-grouse and its habitat. Design features for Alternative C in this EA include measures to minimize impacts to sage-grouse through timing and location restrictions that adhere to the direction in this IM.

### *Cultural Resources*

Idaho BLM has the responsibility to manage cultural resources on public lands pursuant to the National Historic Preservation Act of 1966 (as amended), the 2012 Programmatic Agreement Among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers and the State Protocol

Agreement Between the Idaho State Director of the Bureau of Land Management and the Idaho State Historic Preservation Officer (2014) and other internal policies.

BLM is required to consult with Native American tribes to “help assure (1) that federally recognized tribal governments and Native American individuals, whose traditional uses of public land might be affected by a proposed action, will have sufficient opportunity to contribute to the decision, and (2) that the decision maker will give tribal concerns proper consideration” (U.S. Department of the Interior, BLM Manual Handbook H-8120-1). Tribal coordination and consultation responsibilities are implemented under laws and executive orders that are specific to cultural resources which are referred to as “cultural resource authorities,” and under regulations that are not specific which are termed “general authorities.” Cultural resource authorities include: the National Historic Preservation Act of 1966, as amended (NHPA); the Archaeological Resources Protection Act of 1979; and the Native American Graves Protection and Repatriation Act of 1990, as amended. General authorities include: the American Indian Religious Freedom Act of 1979; the NEPA; the FLPMA; and Executive Order 13007-Indian Sacred Sites. The proposed action is in compliance with the aforementioned authorities.

Southeast Idaho is the homeland of the Northern Shoshone Tribe and the Bannock Tribe. In 1867 a reservation was established at Fort Hall in southeastern Idaho. The Fort Bridger Treaty of 1868 applies to BLM’s relationship with the Shoshone-Bannock Tribes. The northern part of the BLM’s Boise District was also inhabited by the Nez Perce Tribe. The Nez Perce signed treaties in 1855, 1863 and 1868. BLM considers off-reservation treaty-reserved fishing, hunting, gathering, and similar rights of access and resource use on the BLM-administered lands it administers for all tribes that may be affected by a proposed action.

Other tribes that have ties to southwest Idaho include the Bannock Tribe and the Nez Perce Tribe. Southeast Idaho is the homeland of the Northern Shoshone Tribe and the Bannock Tribe. In 1867 a reservation was established at Fort Hall in southeastern Idaho. The Fort Bridger Treaty of 1868 applies to BLM’s relationship with the Shoshone-Bannock Tribes. The northern part of the BLM’s Boise District was also inhabited by the Nez Perce Tribe. The Nez Perce signed treaties in 1855, 1863 and 1868. BLM considers off-reservation treaty-reserved fishing, hunting, gathering, and similar rights of access and resource use on the BLM-administered lands it administers for all tribes that may be affected by a proposed action.

## **1.6 Scoping and Development of Issues**

Internal scoping was conducted during two separate meetings where FRFO resource specialists identified resources present and any issues or concerns in the vicinity of the applied for crossing route. These same specialists also had input on the development of alternatives to the proposed route. A scoping document solicited input from livestock operators doing business within the project area and Idaho Department of Lands. Resources and issues identified include:

Special Status Plants: How does livestock trailing impact both individual special status plants (such as candidate species Packard’s milkvetch) and associated habitat?

Sage-grouse: How does livestock trailing impact sage-grouse? Specifically:

- Does it have a potential for breeding disturbance?

- Does it reduce nesting cover or lead to trampling of nests?
- Does it damage sensitive habitats, such as brood-rearing areas, that could result in reduced annual productivity?

Migratory Birds: How does livestock trailing impact migratory birds during nesting periods?

Cultural Resources: Does livestock trailing cause damage to or loss of archaeological sites and historic trail character/context?

Soils: Could trailing events impact soil erosion in areas recently burned by wildfire? Could trailing events affect soil compaction when soils are saturated?

Vegetation: How would livestock trailing affect plants, mainly via trampling?

Noxious Weeds and Invasive Plants: How does livestock trailing affect the potential spread of noxious weeds and invasive plants?

Wildlife: How does livestock trailing impact big game during fawning/calving and wintering periods?

Water Quality: How does livestock trailing activity around springs and riparian areas affect water quality?

## **2.0 Description of the Alternatives**

### **2.1 Alternative Development Process**

Alternative A is the No Action Alternative. The route included in Alternative B corresponds to the trailing applicant's crossing permit application received by the FRFO, while Alternative C and D were developed by FRFO staff. To develop Alternative C and D, the FRFO Interdisciplinary (ID) Team reviewed the trailing route and described trailing events proposed in Alternative B in relation to resources of concern. Design criteria were used in the development of alternatives C and D and were meant to reduce resource conflicts and the potential for adverse resource impacts. These same design criteria were applied to Alternative B and are listed in Section 2.3.2 (Alternative B – Proposed Action). The design criteria are based on best available science, current policy, and awareness of issues through the internal scoping process.

#### **2.1.1 Common Definitions**

Bedding – Up to 40-acre area where livestock water and overnight during multi-day trailing events.

Cross-country - Not associated with a road of any sort.

Crossing Permit - A written permit authorizing livestock to trail across BLM-administered land, or other land under BLM control, where the applicant does not have authorized use or the trailing would occur outside their authorized use period. A crossing permit includes a specified timeframe, a defined route, and other terms and conditions to meet resource objectives (43 CFR 4130.6-3).

Improved Road - Roads with applications intended to harden the surface (e.g. gravel, asphalt). Improved roads are maintained for the purpose of motor vehicle travel. These roads typically have a formal name that is widely accepted (e.g., Little Willow Road, Big Willow Road, and Stone Quarry Road).

Project Area - The project area is between approximately 3,819 and 3,883 total acres depending on action alternative and includes all BLM-administered lands located within the trailing corridor. See Trailing Corridor definition below.

Unimproved Road - Roads that could accommodate a motor vehicle but are not surfaced or maintained expressly for motor vehicle travel. These roads are typically not named but often appear on United States Geological Survey (USGS) 7.5 minute quadrangle maps (e.g., jeep trails, two-track routes).

Trailing - Domestic livestock walking from one location to another under the control of one or more herders.

Trailing Corridor - The polygons depicted on the maps showing where livestock could potentially occur along each trailing route. See analysis assumptions for livestock travel.

Trailing Route - The lines depicted on the maps showing where livestock trailing would occur.

## **2.2 Alternatives Considered But Not Analyzed in Detail**

### **2.2.1 Trucking of Livestock**

Trucking livestock to and from permitted allotments was analyzed as a stand-alone alternative. However, as the BLM does not issue permits to authorize the use of roads on BLM-administered lands, an alternative requiring livestock to be trucked was not analyzed in detail.

Impacts associated with trucking livestock were analyzed as part of Alternative A. Under the No Action Alternative, it was assumed that the trailing applicant would find alternate means to transport their sheep if trailing across BLM-administered lands were not permitted. For the purposes of analysis, it was also assumed that where trailing could not occur on non-BLM-administered lands, the trailing applicant would truck their livestock to and from their destination grazing areas and analyzed impacts accordingly.

## **2.3 Description of Proposed Action and Alternatives**

### **2.3.1 Alternative A - No Action**

The trailing applicant's application received, in accordance with 43 CFR 4130.1-1 and 4130.6-3, for a crossing permit to trail sheep on BLM-administered lands through Bannister Basin and Paddock Valley grazing allotments would be denied. The application received would be denied by decision in accordance with 43 CFR 4160. Sheep could be trailed on non-BLM roads, publically maintained roads (on roadway only where road passes through BLM-administered lands), state managed lands, or on private lands. Sheep could be trailed during authorized use

periods without a crossing permit, between pastures within an allotment, or between adjacent allotments for which a permittee has authorized use. The trailing applicant could use methods other than trailing (e.g. trucking) to get their sheep to and from their spring/early summer grazing destination (Paddock Valley and Crane Creek grazing allotments).

### 2.3.2 Alternative B - Proposed Action

The FRFO would issue one crossing permit to the trailing applicant for sheep trailing events occurring every spring (late March) and fall (late October – early November) across BLM-administered lands in the Paddock Valley and Bannister Basin grazing allotments (Table 1, Maps 1 and 2). Crossing events would occur twice each year and the term of the permit would be ten years. Crossing events would be applied for, and approved by BLM, on a yearly basis. The 5.2 mile spring trailing events would last one day. The 24.5 mile fall trailing events would last 3 days with an average daily movement of approximately 8 miles.

Table 1. Proposed crossing permit for Alternatives B, C, and D including total number of sheep, trailing window (on, off dates), animal unit months (AUMs), number of groups, herding methods, and livestock grazing allotments crossed.

Route <sup>A</sup>	Map <sup>A</sup>	Allotments Crossed	Livestock		Approximate Timeframe		No. of Groups <sup>B</sup>	Days per Group <sup>C</sup>	% PL	Max. AUMs	Herding Method
			Number	Kind	Begin	End					
Spring 01	#1	Bannister Basin	≤7,500	S	03/24	03/30	3-5 <sup>1</sup>	1	100	49	ATVs, Horses & Dogs
Fall 02	#2	Paddock Valley, Bannister Basin	≤7,500	S	10/20	11/09	2-3 <sup>2</sup>	3	100	148	ATVs, Horses & Dogs
<sup>1</sup> Number of livestock per group would not exceed 1,500 head. <sup>2</sup> Number of livestock per group would not exceed 2,500 head.											
<sup>A</sup> Route and map numbers correspond to routes and maps depicted as Alternative C in EA No. DOI-BLM-ID-B010-2014-0029-EA. <sup>B</sup> Indicates the number of groups in which the total number of livestock would be split for trailing. <sup>C</sup> Indicates how long it would take each group of livestock to travel the length of the trailing route.											

The spring trailing route starts at the intersection of Big Willow and Stone Quarry county roads and moves north, following a two-track road on a ridgeline along the northern boundary of Bannister Basin Allotment. The spring trailing route ends at the Paddock Valley Allotment boundary where the trailing applicant holds a grazing permit (with a turn-out date of March 28th). The fall trailing route starts on the Four Mile County Road in the Minnie Allotment and moves south paralleling the county road for several miles, utilizes the Many Springs Road for a couple miles, and then continues cross country until the Timbers Bedground is reached on State managed lands. The trail continues cross country south around Hog Cove Butte until the Dry Creek County Road and then the Corrals Bedground are reached. The trail heads south from the Corrals Bedground cross-country until the boundary of Bannister Basin Allotment is reached and heads southeast along the two-track road on the ridgeline described for this alternative's spring trailing route. The spring trailing route utilizes 5.2 miles of unimproved road and the fall

trailing route utilizes 2 miles of improved road, 11.3 miles of unimproved road, and 11.2 miles of travel cross-country.

Livestock trailing would occur within 0.125 miles on either side of the identified trailing route. The trailing corridor for Alternative B would involve approximately 2,110 BLM acres, 1,333 private acres, and 440 State acres (includes spring and fall trailing route footprint). A bedding ground (Stone Quarry) of up to 40 acres in size would be authorized in one location partially on BLM lands along the trailing route at the junction of French Corner (better known as Big Willow) and Stone Quarry County Roads (Maps 1 and 2). Three other bedding grounds (Corrals, Timbers, and Minnie) would occur along the fall trailing route on private and State lands. Total number of sheep trailed would range from 6,000 to 7,500 animals during a trailing event. Sheep would be actively moved using non-motorized (e.g. horses, dogs) methods. The permit would include authorization for forage use based on the number of animals and number of days trailed, with the minimum being one day of use. For each event, AUMs would be calculated using the following formula:

$$\text{Sheep AUMs} = [(\text{total number of animals}/5) \times (\text{number of days}/\text{trailing event})]/30.4$$

The following design criteria would apply to both the spring and fall trailing routes:

- The trailing applicant would submit an application to the Authorized Officer describing the trail route to be followed, the number of sheep to be trailed, and the date(s) on which the trailing event(s) would occur at least seven working days prior to the intended date of initiation. Receipt of payment of the ensuing bill would constitute authorization to trail livestock across public land via the designated route.
- Trailing livestock would be authorized within 0.125 miles on either side of the designated trailing route.
- Trailing would be active, with livestock moving toward their final destination, except at night.
- Trailing would not be authorized during times when soils are saturated (i.e., there would be no evidence of puddles and soils would be firm).
- Bedding would occur only at designated locations as displayed on permit specific maps.
- No bedding would occur within burned and/or treated areas until ESR or other treatment objectives are met or criteria for opening the area to grazing are met.
- Motorized vehicles would remain on existing vehicle routes. Cross-country use of motorized vehicles would not be authorized.
- Sheep trailing on routes in or adjacent to burned areas would be kept within 50' of the identified route centerline until vegetation recovery objectives are met.
- Sheep trailing on routes in or adjacent to vegetation treatments (e.g., fuels projects, restoration treatments, or noxious weed spraying) would be kept within 50' of the identified route centerline until the treatment objectives are met, unless the specific trailing event would not conflict with treatment objectives.
- Trailing sheep would avoid identified priority noxious weed occurrences or stay within 50' of the identified route centerline.

- Temporary water troughs would not be placed in sagebrush stands; previously disturbed sites would be used, such as areas around stock ponds or troughs, past seedings, or other grassland sites.
- Staging, bedding, or portable trough areas would not be placed on known historic property sites.
- Per the Final Supplementary Rules published in the Federal Register on July 21, 2011 (76 FR 43706), all supplemental feeding of sheep during trailing, including feeding of horses used for the purposes of herding, must use certified noxious-weed-free forage to prevent the spread of noxious weeds on BLM-administered public lands in Idaho.
- Any conflicts that occur due to livestock mixing would be the responsibility of the trailing applicant, in cooperation with the grazing permittee, to mitigate and resolve.
- The trailing applicant would contact all affected grazing permittees at least 24 hours prior to beginning trailing operations.
- For SSP plant species (i.e. Packard's milkvetch), trailing would avoid known element occurrences and the 400 yard pollinator habitat buffer zone surrounding them. If this is not feasible, trailing would be restricted to within 50' of the identified route centerline of improved or unimproved roads.
- When conducting livestock trailing on or across designated recreation trails, the trailing applicant would be required (to the extent practicable) to return trails to pre-trailing conditions, primarily removing rocks or other debris that are knocked down on the trail surfaces.

### **2.3.3 Alternative C**

Alternative C would be the same as Alternative B except for modifications to the location of both the spring and fall routes through Bannister Basin Allotment (Table 1). The spring route would follow the same ridgeline on the northern boundary of Bannister Basin described in Alternative B for approximately 3.5 miles but would then drop south into the bottom of Sheep Gulch. The route would then continue northeast up the bottom of Sheep Gulch until the boundary of Paddock Valley Allotment is reached (Map 1). The Alternative C spring trailing route utilizes 7.5 miles of unimproved road. The fall route would occur in the same location described in Alternative B through the Paddock Valley Allotment but once past the Corrals Bedground would utilize the two track road down the bottom of Sheep Gulch instead of the ridgeline along the northern boundary of Bannister Basin Allotment (Map 2). Alternative C fall trailing route utilizes 4.1 miles of improved road, 8.5 miles of unimproved road, and 11.2 miles of travel cross-country. The last two miles of this fall route occur on private lands not owned by the trailing applicant. The viability of this fall route would depend on an agreement between the trailing applicant and JG Schwarz, the private land owner, allowing sheep trailing to occur across his private lands. The trailing corridor for Alternative C would involve approximately 1,678 BLM acres, 1,693 private acres, and 411 State acres (includes spring and fall trailing route footprint).

### **2.3.4 Alternative D**

Alternative D would also be the same as Alternatives B and C except both spring and fall routes would utilize the Dry Creek and Big Willow county roads once the Corrals bedgrounds are reached, instead of utilizing two-track unimproved roads through Bannister Basin Allotment (Table 1, Maps 1 and 2). The spring trailing route for Alternative D utilizes 8.8 miles of

improved road and the fall route utilizes 10.1 miles of improved road, 2.7 miles of unimproved road, and 11.2 miles of cross-country travel. The trailing corridor for Alternative D would involve approximately 1,475 BLM acres, 2,082 private acres, and 262 State acres (includes spring and fall trailing route footprint).

### 3.0 Affected Environment and Environmental Consequences

Effects can be temporary (short-term) or long lasting/permanent (long-term). These terms may vary somewhat depending on the resource; therefore, each will be quantified by resource where applicable. Generally speaking:

- **Short-term** effects are changes to the environment during and following ground-disturbing activities that revert to pre-disturbance conditions, or nearly so, immediately to within a few years following disturbance.
- **Long-term** effects are those that would remain beyond short-term ground disturbing activities.

The magnitude of potential effects is described as being major, moderate, minor, negligible, or no effect and is interpreted as follows:

- **Major** effects have the potential to cause substantial change or stress to an environmental resource or resource use. Effects generally would be long-term and/or extend over a wide area.
- **Moderate** effects are apparent and/or would be detectable by casual observers, ranging from insubstantial to substantial. Potential changes to or effects on the resource or resource use would generally be localized and short-term.
- **Minor** effects could be slight but detectable and/or would result in small but measurable changes to an environmental resource or resource use.
- **Negligible** effects have the potential to cause an indiscernible and insignificant change or stress to an environmental resource or use.
- **No Effect** equates to no discernible effect.

## 3.1 Livestock Management

### 3.1.1 Affected Environment – Livestock Management

#### Grazing Permittees

The alternative trailing routes discussed in Chapter 2 of this EA fall either within or are adjacent to the Bannister Basin and Paddock Valley BLM grazing allotments. J.G Schwarz is the only livestock operator who holds a grazing permit in the Bannister Basin Allotment. He has 367 active AUMs which he is authorized to use every two out of three years and can run up to 340 head of cattle from April 1st through June 1st. Soulen Livestock Company (the trailing applicant) is the only livestock operator who holds a grazing permit in the Paddock Valley Allotment. They have 2,272 active AUMs (for both sheep and cattle) authorized yearly and can run 5,000 sheep from March 31st through April 15th, 3,000 sheep from April 16th through May 2nd, 5,000 sheep from May 3rd through June 5th, 2000 sheep from June 6th through June 20th, 1,495 cattle from April 1st through April 30th, 1,265 cattle from May 1st through June 20th, and 365 cattle from June 21st through October 10th. Livestock grazing and its effects to resources in these two allotments has not been analyzed in environmental assessments (EAs) but is scheduled to occur sometime in the next 3-4 years. The EAs will modify livestock

grazing as necessary to conform to Idaho Standards for Rangeland Health and land use plan objectives.

### Livestock Trailing Applicant

The FRFO received an application for a crossing permit from Soulen Livestock Company in September 2013 requesting permission to trail sheep across BLM-administered lands in the Bannister Basin allotment in the spring (March) and the Paddock Valley and Bannister Basin allotments in the fall (October). The trailing applicant's applied for trailing route is represented in Alternative B of this document (see Maps #1 and #2) and utilizes 5.2 miles of unimproved road in the spring, 10.6 miles of improved road, unimproved road, and cross-country travel in the fall, and one 40 acre bedding ground (approximately half of which falls on BLM lands).

## **3.1.2 Environmental Consequences – Livestock Management**

### **3.1.2.1 General Impacts**

The following assumptions apply for analysis purposes:

- Road conditions would limit the timing of sheep turnout or removal; in some years snow drifts or wet road surfaces could prevent access and/or safe travel.
- The proposed livestock route applied for by the trailing applicant has been in use for many years and is a preexisting, though expired, livestock driveway.

Trailing sheep across an allotment when permitted livestock grazing is occurring could result in the following direct and indirect impacts to forage and livestock/operations:

- Reducing availability of forage for permitted livestock
- Creating resource conflicts, through timing, intensity, or other mechanisms that would not be present under existing grazing permits
- Interfering with the distribution or breeding of permitted livestock
- Increasing cost to maintain, repair, or replace range facilities (e.g. fences, water developments, troughs) used, damaged, or otherwise rendered unavailable due to use by trailing livestock

Impacts to the trailing applicant that could result from modifying or denying their application for a crossing permit would include changes in access and cost:

- Temporal modifications to trailing and permitted use of allotments dictated by road conditions
- Costs incurred by trucking, modified trailing, and possible combinations of the two
- Lengthening of routes requiring additional time to complete the trailing event
- Segments and/or restrictions that would require additional herders for livestock control

Costs for trailing, feeding, and trucking were determined for the average number of sheep the trailing applicant would trail over a years' time (7,000 head) based on information provided by trailing applicants and/or grazing permittees in the FRFO (Table 2).

Table 2. A comparison of estimated costs between sheep trailing and sheep trucking in Idaho, 2014.

<b>Description</b>	<b>Costs</b>
Average # of sheep	7,000 head
<b>Trailing</b>	
# Cowboys or Herders Required	2
Labor Cost/Month <sup>1</sup> /Herder	\$750.00 + room/board <sup>2</sup>
Labor Cost/Day/Herder	\$37.50
Ave. Miles Travelled/Day	5
Labor Cost/Mile	\$15.00
<b>Feed (on the trail)</b>	
AUMs/mile	2.1
AUM Cost/Mile <sup>3</sup>	\$25.20
AUM Cost/Day	\$126.00
<b>Total Trailing Cost/Mile</b>	\$40.20
<b>Total Trailing Cost/Day</b>	\$201.00
<b>Trucking</b>	
# Animals/Truck <sup>4</sup>	250 (spring)/300 (fall)
#Trips Required spring/fall	28/24
# of miles spring/fall <sup>5</sup>	17/122
Cost /Trip <sup>6</sup>	\$70.55 (spring) \$506.30 (fall)
<b>Total Trucking Cost</b>	\$1,975.00 (spring) \$12,151.00 (fall)

<sup>1</sup>Month = 160 hours

<sup>2</sup> 2013 U.S. Department of Labor Adverse Effect Wage Rate for sheepherders in western states

<sup>3</sup>This cost would only be incurred if private landowners charged trailing applicants for AUMs.

<sup>4</sup> pregnant ewes weigh more and need additional space, therefore, fewer animals can be transported per truckload during the spring

<sup>5</sup>spring = from Letha Idaho to Stone Quarry Road; fall = from McCall Idaho to Letha Idaho

<sup>6</sup>average trucking cost/mile including gas, truck wear and tear, etc. = \$4.15

### 3.1.2.2 **Alternative A – No Action**

#### Grazing Permittees

*Forage* – There would be a minor increase in forage availability in both the short (<1 year) and long term (>1 year) because trailing sheep would not trample or consume vegetation. Increased forage availability would be most beneficial during drought years when overall plant productivity is reduced. In above average production years, additional forage availability would have a negligible benefit relative to the overall increase in productivity.

*Livestock/Operational Conflicts* – Trailing associated interference with permitted livestock, resource conflicts, or range facility costs would not occur resulting in negligible to minor short-term improvements in allotment operations.

#### Trailing Permit Applicant

*Access* – There would be minor to moderate impacts in the ability of the grazing applicant to access the Paddock Valley allotment in the spring and the junction of Big Willow and Stone Quarry county roads in the fall. If trailing was not permitted across BLM lands in this area, the trailing applicant could either use existing county roads to trail their sheep, negotiate with private landowners for alternative trailing access, or truck the sheep.

*Costs* – Alternative trailing routes could cause minor to major increases in expenses depending on the increase in miles and days required to trail as well as any private landowner fees incurred. Facilities and space necessary for bedding might not be available, safe, or feasible. Additionally, harm to animals from trailing along county roads with vehicular traffic could occur. Costs would increase due to the need for additional herders and supplies. Trucking the sheep to their destinations would be a major cost increase for the grazing applicant because they do not currently incur trucking costs. Trucking five to six sheep bands (7,000 head) in the spring would require 17 miles of travel per trip and 28 trips totaling \$1,975.00 and in the fall would require 122 miles of travel per trip and 24 trips totaling \$12,151 (Table 2).

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

#### Grazing Permittees

*Forage* – Forage allocations for trailing would have a minor effect on the Bannister Basin and Paddock Valley authorized grazing permittees. The maximum AUMs allocated for any one trailing event (maximum 7,500 sheep for 4 days in the fall) would be 100 AUMs or 4% of the total active AUMs (2,639 AUMs) currently authorized in the Bannister Basin and Paddock Valley allotments. Two trailing events (spring and summer) would occur every year with up to 125 AUMs authorized for trailing purposes (25 AUMs in the spring and 100 AUMs in the fall). Forage loss due to trampling would be minor to moderate because the proposed trailing would occur during the growing season when plants are more vulnerable to disturbance.

*Livestock/Operational Conflicts* – Disruption to permitted livestock grazing by trailing activities would be negligible to minor. Soulen Livestock Company (the trailing applicant) is the only livestock operator with a grazing permit in the Paddock Valley allotment and J.G Schwarz grazes cattle in the Bannister Basin allotment two out of every three years in the spring. Minor disruption of permitted cattle could occur during sheep trailing events in the spring, however coordination and communication between the trailing applicant and J.G. Swartz would help to alleviate this conflict. The route proposed in this alternative has been used by the trailing applicant for years and BLM has not been made aware that trailing sheep and permitted cattle conflicts pose any threat or cost to ongoing activities. Negligible to minor effects to range facilities (e.g. fences) could occur due to additional use; however, they are generally repaired by the trailing applicant once their sheep have left.

#### Trailing Permit Applicant

*Access* – There would be no effect on the ability of the trailing applicant to access destination foraging areas because the traditional trailing route would be permitted.

*Costs* – There would be no increase in trailing costs beyond those normally incurred during trailing (Table 2).

### 3.1.2.4 **Alternative C**

#### Grazing Permittees

*Forage* – Impacts to forage availability would be similar to those described for Alternative B. There would be a negligible increase in forage availability where cross-country routes were modified to unimproved roads.

*Livestock/Operational Conflicts* – Impacts from livestock/operational conflicts would be nearly identical to Alternative B, however, the potential for trailing sheep and cattle conflicts is slightly higher (minor to moderate) in this alternative because a portion of the trail would occur along the bottom of Sheep Gulch in the Bannister Basin allotment where cattle are more likely to be found.

#### Trailing Permit Applicant

*Access* – There would be no effect on the ability of the trailing applicant to access destination foraging areas in the spring, however in the fall, an agreement with J.G. Schwarz would have to be made to cross his private lands along the bottom of Sheep Gulch in the Bannister Basin allotment.

*Costs* – Route changes would have a negligible impact on trailing costs by adding less than a mile to the overall route mileage. However, minor to moderate impacts to trailing costs could occur depending on the fees charged by J.G. Schwarz to cross his private land.

### **3.1.2.5 Alternative D**

#### Grazing Permittees

*Forage* – Impacts to forage availability would be similar to those described for Alternative B. There would be a minor increase in forage availability where cross-country routes are modified to instead occur on improved roads.

*Livestock/Operational Conflicts* – Minor to moderate conflicts between trailing sheep and J.G. Schwarz' cattle where the trail follows the Big Willow county road could occur under this alternative. There are several fences with gates along this road that are used by Mr. Schwarz to manage his cattle. Agricultural fields, haystacks, and other agricultural equipment are located adjacent to this road and minor to moderate conflicts between trailing sheep and Mr. Schwarz' heavy equipment use could also occur.

#### Trailing Permit Applicant

*Access* – There would be no effect on the ability of the trailing applicant to access destination forage areas in the spring, or to make it back home in the fall.

*Costs* – Route changes would have a negligible impact on trailing costs by adding less than a mile to the overall route mileage. However, minor increases in trailing costs would occur because trailing sheep along an improved road would require additional herders and equipment.

### **3.1.3 Cumulative Impacts – Livestock Management**

#### **3.1.3.1 Scope of Analysis**

The scope of analysis for cumulative impacts to livestock management extends to the boundaries of the Bannister Basin and Paddock Valley grazing allotments. Other segments of trailing applicant's trailing route through BLM lands in the Four Rivers Field Office was analyzed in an EA and approved in 2012. Along the segment being analyzed in this EA, direct and indirect

effects of trailing to affected livestock permittees including the trailing applicant, would occur within these two allotments. Therefore, cumulative effects would also occur at this scale.

### 3.1.3.2 **Current Conditions and Effects of Foreseeable Future Actions**

Previous and current BLM livestock grazing permits within the Bannister Basin and Paddock Valley allotments and historic stock driveways has contributed to the current status of livestock grazing within the project area. In relation to this analysis, the effects of current and foreseeable future activities will include: livestock grazing permit renewals, vegetation treatments (e.g ESR, habitat restoration projects, and noxious weed management), and Off Highway Vehicle (OHV) activity. The effects of future wildfires are also considered even though the number and size of these fires are hard to predict.

- Permitted livestock grazing is authorized under 10-year grazing permits. When permits are renewed based on the Standards and Guidelines process (fully processed), changes in permit terms and conditions (i.e. livestock numbers, season of use, AUMs) are made where allotments are not meeting standards and livestock area significant factor.
- Vegetation treatments on BLM lands, could be unavailable for grazing for a period of months to several years, depending on vegetation recovery objectives. Vegetation treatments are most often designed to stabilize and improve vegetation communities, with an emphasis on perennial plants; therefore, long-term stability and availability of forage would be one expected outcome.
- OHV use can adversely affect livestock operations by harassing livestock, leaving gates open allowing livestock access to unauthorized or unintended use areas, and reducing or eliminating vegetation in use areas.
- Areas burned by wildfire are normally closed to livestock grazing and permitted use is reduced until vegetation recovery objectives are met (most often from one to three growing seasons).

### 3.1.3.3 **Cumulative Impacts – Alternative A – No Action**

#### Grazing Permittees

*Forage* – Reductions in forage availability from grazing permit modifications, grazing closures associated with wildfire and vegetation treatments, and recreation activities could have negligible (primarily recreation) to major (e.g. closure that affects an entire allotment) long-term effects on individual permittees and minor impacts to overall forage availability. The AUMs not allocated to trailing would not increase the number of available AUMs on BLM grazing permits for the two allotments, therefore the non-use of trailing AUMs would have a negligible cumulative benefit to the permittee.

*Livestock/Operational Conflicts* – Potential disruptions to permitted livestock associated with OHV use could have negligible to moderate short-term impacts. Removal of trailing sheep in the area would have a negligible cumulative benefit to the grazing permittees by reducing conflict with their permitted livestock. However, the number and severity of potential conflicts between trailing sheep and permitted livestock/heavy equipment is minimal when compared to the potential conflicts that could occur between permitted livestock and OHV use.

#### Trailing Permit Applicant

*Access* – Area closures related to wildfires and vegetation treatments would have negligible cumulative impacts on access to destination feeding areas because the county roads would not be affected by closures of surrounding BLM land and the trailing applicant would be using other means to access his grazing allotments under this alternative.

*Costs* – Closures of destination feeding areas due to wildfires or vegetation treatments would have minor to major impacts to the trailing applicant while those areas are closed depending on size of fire and or vegetation treatment. There would not be additional trailing costs due to closures because the trailing applicant would already be using other means to access those destination feeding areas not burned or treated under this alternative. Not issuing a crossing permit would have minor to major cumulative affects to the cost of doing business for the trailing applicant depending on many factors including size of fire/treatment, length of closure, alternative means used to access destination feeding areas, etc.

#### **3.1.3.4 Cumulative Impacts – Alternatives B, C, and D**

##### Grazing Permittees

*Forage* – Forage allocation for trailing was not considered in the Cascade RMP although historic trailing routes were identified. Trailing has not been a factor in whether allotments are meeting standards; therefore, trailing permits would have no cumulative effect on whether or not forage allocations would need to be modified when grazing permits are issued under the Standards for Rangeland Health process. Additional forage allocated to trailing livestock would have a minor but long-term cumulative impact relative to the amount of forage that could be affected by closures related wildfires or vegetation treatments.

*Livestock/Operational Conflicts* – Impacts from other activities would be as described Alternative A. Impacts from trailing sheep would have a minor cumulative impact to livestock/operational conflicts over the short-term.

##### Trailing Permit Applicants

*Access and Cost* – There would be a minor to major positive cumulative effect to access and reduced cost for the trailing applicant if a trailing permit is approved and issued across Bannister Basin and Paddock Valley allotments. This positive cumulative effect would depend on future size and length of closures related to wildfires and/or vegetation treatments, as well the alternative means the trailing applicant would use to access destination forage areas if trailing across BLM lands were not permitted.

## **3.2 Soils and Watersheds**

### **3.2.1 Affected Environment – Soils/Watersheds**

Elevations range from 2,300 to 4,400 feet. Annual precipitation ranges from 13 to 17 inches. The topography is characterized by gently (<20%) moderately (20-60%) to steeply (>60%) sloped ridges bisected by valleys with ephemeral and perennial streams. Soil types are primarily deep, well drained loams, sandy loams, clay loams, or rocky loams. Vegetative cover (primarily exotic annual grass cover, perennial bunchgrass, and some shrub cover), biological soil crust cover, and litter are adequate to stabilize soils and cycle water and nutrients.

Designated and unauthorized OHV roads and trails occur throughout the area at a density of 9.5 miles of trail/square mile of area (mi./sq. mi.). These roads and/or trails have reduced to no vegetation cover.

*Soil Erodibility* – The soil erodibility factor (K-factor) is a quantitative description of the inherent erodibility of a particular soil; it is a measure of the susceptibility of soil particles to detachment and transport by rainfall and runoff. Soil texture is the principal factor affecting K-factor but structure, organic matter, and permeability also contribute. The soil erodibility factor ranges in value from 0.02 (low erodibility) to 0.69 (high erodibility) (Goldman et al. 1986).

Soils along alternative trailing routes are characterized as moderately to highly erodible (K-factor between 0.16 and >0.4). Moderate to steep slopes are susceptible to water erosion; however, average vegetation or biological soil crust cover may be generally adequate to stabilize soils. Areas with little or no vegetation or biological soil crust cover (e.g., frequently used unimproved roads, frequently used livestock trail routes, and areas dominated by exotic annual grasses during low precipitation years and after fires) are susceptible to wind and water erosion.

### **3.2.2 Environmental Consequences – Soils/Watersheds**

#### **3.2.2.1 General Impacts**

The general impacts to soils and watersheds by sheep trailing and associated herding with horses depends on:

- Time of year trailing occurs
- Location of trailing (improved road, unimproved road, cross-country travel)
- Percent slope and aspect of trail route
- Weather conditions during and after trailing
- Location of concentrated use areas (e.g. bedding)

The magnitude of effects to soils and watersheds are related to the occurrence of the above mentioned considerations in relation to specific soil textures and associated K-factor ratings (Table 3, Table 4, and Table 5). Impacts to soils from sheep trailing include a loss of ground cover such as biological soil crusts, litter, and vegetation. Trampling causes soil compaction and pedestals in areas where trailing occurs, especially where ground cover has been reduced or removed. Increased compaction reduces water infiltration and increases surface runoff. Soil disturbance reduces surface soil resiliency to wind and water erosion especially in shallow-rooted annual-dominated plant communities. Soils have different intrinsic soil strengths that vary with moisture content. Soils with more sand or more silt (e.g. sandy loams, silt loams) have less of a tendency to form aggregates and are therefore more susceptible to mechanical damage when dry. Biological soil crusts are brittle when dry, and the connections they make between soil particles are easily crushed. Compressional disturbances such as trailing can severely affect the crust's ability to stabilize soils, especially in dry sandy and silty soils (Belnap et al. 2001). As crustal species are only metabolically active when wet and are brittle when dry, disturbance in dry seasons is generally more destructive, and organisms are less able to recover, than when disturbed in wet seasons (Harper and Marble 1988; Marble and Harper 1989).

Table 3. General impact ratings for route type categories and soil types.

Resource Impacts	Trailing Type (Improved Road)	Trailing Type (Unimproved Road)	Trailing Type (Cross-Country)	Loamy	Sandy	Rocky
Biological Soil Crusts	minor	minor - moderate	moderate-major	major	major	minor
Erosion <sup>1</sup>	minor - moderate	minor - moderate	moderate-major	moderate - major	moderate - major	minor
Compaction	minor	minor	minor-major <sup>2</sup>	minor - moderate <sup>2</sup>	minor	minor

<sup>1</sup> increases with slope

<sup>2</sup> moderate to major impacts when soil is saturated

Table 4. BLM acres associated with K-factor ratings by alternative for spring sheep trailing routes.

Action Alternative	Total BLM Acres – Low K Factor Soils (0.02-0.15)	Total BLM Acres – Moderate K Factor Soils (0.16-0.4)	Total BLM Acres – High K Factor Soils (>0.4)
Alternative A	0	0	0
Alternative B	0	639	66
Alternative C	0	816	177
Alternative D	0	84	91

Table 5. BLM acres associated with K-factor ratings by alternative for fall sheep trailing routes.

Action Alternative	Total BLM Acres – Low K Factor Soils (0.02-0.15)	Total BLM Acres – Moderate K Factor Soils (0.16-0.4)	Total BLM Acres – High K Factor Soils (>0.4)
Alternative A	0	0	0
Alternative B	531	1,187	375
Alternative C	531	687	443
Alternative D	531	634	293

### 3.2.2.2 Alternative A – No Action

Annual fluctuations in vegetation and litter cover would affect expected rates of soil movement in areas where trailing is no longer occurring. Minor to moderate levels of soil displacement would continue to occur on improved and unimproved roads located on high K-factor rated soils due to vehicle use and erosional processes. Major effects (e.g. sheet erosion in areas with sparse cover, rill and gully formation where overland water flows concentrate) could occur in localized areas depending on weather events (e.g. high-intensity winds, severe thunderstorms, or rain on snow events). No additional short-term (<3 years) impacts, outside intermittent soil displacement and redistribution by livestock associated with current grazing permits would occur on cross-country routes. Sheep would still be trailed in the Paddock Valley Allotment during authorized use periods, without a crossing permit, between pastures within an allotment or between adjacent allotments for which the trailing applicant has authorized use.

Indirect, long term ( $\geq 3$  years) impacts would consist of moderate to major vegetation recovery (depending on level of disturbance and climatic conditions) of bedding areas on BLM lands, within livestock trailing buffers along unimproved roads, and along cross-country segments.

Increased vegetation cover would reduce soil movement and allow recovery biological soil crust components over time.

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

For Alternative B, trailing would occur on 5.2 miles of unimproved road in the spring; 7.9 miles of unimproved road and 11.2 miles of cross-country travel in the fall. Direct, short-term impacts would consist of moderate soil displacement on 66 acres in the spring and 375 BLM acres in the fall where the proposed trail route crosses high K-factor rated soils. Improved roads generally contain low vegetation cover and are already frequently used by vehicles, so the additive effects of trailing would be minimal. Unimproved roads generally contain low to moderate vegetation cover and are either minimally traveled by motorized vehicles or often traveled by motorized vehicles depending on OHV travel restriction designation. Vegetation removal, trampling, and compaction by sheep on either unimproved roads or during cross-country travel can increase the development of soil/vegetation gaps exposing soil and biological crusts to wind and water erosion. Moderate to major effects to soil biological crusts could occur along either unimproved road or cross-country routes during fall trailing and/or during spring trailing when soil conditions are dry.

Indirect long term impacts would consist of moderate increases in soil movement and restricted recovery of biological soil crust components along the unimproved road and cross-country sections of the trail and its' buffer zone due to continued decreases in vegetation cover . Soil compaction would continue to be a factor along with associated decreases in water infiltration. Surface runoff would be higher compared to adjacent non-compacted soils potentially causing surface rilling and gullyng.

### 3.2.2.4 **Alternative C**

For Alternative C, trailing would occur on 7.5 miles of unimproved road in the spring; 4 miles of improved road, 8.5 miles of unimproved road, and 11.2 miles of cross-country travel in the fall. Direct, short-term impacts and indirect, long-term impacts would be similar to those described in Alternative B, however, in this alternative the proposed trail route crosses high K-factor rated soils on 177 BLM acres in the spring and 443 BLM acres in the fall.

### 3.2.2.5 **Alternative D**

For Alternative D, trailing would occur on 8.8 miles of improved road in the spring; 10.1 miles of improved road, 2.7 miles of unimproved road, and 11.2 miles of cross-country travel in the fall. Direct, short-term impacts and indirect, long-term impacts would be similar to those described in Alternative B, however in this alternative the proposed trail route crosses high K-factor rated soils on 91 BLM acres in the spring and 293 BLM acres in the fall.

## 3.2.3 **Cumulative Impacts – Soils/Watersheds**

### 3.2.3.1 **Scope of Analysis**

The scope of analysis for cumulative impacts to soils/watersheds extends to the boundaries of the Bannister Basin allotment and the Road Gulch and Willow Flat pastures of the Paddock Valley grazing allotments (approximately 19,695 BLM acres). Permitted grazing on BLM lands along any of the alternative trailing routes analyzed in this document would occur at the

allotment scale and the direct and indirect effects to soils/watersheds from sheep trailing would primarily be localized in nature. The majority of OHV activity in this general area occurs within the Bannister Basin and Little Willow grazing allotments and the Road Gulch pasture of the Paddock Valley grazing allotment. The Willow Creek OHV special management area is fully contained within these three allotments. Wildfire and subsequent ESR activities are unpredictable and could occur at a large, medium, or small spatial scale, however, emergency closures (livestock use, OHV use, etc.) due to wildfire most commonly occur at the allotment scale.

### 3.2.3.2 **Current Conditions and Effects of Foreseeable Future Actions**

The collective effect of past actions has contributed to the current conditions of soil and watershed conditions within the project area. In particular, the levels and intensities of anthropogenic activities across all land jurisdictions has perpetuated increases of early successional, ruderal landscapes (Leu and Hanser 2011) that are at higher risk for cumulative soil and watershed impacts. In relation to this analysis, the effects of current and foreseeable future activities will include: livestock grazing, road construction/maintenance, fire suppression, ESR and habitat restoration projects, noxious weed management, and OHV use.

- Permitted livestock grazing affects soils and biological soil crusts by altering mechanical and biological attributes. Appropriate grazing management would limit soil and watershed degradation on a landscape level. However, livestock grazing would likely continue to result in temporally and spatially variable areas of soil surface degradation and plant community alterations that cause minor to moderate effects to soils (e.g. soil compaction, increased surface runoff, damage to biological soil crusts). These effects would be more frequent in localized areas adjacent to gates, watering, and dietary supplement areas.
- Road construction and ROW maintenance along improved roads would continue to affect soil erosion and displacement within maintained buffers. These effects are spatially restricted to existing locations and occur over a continuous temporal scale.
- Fire suppression activities would vary at both temporal and spatial scales depending on yearly fire severity and extent. Suppression related disturbances would be restricted to dozer-use along linear features and these features are seeded post-fire on BLM lands which would reduce longer-term soil displacement.
- Depending on type of drill equipment (e.g. rangeland and minimum till drills used in association with ESR and restoration projects), short-term increases in soil displacement would occur during seeding operations associated with ESR and habitat improvement projects.
- Noxious and invasive weed treatments could result in localized, short-term exposure of soils to erosion until other species become established in treated areas. By preventing the loss of native habitats through weed control, it is expected that overall, long-term soil loss from erosion would be reduced.

- OHV activities would affect soils and watersheds by disrupting surface soils and biological crusts and increasing the gaps between vegetation and soils making these sites more susceptible to erosion and weed invasion.

### 3.2.3.3 Cumulative Impacts – Alternative A - No Action

Removal of trailing would have a minor long-term cumulative benefit to soils and watersheds primarily where perennial vegetation increases, soil displacement decreases, in low to moderate soil K-factor sites, and in cross-country and unimproved road corridors. Other future and/or ongoing activities that would cumulatively benefit soils and watersheds include improved road maintenance, the modification of BLM grazing permits to meet Rangeland Health Standards, designation of the Big Willow OHV area and the closure of a number of roads and trails, soil stabilization projects after wildfire, Packard’s milkvetch restoration projects, and weed treatments.

### 3.2.3.4 Cumulative Impacts – Alternatives B, C, and D

Trailing sheep would have minor additional impacts to soils and watersheds in relation to other activities. Cumulative impacts of alternatives B, C, and D would be similar in temporal and spatial scale; however, direct ecological benefits (decreased mechanical and biological soil impacts) associated with resource avoidance by using existing improved roads for the southern half of the trail would occur under alternative D. Design criteria built in to the three action alternatives would also serve to reduce negative impacts to soils and watersheds thereby minimizing additional cumulative impacts from trailing activities. For example, avoiding trailing during saturated soil conditions would reduce the mechanical effects of soil compaction and avoiding recently burned areas would allow soils and watersheds to become stabilized prior to resumption of use. Minor to moderate impacts from authorized (e.g., grazing, road maintenance, fire suppression, ESR and restoration projects, weed treatments, OHV use) and unauthorized (e.g., OHV use) activities either would occur or have a high probability of occurring over both grazing allotments included in this analysis. Based on observations of historic uses, the cumulative effects of these activities rarely result in moderate to major impacts to soils and would affect small, isolated areas for the short term until sites stabilize (e.g., a 100-300’ gully affecting <1-3 acres could form in a burned area where heavy livestock or OHV use occurred prior to the burn). Overall soil and watershed conditions within the two grazing allotments would remain stable over the long term.

## 3.3 Vegetation/Special Status Plants

### 3.3.1 Affected Environment – Vegetation/Special Status Plants

#### Vegetation

Ten general vegetative cover types based on Pacific Northwest National Laboratory (PNNL) classified Landsat 7 satellite data could potentially be affected by trailing (Table 6). The affected areas have similar topography, geology, hydrology, substrates, and levels of precipitation. Soil type (texture, chemistry, etc.), precipitation amount, elevation, and other biotic and abiotic factors dictate the vegetation type and conditions. Within these parameters, disturbance drives the state and transition of the vegetation community. Elevations range from 2,300 ft on the southwest portion of the proposed trailing route to 4,400 ft in the central and northern portions. Lower elevations, south and east facing aspects, and gentler slopes (<20%)

are dominated by exotic annuals (e.g., cheatgrass, medusahead) and scattered perennial grasses and shrubs. Upper elevations, north and west facing aspects, and steeper slopes are characterized by low- and mid-stature perennial grasses, bulbous bluegrass, some exotic annuals, perennial forbs, and shrubs. Vegetation in concentrated use areas (e.g., centerline of trailing route, bedding areas) is characterized by exotic annuals, pedestalled low-stature grasses, and low-vigor shrubs. The majority of the route area burned once or twice since 1980, primarily in 1986, 1992, and/or 2007.

Table 6. Acres of vegetation cover types and relative occurrence (%) associated with proposed trailing corridors and bedding areas by alternative for BLM-administered lands.

Vegetation Cover Type	Alternative B		Alternative C		Alternative D	
	Spring	Fall	Spring	Fall	Spring	Fall
Big Sagebrush/Big Sagebrush Mix	213 (30%)	883 (42%)	290 (29%)	737 (44%)	16 (9%)	649 (44%)
Bitterbrush	2	6	4	5		9 (1%)
Bunchgrass	77 (11%)	345 (16%)	133 (13%)	295 (18%)	5 (3%)	240 (16%)
Exotic Annual	397 (56%)	602 (29%)	543 (55%)	366 (22%)	124 (73%)	296 (20%)
Greasewood	5 (1%)	13 (1%)	10 (1%)	13 (1%)		8 (1%)
Mountain Big Sagebrush		22 (1%)		22 (1%)		22 (2%)
Mountain Shrubs		2		2		2
Rabbitbrush		2	1	2		1
Salt Desert Shrub	3	12 (1%)	4	7	1	7
Stiff Sagebrush	10 (1%)	219 (10%)	11 (1%)	212 (13%)	7 (4%)	212 (14%)
Other <sup>1</sup>		5		10 (1%)	15 (9%)	18 (1%)
TOTALS	708	2,110	996	1,670	171	1,464

<sup>1</sup>Includes agriculture, sparse vegetation, wet meadows, and unclassified.

### Recent Assessments and Trends

In the Bannister Basin Allotment (through which the southern four miles of the proposed trailing would occur), six rangeland health assessments were conducted in 1999 southeast and east of the Bannister Basin trailing routes proposed in Alternative C, and two long-term trend plots were located along the trailing routes proposed in Alternative B. One trend location (08N03W03A) burned in 1979, nine years before the trend site was established. Trend location 08N03W09 burned in 1960 and 2007.

In the rangeland health assessments, the valleys were dominated by exotic annual grasses (medusahead, field brome, and cheatgrass) with exotic annual forbs (prickly lettuce and clasping pepperweed), native perennial forbs (sunflower and tarweed), and patches of noxious weeds (rush skeletonweed) along the roads or areas of high disturbance. Midslopes had some sagebrush, but annuals were dominant and invasive thistles were present. North slopes were dominated by Idaho fescue and needlegrass, but heavy grazing and livestock trailing was evident. Ridgetops were invaded by rush skeletonweed and it was suggested that sheep were the vector. Generally, it was asserted that forbs were limited due to continual spring cattle grazing and sheep trailing.

In the trend sites, shrub frequencies are lower than expected at 08N03W03A 29 years after a fire. Rabbitbrush is increasing and few sagebrush have become established. In 08N03W03A, western yarrow has been extirpated, while willowherb and salsify are new. Spiny phlox, arrowleaf balsamroot, and fiddleneck have static frequencies. In 08N03W09, tansymustard

(probably non-native), non-native prickly lettuce, rush skeletonweed, salsify, and storksbill are present, as well as native milkvetch, fiddleneck, and bursage. Native grasses frequencies were static (bluebunch wheatgrass, squirreltail, and needlegrass or purple three-awn) or static to increasing (Sandberg bluegrass). Non-natives included cheatgrass, field brome, and medusahead. Medusahead increased at both sites. Cheatgrass increased at the recently burned site (08N03W09), but was a minor component at the other site. An influx of exotic annual grasses indicates unnaturally high levels of disturbance in both burned and unburned areas.

No trend or rangeland health assessments have been conducted in the vicinity of proposed trailing in the Paddock Valley Allotment (through which the northern 20 miles of the proposed trailing would occur).

Special Status Plants

Packard’s milkvetch is the only special status plant known to occur in the area. Packard’s milkvetch is endemic to a small area in northeastern Payette County, Idaho. The entire population covers approximately 10 square miles from 14 to 19.5 miles east of Payette Idaho (Maps 1 and 2). The element occurrences<sup>1</sup> (EOs) occupy approximately 129 acres distributed across six EOs and 26 sub-occurrences<sup>2</sup> (Table 7). Seventeen sub-occurrences are on BLM-administered lands, five occur on private lands, and four occur on State lands. All known potential habitat was originally surveyed in 2008 and additional surveys were conducted in 2009-2011. To date, no additional plant occurrences have been observed. This plant is a long-lived perennial and if its presence was not documented in surveys conducted in 2009-2011 (characterized as years with average or above average precipitation), it is unlikely that it occurs in any other areas currently identified as potential habitat (exact acreage unknown).

Table 7. Acres of Packard’s milkvetch habitats by ownership, Payette County, Idaho.

Habitat Type	Public Lands	State	Private	Total
Element Occurrences	82.7	23.6	22.8	129.1
Pollinator Habitat (400 yard buffer from EOs)	1,166	331	487	1,984

EOs are restricted to light-colored sparsely vegetated sedimentary outcrops with edaphic conditions (i.e., particular soil conditions [e.g., drainage, texture, or chemical properties] that differ from surrounding areas). Vegetation in EOs is characterized by a diversity of shrubs (four species), grasses (nine species), and forbs (33 species). Thirteen (28%) species are exotics, primarily annuals including cheatgrass and medusahead; however, combined exotic annual canopy cover is relatively low ( $\leq 10\%$ ). Packard’s milkvetch is likely pollinated by insects; however, the exact species and mechanisms are not known. For conservation purposes, it is assumed that pollinator habitat extends up to 400 yards from EOs and ideally would consist of a diversity of native forbs, shrubs, and grasses. As with vegetation in the analysis area, the majority (46%) of pollinator habitat is dominated by the Exotic Annual type on BLM-administered lands. Shrub-dominated (42%) and Bunchgrass (12%) types characterize the remaining pollinator habitat. Exotic Annual types, especially those dominated by cheatgrass or

<sup>1</sup> An EO is a specific geographic location where “a species or natural community is, or was, present” (NatureServe 2002:10). Populations of a species located greater than 0.62 miles (one kilometer) apart are identified as a separate EO.

<sup>2</sup> Distinct occurrences within an EO, generally <0.3 mile apart.

medusahead, provide limited or no suitable pollinator habitat, particularly for pollinators adapted to native forbs.

The USFWS elevated the species to candidate status in 2010. In 2013, the BLM and USFWS completed a candidate conservation agreement that provides for implementation of a number of conservation measures including ones designed to help offset adverse impacts to the species from BLM-authorized activities.

Currently identified threats to the species include OHV use, wildfire, exotic annual grasses, and livestock trampling (Mancuso 2010; USFWS 2012). Three suboccurrences (distinct populations within an EO) in EOs 6 (2) and 7 (1) occur in the current trailing route buffer (Table 8). Seventeen suboccurrences, including two in current trailing route buffer, were monitored for plant health, disturbance, and vegetation composition between 2008 and 2011. Within the trailing route buffer, Packard’s milkvetch abundance was below the 17-plot average, but vigor (i.e., plant height, number of stems) was above average (Table 8). Livestock trampling was not observed and other disturbance factors were below average. Native species composition was below average and exotic species composition was above average in the suboccurrences.

Table 8. Packard’s milkvetch population health, disturbance, and vegetation composition for element occurrences in trailing route buffers.

EO	Acres	Packard’s Health		Disturbance			Vegetation Composition	
		Abundance	Vigor/ Reproduction	Trampling	Herbivory	Disturbance	Native spp.	Exotic spp.
6	12.5	Below	Above	None	Slight	Below	Below	Above
7	5	Below	Above	None	None	Below	Below	Above

### 3.3.2 Environmental Consequences – Vegetation/Special Status Plants

#### 3.3.2.1 General Impacts

The general discussion of trailing-related effects is common to all action alternatives. Direct impacts to vegetation include breakage (injury, deformity) via trampling and removal via grazing. Indirect effects include potential degradation of vegetative communities associated with trailing and bedding activities, and the potential spread of weedy species passively and/or by livestock transport (vectors).

Effects to vegetation are grouped by source (trampling, grazing, and vectors). These sources are addressed where appropriate for broad vegetative types affected by trailing which include: perennial herbaceous vegetation, annual vegetation, and woody vegetation. Perennial herbaceous vegetation includes native and introduced perennial grasses and forbs. Annual vegetation includes native and introduced grasses and forbs. Woody vegetation includes shrubs and trees.

#### Effects of Trampling

*Perennial Herbaceous Vegetation* - Trampling of perennial herbaceous plants could reduce productivity and would likely result in mortality of established plants and hinder seedling

recruitment over time, due to repeated heavy disturbance of roots and aboveground biomass. Trampling of perennial vegetation would produce less of an impact during dormancy and dry soil conditions than during active growth when soil is moist. However when moist soil and active plant growth occur in the spring and late fall, trampling could shear roots, uproot seedlings, compact soil, and damage apical meristems; thereby reducing water and gas exchange, restricting growth, and directly killing plants.

*Annual Vegetation* - Trampling of annual plants could result in injury or mortality, and/or seed bank reductions if trampled during their growing season (before seed set/dissemination). However, potential seedbank reductions would be short term and negligible to minor due to abbreviated life cycles and generally high fecundity, particularly for introduced and/or invasive species. More importantly, damage to perennial vegetation would increase the habitat for annuals. Over time on south-facing slopes in particular, the trailing route would consist mainly of exotic annual plants and bare ground between trailing terraces.

*Woody Vegetation* - Trampling of shrubs could deform mature individuals and could kill immature shrubs (Owens and Norton 1990). Brittle shrubs, such as bitterbrush and sagebrush, are more sensitive to trampling than more flexible shrubs, such as rabbitbrush. Shrub seedlings are more sensitive to trampling and dislodgement than older plants. Woody species within trailing corridors and bedding areas would generally display more deformities and fewer young plants than adjacent stands.

#### Effects of Grazing

*Perennial Herbaceous Vegetation* - Livestock would graze preferentially on herbaceous components of the plant community to the extent that they are actively growing, non-toxic, and non-piercing. Perennial grasses are most susceptible to grazing impacts during their critical growth periods (i.e. from seed stalk emergence to seed dissemination). Perennial forbs are preferred by sheep during the spring, when critical growth and reproduction periods occur. Generally, the vigor of perennial grasses can be sustained with repeated light utilization, while repeated moderate to heavy utilization reduces photosynthetic tissue and can diminish plant vigor. Repeated preferential grazing of forbs during the spring could result in little or no reproduction and the eventual extirpation of species. Utilization during periods when plants are withdrawing reserves from roots for growth, during re-growth, or during seed formation will impact herbaceous species greater than the same level of utilization when the plant is not actively growing or is dormant.

*Annual Vegetation* - Grazing would remove biomass and could kill annual plants, but similar to trampling, these impacts would be short-term due to the high fecundity and short life cycles of this group. However, due to the short annual window for reproduction, damage during this critical period could result in little or no reproduction in a given year. In the long-term annual disturbance during the critical reproduction period could result in extirpation of some species. Palatability and rapid growth of cheatgrass typically overlaps with that of annual forbs. Therefore, grazing in these communities during the early spring could result in the reduction of these species and increase the available habitat for cheatgrass and medusahead.

*Woody Vegetation* - Livestock prefer herbaceous vegetation, but will increasingly utilize woody species (e.g. bitterbrush and mountain mahogany) as browse as herbaceous vegetation goes dormant (Stuth and Winward 1977, Ganskopp et al. 1999, Ganskopp et al. 2004). Reductions in biomass of browse species would be greater when herbaceous vegetation is dormant.

#### Effects of Vectors

Livestock may transport weed seeds that adhere to their bodies or drop undigested weed seeds in their feces. Cheatgrass has been known to spread in this manner (Young and Longland 1996). Trailing could indirectly elevate competition for limited resources between existing native and imported exotic species if livestock import and deposit exotic plant materials (Laycock and Conrad 1981). Openings in vegetative cover created by trampling could occur and provide opportunities for germination and spread of exotic annual plants, particularly where these species are adjacent to or components of the plant community. Livestock trailing could also have indirect short-term benefits for upland vegetation by dispersing native seeds and creating microhabitats for native species through localized soil disturbance (Burkhardt 1996).

#### Magnitude of Effects

The type and magnitude of effects to upland vegetation by livestock trailing activities (active trailing, bedding, and possible herding by OHVs) will depend upon trailing intensity (the number of livestock that pass through a given area), timing of events (during active growth or dormancy), type of trail/route (improved road, unimproved road, or cross-country), and location of the event. Livestock trailing-related impacts would also add cumulatively to livestock grazing-related impacts incurred during authorized grazing.

The degree that plant communities would be directly affected increases as intensity increases. Greater numbers of livestock would increase the potential to trample or ingest vegetation compared to lower numbers of livestock. Timing of trailing affects the magnitude of impacts to vegetation. Trailing when plants are initiating growth or actively growing (typically in spring) would impact them more than trailing when they are dormant (perennials) or have completed their life cycle (annuals). Route characteristics (i.e. previous disturbance) are also important influences on the magnitude of impacts. Trailing along existing roads would produce fewer impacts to vegetation than cross country trailing. How these three factors are combined would dictate the overall magnitude of impacts to upland vegetation.

The intensity of use also determines the amount of indirect impacts to plant communities. Low to moderate numbers of livestock (<6,000 animals) would not damage or remove enough vegetation to allow for noxious or invasive plants to colonize a site. Large to substantial livestock numbers (>6,000 animals) would damage vegetation and create bare ground openings that allow weedy species to establish. Weedy species that become established as a result of livestock trailing could spread into adjacent plant communities resulting in increased competition for resources over the short-and long-term.

### **3.3.2.2 Alternative A – No Action**

#### Vegetation

Trampling impacts associated with trailing would be eliminated from up to 2,110 BLM-administered acres (Alternative B trailing corridor). Removal of annual spring grazing impacts

would allow minor (Exotic Annual) to moderate (bunchgrass and shrub cover types) increases in habitat structure and quality (density and vigor of perennial grasses, forbs, and shrubs) over the long term on up to 708 acres (Table 6). Removal of trampling impacts would improve shrub structure in up to 1,156 acres with brittle shrub overstories. Removal of trailing livestock as vectors would have a minor reduction in the establishment of noxious weeds. Improved habitat quality would cause a minor decrease in the opportunity for the establishment and expansion of invasive annuals and noxious weeds, especially in the northern portion of the trailing route. In the short term, minor growth and recruitment of native species would occur and early seral species, including noxious weeds, would increase moderately. In the long term, native perennials would displace these early seral species. South facing slopes would be the slowest to recover, due to the propensity for annual grasses to fill any bare areas on southerly aspects. However, even these areas would recruit native vegetation during warm, moist years favoring native seedling growth.

#### Special Status Plants

Removal of trailing would eliminate one source of trampling impacts to EOs (up to 17.5 acres) and trampling and grazing impacts to pollinator habitat (up to 261 acres). Improvements in habitat structure and quality would have minor long-term benefits to pollinator habitat. Minor improvements in milkvetch reproduction would occur.

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

#### Vegetation

Grazing and trampling impacts would occur annually during the spring (708 acres) and fall (2,110 acres, including the 708 acres of spring trailing impacts). Trailing would occur primarily during the dormant season for most species; therefore, grazing impacts would be negligible (dormant species) to moderate (early season forbs) over the long term. Trampling would help maintain or increase rabbitbrush over the long term and sagebrush and bitterbrush frequencies and vigor would be lower than expected (up to 1,157 acres of shrub-dominated areas). Spring and fall trampling would suppress perennial herbaceous vegetation frequency and vigor over the long term on 345 acres of bunchgrass and 1,157 acres of shrub-dominated habitats. Annual grasses (397 acres) would not be affected by trailing and could increase over the long term where trampling reduces vigor and density of perennial species. Fall trailing would have a minor effect on herbaceous upland vegetation when soils are dry or frozen. However, trailing during warmer, wetter periods would result in tearing and dislodging of plants in steep and muddy locations. Cross-country trailing (11.2 miles) impacts would occur during the fall when plants are dormant; however, 5.2 miles of trailing on unimproved roads would occur in both the spring and fall resulting in minor to moderate trampling impacts over the long term. A bedding ground at Stone Quarry of up to 40 acres in size (up to 20 acres could occur on BLM lands) would have similar effects as trailing (grazing, breakage and trampling, reducing biomass by ~50% and resulting in a higher percentage of annual species).

Livestock as vectors would have minor impacts during spring trailing because the distance covered would be short (5.2 miles) and trailing would occur before noxious weed seed set. Moderate vector impacts could occur during fall trailing because trailing would cover 24.5 miles after seed set occurs. Annual spring trailing through exotic annual grasses could

indirectly benefit the upland community by creating a fuel break, but a braided nature of sheep trails is a poor fuel break, and also has livestock as vectors impacts.

The following design criteria would affect upland vegetation in the following ways:

- Trailing livestock within 0.125 miles on either side of the designated trailing route would result in a 0.25 mile wide disturbance corridor, totaling 708 acres in the spring and 2,110 acres in the fall.
- Trailing would not be authorized during times when soils were saturated; therefore, root shearing and dislodging of plants would be minimized; however, compaction would still occur in moist soils.
- Livestock trailing on routes in or adjacent to burned areas would be kept within 50' of the identified route centerline until vegetation recovery objectives were met, which would concentrate and intensify the disturbance corridor, but allow a greater area to recover after fire.
- Trailing livestock would be herded around identified priority noxious weed occurrences or stay within 50' of the identified route centerline, minimizing, but not eliminating, the spread of noxious weeds.
- Temporary water troughs would be placed in previously disturbed sites without sagebrush, such as areas around stock ponds or troughs or grassland sites, resulting in minimal disturbance to sagebrush.

Special Status Plants

*Spring trailing* – Trampling damage could occur annually during the spring in EO 6 (up to 10.7 acres, Table 9). Direct impacts would most likely occur to individual plants from livestock trampling in late March when new stems are just starting to emerge from the soil and are most susceptible to trampling damage. Direct impacts would also most likely occur to any other native forbs that might serve as additional pollen sources for Packard’s milkvetch pollinators (up to 84 acres). Persistent livestock trampling results in perpetually disturbed soil that would be conducive to the spread and maintenance of invasive annuals, mostly notable cheatgrass and medusahead, both of which are known to occupy the site. In fact, the area surrounding this EO is dominated by cheatgrass. The most notable indirect impact might be the increased spread of invasive annuals into the EO itself. Livestock as vectors and trampling impacts could result in minor to moderate noxious weeds increases in EOs and pollinator habitat over the long term.

Table 9. Acres of Packard’s milkvetch EOs and pollinator habitat within buffered trailing routes.

Alternative	Element Occurrence (ac)			Pollinator Habitat (ac)		
	Spring	Fall	Total <sup>1</sup>	Spring	Fall	Total <sup>1</sup>
B	10.7	14.6	14.6	84	261	261
C	0	0	0	34	124	124
D	0	0	0	3	133	136

<sup>1</sup> Where total equal sum of two numbers, trailing would be a one-time impact because the spring and fall routes don’t overlap Packard’s milkvetch habitat. Where total is the greater of the two numbers, impacts would occur in both seasons for the lesser acreage figure.

*Fall trailing* - Fall trailing would have similar impacts to spring trailing, although an additional 3.9 acres would be affected in EO 7 (Table 9). However, impacts would be expected to be less

severe due because both Packard's milkvetch and the majority of other native forbs would be dormant. Up to 261 acres of pollinator habitat, including 84 acres affected during the spring, would be impacted primarily by trampling.

#### 3.3.2.4 **Alternative C**

##### Vegetation

Grazing, trampling, and livestock as vector impacts described in Alternative B would occur on 996 acres during spring trailing and 1,670 acres during fall trailing. Spring and fall impacts would occur on 391 acres. Trailing would be the same as Alternative B, except the route selection would affect 230 more acres of public land in the spring and 540 fewer acres in the fall in Bannister Basin, resulting in 33% more springtime damage and 77% less fall damage to public lands in the Bannister Basin Allotment. Relative to Alternative B, trampling impacts would occur on 2.3 miles more of unimproved roads during the spring, but 2.8 miles less during the fall.

##### Special Status Plants

*Spring trailing* - No trailing impacts would occur in any known Packard's milkvetch EO (Table 9). Approximately 34 acres of pollinator habitat would be affected annually by trampling, grazing, and livestock as vectors impacts as described in Alternative B.

*Fall trailing* - No trailing impacts would occur in any known Packard's milkvetch EO (Table 9). Approximately 124 acres of pollinator habitat, including 34 acres affected during the spring, would be affected by trampling impacts annually as described in Alternative B.

#### 3.3.2.5 **Alternative D**

##### Vegetation

Grazing, trampling, and livestock as vector impacts described in Alternative B would occur on 171 acres during spring trailing and 1,464 acres during fall trailing. Spring and fall impacts would occur on 171 acres; however, these would be minor because trailing would be on an improved road and would affect primarily exotic annual communities. Fall trailing would be the same as Alternative B for 11.2 miles of cross-country and 2.7 miles of unimproved roads; however, minor impacts would occur along 10.1 miles of trailing on improved roads.

##### Special Status Plants

*Spring trailing* - No trailing would occur in any known Packard's milkvetch EO (Table 9). Three acres of pollinator habitat would be affected by trampling, grazing, and livestock as vectors impacts annually as described in Alternative B.

*Fall trailing* - No trailing impacts would occur in any known Packard's milkvetch EO (Table 9). Approximately 133 acres of pollinator habitat would be affected by trampling impacts annually as described in Alternative B.

### 3.3.3 Cumulative Impacts – Vegetation/Special Status Plants

#### 3.3.3.1 Scope of Analysis

The cumulative impacts analysis area (CIAA) includes 23 pastures in six allotments (all pastures in Bannister Basin, Cove Creek, and Little Willow allotments, the two western most pastures of Minnie Allotment, the eastern pastures of Paddock Valley Allotment, and the Dry Creek Pasture of Willow Ridge Allotment) adjacent to the trailing route, including 32,467 acres of BLM-administered lands and 21,003 acres of private and State lands. Activities in these allotments, primarily livestock grazing, overlap the proposed trailing routes and could have similar impacts as trailing. Although direct impacts from trailing would be limited to the buffered trailing routes, indirect impacts such as potential increases in invasive annuals and noxious weeds could occur outside the buffered routes. For Packard’s milkvetch, the scope of analysis includes all known EOs and their pollinator habitat (400 yard buffer around EO; 1,984 acres). This EO is isolated from other EOs by more than one mile. The analysis timeframe is from 2014 to 2023. This period corresponds to the length of the permit and the duration of direct impacts associated with the proposed action.

#### 3.3.3.2 Current Conditions and Effects of Foreseeable Future Actions

Cover types include 60% shrublands, 15% bunchgrass grasslands, 21% exotic annual grasslands, and 4% other classifications. Since 1957, a total of 35 mapped fires have occurred, burning 75% of the total area at least once. Shrublands occur in areas where fire frequencies are within the historic range of variability. Areas dominated by bunchgrasses have typically burned too frequently for shrubs to become reestablished. Areas dominated by exotic annual grasslands have burned more frequently and/or livestock use has reduced native perennial species.

Livestock use typically occurs in the spring, summer, and/or fall at generally moderate stocking rates (Table 10). Rangeland health assessments of the Bannister Basin, Dry Creek, and Little Willow allotments were completed in 2000. Upland vegetation was not meeting standards because of livestock use and permit adjustments were made at that time. Rangeland health assessments have not been completed on the remaining allotments. Two livestock trailing routes (3,486 acres) for sheep (3,600 animals on maintained roads and cross country) and horses (125 animals on maintained roads) are currently authorized in the CIAA during the fall.

Table 10. Livestock kind, use periods, and stocking rates for allotments in the vegetation cumulative impacts analysis area.

Allotment	Livestock Kind	Typical Use Period	Stocking Rate
Bannister Basin	C	April-May	11.4
Cove Creek	C/S	April and June-August	12.5
Little Willow	C	April-May and October-November	12.4
Minnie	C	May-October	13.1
Paddock Valley	C/S	March-June	12.0
Willow Ridge	C	May-August and November-December	9.4

Conditions of Packard’s milkvetch EOs are similar to those described for EOs 6 and 7 (Section 3.3.1). OHV use, wildfire, exotic annual grasses, and livestock trampling have been issues in all the EOs. In 2014, the BLM began implementing habitat protection (i.e., OHV closures affecting Soulen Crossing Permit Paddock Valley and Bannister Basin Allotments

all pollinator habitat on BLM-administered lands and five exclosures affecting 470 acres of pollinator habitat) and restoration activities.

Other major disturbances to BLM land include 36 miles of improved roads, 253 miles of unimproved roads, the Big Willow OHV trails and hill climb area, and five dams. In 2013, OHV use in the Big Willow area was limited to designated trails in 1,619 acres, closed on 5,620 acres, and unrestricted on 127 acres. Assuming the average improved road has 32 feet of shoulder disturbance, unimproved roads in the area are eight feet wide, Big Willow OHV trails and open area disturb 130 acres, and dam and reservoir disturbance equals two acres per dam, the total disturbed area from these sources is 525 acres, or <1% of the total area. Although the percentage of area directly disturbed by roads, trails, and dams is low, they provide habitat and vector routes for exotic annual grasses and noxious weeds.

### 3.3.3.3 Cumulative Impacts – Alternative A

Vegetation recovery on up to 3,866 acres (all ownerships) where sheep trailing would not occur would have minor additive benefits to vegetation condition and structure. Reducing or eliminating OHV impacts on 7,239 acres (including 898 acres that overlaps current trailing) would have moderate long term improvements in vegetation conditions where early seral species would establish in the short term and perennial species would establish in the long term. Livestock grazing and trampling impacts would occur annually throughout the CIAA. Negligible (exotic annual dominated) to minor (native perennial dominated) improvements of vegetation condition and structure would occur in the Bannister Basin, Little Willow, and Willow Ridge allotments (10,077 BLM-administered acres and up to 10,752 private and State acres) over the long term where permit changes in 2000 adjusted use to address rangeland health standards. Vegetation conditions would remain static over the long term in areas where livestock use consistently overlaps perennial grass and forb growth periods (Cove Creek and Paddock Valley allotments, up to 30,302 acres) and minor improvements could occur where use occurs after growth periods (Minnie Allotment, up to 2,338 acres). The relatively low stocking rates, especially where they result in  $\leq 30\%$  spring use levels, could help facilitate perennial grass recovery. Fall trailing would have negligible (maintained road, exotic annual dominated areas) to moderate (cross country, native perennial dominated areas) long-term impacts to habitat structure and quality on 3,486 acres. Wildfires would continue to burn through the recovering vegetation, slowing recovery in some locations and eliminating native species from others.

#### Special Status Plants

Removing trailing from 10.7 acres of EOs (54% of EOs 6 and 7; 8% of all EOs) and 84 acres of pollinator habitat (18% of pollinator habitat for EOs 6 and 7; 4% of all pollinator habitat) would have minor (all EOs) to moderate (EOs 6 and 7) long-term additive benefits for Packard's milkvetch. Habitat protection efforts would result in moderate (pollinator habitat) to major (EOs) improvements in structure and quality over the long term. Habitat restoration efforts would result in moderate long term improvements in structure and quality on  $\leq 1,166$  acres of pollinator habitat. Exotic annuals would continue to be an issue in unrestored areas. Livestock grazing and trampling impacts would have minor (restored areas) to moderate (unrestored areas) long-term adverse impacts to habitat quality and structure. Currently permitted trailing would not occur in pollinator habitat. Wildfires would have moderate short-term (restored habitat) to

major long-term (unrestored, exotic annual dominated) adverse impacts to pollinator habitat quality and structure.

#### **3.3.3.4 Cumulative Impacts – Alternative B**

##### Vegetation

Livestock trailing on  $\leq 3,866$  acres would have minor (exotic annual dominated areas) to moderate (native perennial dominated areas) long-term, adverse additive impacts to habitat structure and quality. Impacts from OHV use, livestock grazing, other trailing activities, and wildfires would be the same as described in Alternative A (Section 3.3.3.3). Spring trailing would not directly overlap permitted livestock use in the Bannister Basin Allotment. Fall trailing would overlap with permitted use in the Little Willow, Minnie, and Willow Ridge allotments; however, fencing would keep trailing animals out of those allotments. Moderate to major adverse trampling impacts could occur on up to 267 acres where proposed fall trailing activities overlap currently permitted trailing events.

##### Special Status Plants

Trailing on 10.7 acres of EOs (54% of EOs 6 and 7; 8% of all EOs) and 84 acres of pollinator habitat (18% of pollinator habitat for EOs 6 and 7; 4% of all pollinator habitat) would have minor (all EOs) to moderate (EOs 6 and 7) long-term additive trampling impacts for Packard's milkvetch. Impacts from habitat protection and restoration, livestock grazing, and wildfires would be the same as described in Alternative A (Section 3.3.3.3)

#### **3.3.3.5 Cumulative Impacts – Alternative C**

##### Vegetation

Spring ( $\leq 1,174$  acres) and fall ( $\leq 3,743$  acres) livestock trailing would have minor (exotic annual dominated areas) to moderate (native perennial dominated areas) long-term, adverse additive impacts to habitat structure and quality. Impacts from OHV use, livestock grazing, other trailing activities, and wildfires would be the same as described in Alternative A (Section 3.3.3.3). Impacts associated with concurrent livestock use and currently permitted trailing would be as described in Alternative B (Section 3.3.3.4).

##### Special Status Plants

Trailing on 124 acres of pollinator habitat (7% of pollinator habitat for EOs 6 and 7 during spring trailing; 6% of all pollinator habitat) would have minor long-term additive trampling impacts for Packard's milkvetch. Impacts from habitat protection and restoration, livestock grazing, and wildfires would be the same as described in Alternative A (Section 3.3.3.3)

#### **3.3.3.6 Cumulative Impacts – Alternative D**

##### Vegetation

Spring ( $\leq 1,402$  acres) and fall ( $\leq 3,792$  acres) livestock trailing would have negligible (maintained roads in exotic annual dominated areas) to moderate (cross-country in native perennial dominated areas) long-term, adverse additive impacts to habitat structure and quality. Impacts from OHV use, livestock grazing, other trailing activities, and wildfires would be the same as described in Alternative A (Section 3.3.3.3). Impacts associated with concurrent livestock use and currently permitted trailing would be as described in Alternative B (Section 3.3.3.4).

### Special Status Plants

Trailing on 133 acres of pollinator habitat (7% of all pollinator habitat) would have minor long-term additive trampling impacts for Packard's milkvetch. Impacts from habitat protection and restoration, livestock grazing, and wildfires would be the same as described in Alternative A (Section 3.3.3.3)

## **3.4 Riparian Areas and Water Quality**

### **3.4.1 Affected Environment – Riparian Areas/Water Quality**

#### Riparian Areas

*Sheep Gulch* - Along this route the trail parallels Sheep Gulch for about one-half mile. No riparian areas are associated with Sheep Gulch as it is a fully ephemeral flow regime stream (flows occur only briefly during and following a period of rainfall or spring snowmelt in the immediate locality). Sheep Gulch is incapable of supporting facultative or obligate wetland vegetation, fish, or seasonal benthic insect life. Sheep Gulch is vegetated by xeric upland plant species only, including Wyoming sagebrush, bitterbrush, and invasive annual grasses.

*George Way Gulch* - This stream has been monitored for riparian health over a number of years. This intermittent flow regime stream is in proper functioning condition (PFC). Vegetation is mostly dense to fragmented patches of healthy arroyo willows, and no sedges or rushes exist here due to the coarse streambed substrates and intermittent flow regime. Streambanks and the active channel are stable, and rock-armored. There is little evidence of adverse impacts from the historic sheep trail crossing at this location.

*George Way Gulch Wetland* - Just 0.25 miles south of the George Way Gulch, the trail skirts below a 3-acre spring-fed perennial wetland that is mostly vegetated with late seral wetland plant assemblages including cattails, bullrush, and early seral stage sedges, and rushes. However, this wetland shows evidence of historic and current cattle grazing disturbance. There was bank shearing, trampling and pugging present along with liquefaction of wetland soils in many locations. The most disturbed areas are vegetated with monkey flower (*Mimulus* spp.) and water speedwell (*Veronica* spp.), which are very early seral, disturbance-induced, wetland obligate forbs. The wetland was rated in functioning-at-risk with static trend (TR 1737-16 1996) in 2006. However, none of disturbance factors were associated with historic sheep trailing.

*Indian Creek* - Four-miles to the south, the trailing route crosses Indian Creek on a two-track road, which is located on private lands. The stream crossing is rock-armored and no evidence of disturbance from historic sheep trailing was apparent.

Downstream of the crossing, BLM reaches of this perennial flow regime stream were assessed for proper functioning condition in 2006-2008 and 2012. This mountain alder/redosier dogwood plant community type stream was rated in proper functioning condition on each occasion. Indian Creek was examined (electro-fished) in 2005 to determine fish species composition. Redband trout, a Type 2 (world-wide, globally imperiled) special status fish

species were present in a deep isolated pool about one-mile downstream of the proposed trail crossing.

*Big Willow Creek* - Although the proposed trailing route for Alternative D (fall) does not cross this stream, and only parallels the stream at least 0.25 miles away for a short distance, it has been included here in the analysis for sake of completeness. The segment of this stream along the route is on privately owned lands. No data regarding functioning condition are available. However, segments of Big Willow Creek on BLM lands upstream of the trailing route were in PFC.

### Water Quality

All surface waters in Idaho are protected for the following beneficial uses: wildlife habitat, agricultural water supply, and industrial water supply (Idaho Administrative Procedures Act [IDAPA 58.01.02]). All undesignated surface waters are protected for the following beneficial uses: primary or secondary contact recreation, cold water aquatic life, and the protection and propagation of fish, shellfish, and wildlife, where achievable.

Idaho Department of Environmental Quality has standards which vary between ephemeral, intermittent and perennial flow regime streams. The qualitative flow regime definitions used by Army Corps of Engineers (2009) are described in the following:

Ephemeral stream - An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Intermittent stream - An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Perennial stream - A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

For the purpose of applying a measurable standard to define the various flow regime types, the Idaho Department of Environmental Quality (DEQ) quantitatively defines an intermittent stream as one that has a period of zero (0) flow for at least one (1) week during most years, or has a 7Q2 hydrologically-based flow of less than one-tenth cubic feet per second (0.10 cfs). The 7Q2 is defined as the seven day average flow over a two week period. If a stream contains natural perennial pools containing significant aquatic life (e. g. redband trout), it is not considered intermittent (IDAPA 58.01.02.003.51). Although Idaho considers spring flows to be waters of the state, Idaho has no standards specific to spring flows unless surface flows generated from the spring are  $\geq$  1cfs.

Idaho Department of Environmental Quality (IDEQ) assumes that intermittent streams meet stream temperature standards for seasonal cold water aquatic life during periods of optimum flow. The optimum minimum flow for cold water aquatic life is  $\geq 1$  cfs. The optimum flow for contact recreation is  $\geq 5$  cfs. (IDAPA 58.01.02.070.07). Commonly, optimum flows occur in ephemeral and intermittent streams only during spring snowmelt, rain-on-snow events, or short duration, high yield cloudburst episodes where water and ambient air temperatures are naturally low. Although IDEQ considers spring flows to be waters of the state, Idaho has no standards specific to spring flows unless surface flows generated from the spring are  $\geq 1$  cfs.

*Sheep Gulch and all other intermittent flow regime drainages* - In most years, Sheep Gulch has little to no flowing surface water. However in years with above average snowpack, the stream may flow up to  $\sim 0.25$  cfs for a very brief time period (estimated  $\leq 10$  days) during early spring snowmelt. IDEQ water quality standards for intermittent waterbodies would rarely apply here, except in extraordinary circumstances (e. g. rain-on-snow event, or localized major cloudburst episode). The conditions as described for Sheep Gulch would be similar in all other dry streambeds occurring along the trailing routes.

*George Way Gulch* - George Way Gulch, an intermittent stream, is not mentioned in the IDEQ Integrated Report (2010); however, this stream sometimes flows at volumes in which cold water aquatic life temperature standards would apply ( $\geq 1$  cfs) in the early spring during snow melt. IDEQ presumes temperature standards are met in intermittent streams, as the period when flows are  $\geq 1$  cfs most often occur during spring snowmelt when ambient air and water temperatures are naturally low.

*George Way Gulch Wetland* - This spring fed wetland flows  $< 0.1$  cfs; therefore, water quality standards do not apply.

*Indian Creek* - Indian Creek, a perennial flow regime stream, is listed in IDEQ's 2010 Integrated Report as Category 3: Unassessed Waters. BLM stream inventories and fisheries data show the stream was in PFC. Experience has shown that streams in PFC rarely fail to meet applicable water quality standards. No potential threats to water quality were observed anywhere along the BLM segments of this stream. Depending on the water year, stream flows in this reach are generally interrupted by August. That is, water occurs as subterranean flows in the streambed, and open water appears only in deep and infrequent pools.

*Big Willow Creek* - This perennial stream is described in IDEQ's 2010 Integrated Report as Category 4A: Impaired Waters with EPA Approved TMDLs, listing water temperature as the pollutant. BLM has water temperature data (2002) collected upstream of the trailing route on BLM managed segments of this stream. BLM data show that temperature standards for cold water aquatic life were exceeded on several days.

### **3.4.2 Environmental Consequences – Riparian Areas/Water Quality**

#### **3.4.2.1 Alternative A**

There would be no effect on riparian resources or water quality.

### 3.4.2.2 Alternatives B & C

#### Riparian Areas

Along this route the trail parallels Sheep Gulch (on BLM lands) for about 0.5 miles. No riparian areas are associated with Sheep Gulch. It is not expected that sheep would leave the road while trailing and enter the narrow dry channel of Sheep Gulch, and if they did, it is not anticipated that any notable resource damage would result other than shallow soil surface disturbance.

#### Water Quality

Sheep Gulch does not flow at volumes in which the water quality standards for intermittent streams would apply, except under extraordinary circumstances (e.g., major cloudburst, rain-on-snow event). There would be no affect to water quality over the short through long terms.

### 3.4.2.3 Alternative D

#### Riparian Areas

This route parallels Big Willow Creek for 0.3 miles on BLM lands. On both the county road segment and the 0.4-mile-long BLM lands segment, sheep cannot access Big Willow Creek as the private land boundaries are fenced from the county road. There would be no effect on riparian areas along this route.

#### Water Quality

There would be no effect on water quality in Big Willow Creek over the short or long terms. Trailing on the all-weather road would not affect stream temperature or bacterial levels in this stream.

### 3.4.3 Cumulative Impacts – Riparian Areas/Water Quality

The impacts analysis show that none of the trailing alternatives would result in adverse impacts to riparian areas or water quality, or aquatic organisms; therefore, cumulative impacts would not be present, and were not discussed in this section.

## 3.5 Wildlife/Special Status Animals

### 3.5.1 Affected Environment – Wildlife/Special Status Animals

Habitat conditions are described for representative groups of animals (greater sage-grouse, migratory birds, and southern Idaho ground squirrel). The condition of wildlife habitat has been affected primarily by wildfires, cross-country and designated OHV use, and historic and current livestock use. Since 1986 the majority of the area has burned once and smaller proportions of the area have burned twice. As a result the majority of the area is composed of annual and perennial grasslands with sparse shrub cover and limited amounts of intact, shrub-dominated communities. A network of OHV trails and bare-hill climb areas have further fragmented and degraded wildlife habitat. While these disturbances have occurred on all aspects, native vegetation is less resilient on the hotter, drier southerly aspects than the cooler, moister northerly aspects; therefore, southerly aspects are dominated by exotic grasses and northerly aspects typically support a more resilient community of native vegetation.

#### Specific Upland Habitat Conditions

*Greater Sage-grouse* - Portions of the proposed trailing route (Paddock Valley Allotment) support Preliminary Priority Habitat for greater sage-grouse (ESA Candidate /BLM Type 1 species). PPH are areas that have been identified as having the highest conservation value (breeding, nesting, brood-rearing, and winter habitat) to maintaining greater sage-grouse populations. Two active leks occur approximately 0.73 and 1.4 miles north of the fall season trailing route. The most recent habitat assessment evaluations (2007) rated the breeding habitat immediately adjacent to the trailing route as marginal, primarily due to unsuitable perennial forb canopy cover and high annual grass cover. Sage-grouse telemetry data (2005-2010) documents few individuals (predominantly males) utilizing habitat near the trailing route, additionally the majority of locations were collected during the fall and winter seasons.

*Migratory Birds* - The affected area during spring trailing is <1000 acres; therefore, avian habitat will be analyzed at a stand scale, where home ranges of individuals and pairs are affected (Paige and Ritter 1999). As the majority of the area lacks contiguous sagebrush habitat and suitable cover of native perennial bunchgrasses and forbs, the area does not support stable populations of sagebrush-obligate species such as greater sage-grouse. These sagebrush obligates require a large mosaic of big sagebrush cover types, inter-mixed with native bunchgrasses and forbs. Other sagebrush obligates including Brewer's sparrow, sage sparrow and sage thrasher could potentially occur in the area, although, these species are sensitive to fragmented sagebrush habitats.

Grassland/shrub steppe associated species such as long-billed curlew, burrowing owls, short-eared owls, western meadowlark, vesper sparrow, and horned lark utilize short grassland habitat for nesting, breeding, and brood-rearing. Northern harrier, red-tailed hawk, ferruginous hawk, Swainson's hawk, golden eagle, American kestrel, and turkey vulture are common birds of prey that hunt for insects, small mammals, birds, and carrion throughout the area, year-round or during annual migrations.

*Southern Idaho Ground Squirrel (SIDGS)* - A candidate species under the ESA, SIDGS inhabits drainage bottoms and adjacent gradual slopes in small scattered populations, below approximately 3,200 feet elevation. Historically, SIDGS primarily occupied sandier soils that supported big sagebrush/bunchgrass/forb communities with antelope bitterbrush (Yensen 1991). In the absence of a reliable and nutritious diet provided by native grasses and forbs, SIDGS are subject to the highly variable productivity and nutritional value of exotic annuals. When annual precipitation is relatively low, poor productivity of exotic annuals may not provide enough nutritional sustenance to enable squirrels to store enough fat to survive their long over-wintering period (torpor). The availability of forbs plays a crucial role in the torpor persistence of juvenile male ground squirrels (Barrett 2005). Torpor begins in late June or early July when vegetation begins to dehydrate and desiccate, and lasts until late January or early February when squirrels emerge from their burrows.

Currently, SIDGS habitat is dominated by exotic annuals and does not provide sagebrush cover and perennial herbaceous understories needed to support a stable squirrel population; medusahead is common throughout the area, especially on south aspects, and is indigestible for SIDGS due to its high silica content. The majority of known SIDGS colonies occur on adjacent

private lands and along county roads such as Little Willow, Dry Creek and Bluff (IDFG 2013). There is a paucity of SIDGS monitoring data for the area, but it is likely that SIDGS utilize habitat on the northerly aspects of public land to some degree, as these areas tend to support more native vegetation.

Fall trailing events proposed in this EA within potential SIDGS habitat would occur when SIDGS are in torpor; therefore, fall trailing impacts would be negligible and will not be discussed further in this EA.

### **3.5.2 Environmental Consequences – Wildlife/Special Status Animals**

#### **3.5.2.1 General Impacts**

The general effects of trailing on wildlife would include disturbance (i.e. behavioral) and physical impacts to wildlife species. Depending on the alternative, trailing could occur on maintained or unmaintained roads (two-tracks), or cross-country. Trailing impacts to wildlife and habitat would be greatest when traversing cross-country, while impacts would be negligible on maintained roads. The following disturbance and physical impacts will be considered in detail:

- Disturbance – Cattle and Human Presence
- Physical, Direct– Trampling
- Impacts to animals
- Impacts to habitat quality/structure (see vegetation section)

*Disturbance – Breeding Behavior* - Disturbance from anthropogenic sources have the potential to impact breeding behaviors of wildlife species. Specifically, those species that are tied to specific breeding areas (e.g. sage-grouse and sharp-tailed grouse leks, territories of monogamous birds) are likely more susceptible to disturbance, whereas species with non-resource-based defense mating systems (e.g. many mammals) (Greenwood 1980) would be able to more easily avoid disturbance impacts. The only proposed trailing route that occurs through sage-grouse PPH and within less than 2 miles of active sage-grouse leks would take place in the fall (late-October); therefore, there would be no impacts to sage-grouse breeding behavior.

*Disturbance – Nesting/Juveniles* - The disturbance of nesting and juvenile individuals of numerous wildlife species can be a direct impact of livestock trailing. In this instance, disturbance is defined as any activity which could result in the frequent flushing of adults or young, nest abandonment, or significant loss of prey base. Repeated human intrusions near golden eagle nest sites have resulted in the abandonment of the nest; high nestling mortality due to overheating, chilling, or desiccation when young are left unattended; premature fledging; and ejection of eggs or young from the nest (Boeker and Ray 1971, Suter and Jones 1981). Likewise, a positive correlation of off-highway vehicle (OHV) trails with songbird nest desertion suggests that motorized disturbance negatively impacts the productivity of songbirds (Boeker and Homes 2006).

*Physical, Direct (Trampling) – Impacts to Animals (via stepping on nests, burrow collapse)* - Livestock trailing could potentially damage the nests and burrows of wildlife species. If trailing occurs during the nesting period or while species reside within their burrows, livestock could

cause adult mortalities but are more likely to impact juveniles that are present because of their reduced mobility. Birds that nest on the ground (e.g. long-billed curlew and common nighthawk) or in burrows (e.g. burrowing owls) would be more susceptible to trailing impacts than shrub nesting birds (e.g. sage sparrow) as ground nests tend to be larger and more conspicuous. Some species may avoid building nests or burrows near the roads on which much of the trailing activities occur.

*Physical, Indirect – Grazing (Competition for Forage)*- There could be potential for forage competition between SIDGS and trailing domestic sheep (both species prefer herbaceous vegetation) where trailing routes overlap potential SIDGS habitat during the spring season.

Impacts to wildlife habitat quality and structure are inferred from impacts described in the Vegetation Section (3.3.2).

#### 3.5.2.2 **Alternative A – No Action**

Removal of annual spring grazing and trampling impacts would result in minor long term benefits to wildlife habitat due to minor increases in habitat structure and quality (density and vigor of perennial grasses, forbaceous matter, and shrubs); minor increases in vegetative cover and increased availability of food would benefit wildlife species.

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

##### Sage-grouse

There would be no trailing-associated impacts to sage-grouse during the critical breeding, nesting, early and late brood-rearing seasons, as trailing events through PPH and lekking habitat (6 miles, approximately 736 BLM acres) would only occur during the fall (late-October). Sage-grouse could potentially occupy the area during the fall, but any flushing from cover due to trailing would cause negligible to minor adverse impacts over the short-term and long-term.

##### Migratory Birds

Potential direct impacts to grassland/ sage-steppe associated migratory birds (e.g., long-billed curlew, horned lark, western meadow lark, common nighthawk) from spring trailing include nest trampling and flushing birds from nests, which could reduce the reproductive activity of migratory birds. Approximately 708 BLM acres would be impacted during the spring season (late March). However, the impacts would be negligible to minor as livestock would be traversing through grassland/ sage-steppe habitat during early stages of breeding and nesting season. Fall trailing would have negligible impacts (approximately 2,110 acres) to migratory birds as most species will have already left spring/summer habitats.

##### Southern Idaho Ground Squirrels

As spring trailing events occur in late March and would only persist for 3-4 days, forage competition between SIDGS and domestic sheep would be negligible to minor. However minor impacts from spring trailing (i.e., burrow collapse) to SIDGS potential habitat would occur on up to 708 acres.

#### 3.5.2.4 **Alternative C**

Trailing impacts would be the same as described in Alternative B, except the route would impact wildlife and habitat on 288 more acres of BLM land in the spring and 440 fewer BLM acres in the fall in Bannister Basin, resulting in 41% more spring season damage and 21% less fall season damage.

#### 3.5.2.5 **Alternative D**

Sheep would cross the Bannister Basin Allotment on the maintained county road. This alternative would not impact special status animal species on BLM land, except for bedding at Stone Quarry, as described in Alternative B.

### 3.5.3 **Cumulative Impacts – Wildlife/Special Status Animals**

#### 3.5.3.1 **Scope of Analysis**

The geographic scope is the watershed delineated by Stone Quarry Gulch and Big Willow, Little Willow, Dry, and Alkali creeks. The scope adequately addresses distances southern Idaho ground squirrels might travel as well as home range territories of migratory bird species. The temporal scope is from present to 2028 when recovery from short-term vegetation treatment impacts would be expected.

#### 3.5.3.2 **Current Conditions and Effects of Foreseeable Future Actions**

The following past, present, and foreseeable actions affect watershed and vegetation conditions in the cumulative impacts analysis areas. Influential actions that have occurred in the past and will continue into the foreseeable future include residential and agricultural development, and livestock grazing. The effects of future wildland fires are also considered because these natural events are predictable to a certain degree based on the number and size of wildland fires that have occurred in the past decade.

##### Livestock Grazing

Cattle grazing in Bannister Basin allotment occurs during the spring from April 1st to June 1st, the allotment is rested every two years as part of a rotation system. Cattle and sheep grazing are authorized in the Paddock Valley Allotment and can occur from late March to late June. In some instances grazing can occur from June 21st to October 10th. Impacts to wildlife and habitat associated with livestock grazing are similar to trailing impacts described in Section 3.3.2.1.

##### Recreation

Current levels of recreation use (e.g., hunting, hiking, and OHV use) is causing minor to moderate levels of disturbance, primarily during the spring and fall. OHV use and associated impacts to wildlife and habitat in the Bannister Basin Allotment have greatly been reduced in order to protect and restore Packard's milkvetch populations and habitat. Reduction of OHV use in the area and habitat restoration will benefit wildlife habitat over the long-term.

#### 3.5.3.3 **Cumulative Impacts – Alternative A – No Action**

Moving trailing to non-BLM-administered lands would have a negligible short-term improvement on fall habitats in the Bannister Basin and Paddock Valley Allotments.

### 3.5.3.4 Cumulative Impacts – Alternatives B, C, and D

#### Sage-grouse

Fall trailing through sage-grouse PPH would have negligible cumulative impacts to sage-grouse breeding habitat.

#### Migratory Birds

Trailing through migratory bird habitat during the early spring season would have negligible cumulative impacts to breeding migratory birds and their habitat.

#### Southern Idaho Ground Squirrels

Trailing through southern Idaho ground squirrel potential habitat during the early spring would have negligible to minor cumulative impacts to SIDGS and their habitat.

## 3.6 Recreation

### 3.6.1 Affected Environment – Recreation

The BLM parcels in the Big Willow area are managed as part of an extensive recreation management area (ERMA). Management emphasis in an ERMA focuses primarily on visitor health and safety, avoiding user conflict, resource protection, and land health. Typically this custodial management approach is not intensive and there are no or limited recreational facilities such as trailheads, potable water, interpretive signs, or vault toilets provided. Within an ERMA there may be small zones of concentrated recreation use that warrant the need for more intensive recreation management but not to the extent necessary to designate it a Special Recreation Management Area. There are currently no developed facilities in the Big Willow area. Three information kiosks were installed on private land at strategic locations following the temporary closure in May 2011.

The BLM manages this area for a “roaded natural” classification for recreational user experiences using the Recreation Opportunity Spectrum (ROS) classification system. The “roaded natural” setting is characterized by a more natural appearing environment with moderate evidence of human activity. Interaction between users is low to moderate. Resource modification and utilization practices are evident but harmonious with the natural environment. Conventional motor vehicle use is common on paved, graveled, and unsurfaced roads. There is about an equal chance of experiencing contact with other user groups and experiencing isolation from the sights and sounds of humans exists. Opportunities for a high degree of interaction with the natural environment are common. The challenge and risk associated with more primitive types of recreation are not very important but practicing and testing outdoor skills are important for recreational users.

#### Current Recreational Uses

Recreation in the Big Willow Creek area tends to be focused on a few selected activities and on a seasonal basis. Traditionally recreation use during spring and early summer consisted of dispersed camping, pleasure driving in a backcountry setting, nature study, wildlife viewing, and OHV use on BLM roads and trails. Big game and upland bird hunting, dispersed camping, and scenic driving probably constituted the greatest recreation use in the fall season.

The area is very popular for big game and upland game hunting. IDFG estimates hunter days in Unit 32 (Gem and Payette Counties only) in 2011 were: 12,913 days for mule deer; 5,250 days for elk; and 40,043 days for upland birds. Camping during the fall months tends to be associated with hunting.

Winter use activities depend on weather. If sufficient snow is available some snowmobiling occurs. During milder winters, the area may be used for OHV activities. Mid-summer use tends to be less popular because of the heat and opportunities for summer recreation in cooler areas of the field office.

By far the most significant recreational activity in the Big Willow area in the last ten years has been OHV use, which occurs throughout the year, but spring and fall are the most popular use periods. The 1988 Cascade RMP limited OHV use to the 42 miles of roads and trails that existed at that time. Over the past 10 years, OHV use dramatically increased, including unauthorized cross-country travel which led to the creation of an additional 130 miles of new, unauthorized trails and 244 acres of “hill climbs” where trail impacts are so close together that individual trails are not discernible. These impacts not only occurred on BLM and State lands but most significantly on private land. This issue led to a temporary closure of the area to all motorized use in 2011.

In the winter of 2013, the BLM completed an environmental assessment which amended the OHV designations in the 1988 Cascade RMP on about 7,400 acres. The new designations included a 127 acre open area where cross-country travel is allowed, 5,620 acres are closed to motorized uses, and the remaining acres are limited to designated roads and trails. Future plans for the area include developing a staging area with parking and informational signs.

### **3.6.2 Environmental Consequences – Recreation**

#### **3.6.2.1 General Impacts**

Impacts to recreation include changes in recreational opportunities available and changes in visitors’ experiences. Activities that result in degraded environmental conditions could adversely affect certain visitor experiences.

#### **3.6.2.2 Alternative A – No Action**

There would be no trailing impacts to recreational users.

#### **3.6.2.3 Alternative B, C, and D**

Sheep trailing through this area of Big Willow has occurred for many years. Recreational users in this area are familiar with, and in this rural area, used to seeing livestock use and trailing on public and private lands. For some users, this historic use would enhance their recreational experiences in a rural setting. The designation of one trailing route over another would not affect the majority of recreational uses occurring. There is the potential for a minor adverse impact to those users driving for pleasure if they encounter the sheep trialing along the county road and are delayed in their travels. However this impact would be of a very short duration.

### **3.6.3 Cumulative Impacts – Recreation**

#### **3.6.3.1 Scope of Analysis**

The scope of the cumulative impacts for recreation is the desert foothills and mountain areas used for recreation within about ten miles of the Big Willow area encompassing 202,508 acres. The ownership pattern in the area is 42% BLM-administered lands (85,926 acres), 51% private lands (104,088 acres), and 6% State lands (12,493 acres). Legal public access, and the associated recreational use, of much of the BLM-administered land is somewhat restricted by adjacent private lands.

#### **3.6.3.2 Current Conditions and Effects of Foreseeable Future Actions**

The BLM parcels in the Big Willow area are almost a small island of public land surrounded by private land. Adjacent larger blocks of BLM (upper Big Willow Creek, Little Willow, and Four Mile areas) are located to the north and northeast of Big Willow and connected by a 0.25-mile wide by 0.5-mile long parcel of BLM-administered land. These public lands are highly valued by local residents for open space values and recreational opportunities. Much of the surrounding private land is undeveloped and indistinguishable from BLM-administered land. There has been a large amount of vegetative destruction and wildlife habitat degradation directly resulting from OHV use on private lands immediately adjacent to the BLM parcels at Big Willow. There is also some illegal shooting of protected bird species. The potential for conflicts between land management objectives and the recreating public and for increasing safety issues is likely to increase if these uses are not adequately managed. Vegetative communities on public lands are dominated by exotic annuals and fair or poor condition shrub-dominated types.

Approximately 42% (85,926 acres) of the analysis area is public lands all of which is designated as limited to OHV use. There are no developed BLM facilities in the analysis area. About 4 miles west of Big Willow is the site of the annual “Big Nasty Hill Climb” which is a two-day, competitive hill climb motorcycle event held on private land. The 2012 event had 700 competitors and several thousand spectators. Adjacent to the Big Willow area on the southeast at French Corner is Butte Lodge Hunting Preserve. This is a private membership, hunting preserve and lodge offering opportunities to hunt pheasant, quail, chukar, ducks, geese, turkey, deer, and elk.

#### **3.6.3.3 Alternative A – No Action**

There would be no cumulative impacts to recreational users.

#### **3.6.3.4 Alternative B, C, and D**

Allowing livestock trailing in the spring and fall through the Big Willow area would not have a cumulative impact to recreational uses.

## **3.7 Cultural Resources**

### **3.7.1 Affected Environment – Cultural Resources**

Cultural resources are physical remnants of human activities or traditional lifeway values that are identifiable through field inventory, document research, and ethnography. They include

definite locations or sites, structures, historic trails, natural features, or items that have traditional cultural or religious importance to a specific social or cultural group. For compliance with section 106 of the NHPA, BLM addresses impacts to historic properties. Historic properties are a subset of cultural resources that are listed or eligible for listing on the National Register of Historic Places (NRHP).

To analyze how livestock trailing would impact cultural resources, the FRFO archaeologist conducted a records review (Class I Inventory) using existing data. The GIS database used by the BLM and the Idaho State Historic Preservation Office (SHPO) consists of polygons that depict where surveys have been completed and point data where cultural resource sites have been recorded. This database was merged with all the proposed trailing corridors to complete the analysis.

The proposed trailing corridors and bedding areas were used to define the area of potential effect (APE) on BLM-administered lands. The APE is defined as a 0.25-mile wide corridor that would be used for trailing, plus bedding areas which could encompass up to 40 acres each. Three bedding areas are located on private land, one on State land, and part of one on BLM. Because the corridors identified in alternatives B, C and D are similar; the APE is a combination of the three alternatives for the cultural resources analysis section.

An intersection of known sites with the APE indicated where trailing activities could impact known cultural resource sites. Only two known cultural resource sites (sites) occur in the trailing corridor, one on BLM-administered lands and the other on private property. The two cultural resource sites were recorded as lithic scatters, and the site on private property also had a historic component including a building foundation and machinery parts. The site on private property had been evaluated as a historic property back in 1995, and the site on BLM land had been evaluated as not a historic property.

The Fall trailing corridor crosses Goodale's Cutoff Trail near Georges Way on BLM land and later travels adjacent to the Trail near the northern bedding area on private land.

### **3.7.2 Environmental Consequences – Cultural Resources**

#### **3.7.2.1 General Impacts**

Direct impacts from trailing and bedding could include surface disturbance and soil compaction with subsequent damage to and repositioning of artifacts through trampling. The presence of livestock can impact sites by leaving hoof prints, churned soils from trampling, depressions, wallows, and incised paths. These actions by livestock physically damage and move artifacts and cultural features. In addition to artifact breakage, a loss of site integrity and loss of archaeological context information could occur. Livestock trailing transports, moves, buries, and uncovers artifacts and features horizontally across the site surface and moves them vertically through the site sediments. Livestock defecation and urination reduces the aesthetics of cultural sites.

Livestock trailing could also cause indirect impacts. Livestock remove vegetation by ingesting or trampling plant materials which could facilitate erosion and subsequent damage or complete

destruction of sites. Impacts from wind and water erosion would be increased where vegetation is damaged or removed resulting in artifact transport, artifact burial, and artifact exposure which could facilitate subsequent damage to or destruction of sites.

Variables that may worsen or mitigate impacts to cultural resources include: livestock type (cattle, horse, or sheep), season of use, soil moisture, route type, and number of animals.

Livestock Type – Horses, with their hard hooves that often have metal shoes, would have the greatest potential to impact soils at sites. Cattle would have a moderate potential and sheep would have a minor potential to impact soils.

Season of Use – Use during the summer would cause the most impacts because hard, dry soils would increase artifact breakage and would be more susceptible to erosion. Impacts would be negligible to minor during the winter because frozen soils would hold their shape, and snow could provide an added protective layer. Minor to moderate impacts would be expected in spring and fall when soils are potentially moist to saturated, but vegetation would help reduce impacts.

Soil Moisture – Trailing when soils are saturated could cause moderate impacts because it could cause artifacts to be moved vertically through the soil profiles as livestock punch through the soils while possibly pushing a surface artifact down several inches into the buried sediments.

Route Type - Generally, the magnitude of the impacts to cultural resources would be negligible along improved roads because animals primarily trail on previously disturbed areas (e.g., maintained roads and associated ditches). The impacts would be considered to be minor along unimproved roads because animals, especially sheep, could trail on relatively undisturbed areas adjacent to the roads; and moderate for cross-country trailing events because there is no previously disturbed road area to follow.

Livestock Numbers – Impacts would increase as the number of trailing livestock increased. Impacts would be greatest where multiple trailing events occur in the same corridor and large or substantial numbers of animals were present. Areas where livestock congregate receive additional impacts because more animals would be confined to a smaller area for a longer amount of time.

The magnitude of trailing impacts on sites could range from no effect to major effect. One trailing livestock could break a unique artifact or destroy a feature; then, each additional animal increases the chance of impacting that site. The potential for damage to surface and subsurface sites would increase where livestock and/or humans congregate (e.g., bedding and existing watering sites, campsites, corrals, animal processing areas) or when soil moisture conditions are at or near saturation.

Livestock trailing can cause short-term (<1 year) and long-term (>1 year) effects. The indirect effects of trampling and ingesting vegetative cover at a site would be short term because vegetation would grow back in time. Slight erosion on a site caused by livestock could be short-term because of vegetative regrowth. The magnitude of these examples would be

considered to be a negligible effect to site integrity. Trailing event duration would range from less than one to five days. Because the livestock are moving, they usually spend less than a minute in a cultural resource site and thus are considered to be a short-term impact. Long-term impacts to cultural resources that could occur as a result of trailing include breakage of artifacts or loss of site integrity.

Some sites are protected from trailing impacts because fences or impassable terrain are located between the trail corridor and the recorded cultural sites. Other sites would be protected from impacts due to the inherent nature of the site, such as a pictograph on the underside of an overhanging rock outcrop in a steep draw or hunting blinds on steep canyon slopes. Rock cairns, rock walls and other rock features would not be affected by trailing because livestock tend to walk around the features instead of walking into the features. Historic scatters would not likely be affected by trailing because the characteristics that make them significant, such as bottle bottoms and bottle tops, would not be broken by trailing livestock.

### 3.7.2.2 **Alternative A – No Action**

Two sites would be protected over the long term from impacts caused by trailing livestock. Breakage or loss of site context and integrity caused by trampling would not occur on 2,110 BLM acres (Alternative B trailing corridor). There would be a negligible to minor improvement in site integrity over the long term where vegetation that protects sites is maintained or increases. However, an undetermined number of historic properties and historic trail segments located within new trailing corridors on private and State lands could be impacted if livestock operators choose to trail across and/or along cultural sites and historic trails located on non-BLM-administered lands. Trucking on existing roads would have no effect or negligible effects on lands managed by the BLM; however, minor to major new effects could occur where trucks travel off established roads or where animals are congregated. New areas would be subjected to direct effects (e.g. artifact damage) and indirect effects (e.g. loss of site integrity because of damage to vegetation).

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

There are no recorded sites within the Soulen's historic spring trailing corridor; therefore, no historic properties would be affected by spring trailing. Site integrity in the corridors would remain static over the long term where minor changes in soils and vegetation occur and could have a minor decline where moderate changes in soils and vegetation occur.

The fall corridor passes over two recorded sites. Sheep trailing would have a negligible to moderate effect on the two sites. Site 10PE27 is recorded as a rock foundation of a homestead on private property dating to 1911 that was built over an earlier lithic scatter. In 1995, it was judged as possibly eligible to be listed on the National Register of Historic Places (NRHP), but the FRFO archaeologist would not evaluate the site as a historic property that would be eligible for listing on the NRHP using today's standards. Site 10WN310 was recorded in 1975 as a large lithic scatter that was probably also a habitation site, a workshop and a quarry area on BLM land. In 2013, a Cultural Resource Management contractor was hired by the FRFO to specifically locate previously recorded sites and evaluate the sites for the NRHP and determine if grazing livestock have impacted the sites. The contractor re-located site 10WN310, and

evaluated it as ineligible to be listed on the NRHP, and noted that cattle grazing had created wallows on the site, and ATV riders had left deep tire ruts within the site.

Impacts to Goodale's Cutoff Trail would be limited to fall trailing, and considered negligible because the trailing corridor crosses the historic trail only once. The historic trail crossing events would be very short in duration and considered a short-term impact. Trailing along or near historic trails would be for a short distance and would last for a short period of time.

#### **3.7.2.4 Alternative C**

Impacts to cultural resources would be the same as those described in Alternative B.

#### **3.7.2.5 Alternative D**

Impacts to cultural resources would be the same as those described in Alternative B.

### **3.7.3 Cumulative Impacts – Cultural Resources**

#### **3.7.3.1 Scope of Analysis**

The geographic scope for analyses was limited to the APE for the proposed trailing analysis. Direct and indirect (associated with site integrity) effects identified above were limited to the immediate proximity of sites.

#### **3.7.3.2 Current Conditions and Effects of Foreseeable Future Actions**

Current and past effects to historic properties include permitted grazing and associated trailing and rangeland management projects; recreational activities; wildfires and ESR treatments; and natural weathering and deterioration of cultural sites.

- Grazing, concentrated livestock use associated with rangeland management projects, and trailing have been occurring for decades throughout the APE. After 22 years of observing livestock-related impacts, the FRFO archaeologist has observed that livestock often impacted only the top few inches of a cultural site. Surface integrity is generally lacking for lithic scatters and other portable artifacts due to a number of factors, including those listed previously. Sites in the APE are lithic scatters. Previous field visits have shown that the top 4 inches of most sites lack spatial integrity and in the case of sparse lithic scatters, they do not contain the requisite characteristics to qualify for eligibility to the NRHP.
- Recreational uses, primarily OHV use and hunting, occur throughout the APE and have no effects to minor effects on cultural resources except where OHV use is heavy (e.g., high density of roads or trails) or where sites have been vandalized.
- Cultural sites have been affected by wildfire in the past. Short-term loss of protective vegetation made them susceptible to erosion until vegetative cover was re-established. ESR treatments avoided sites and helped stabilize soils over the long term to reduce erosional effects.
- Natural weathering and deterioration would have a negligible (where sites are protected by stable soils and perennial vegetation) to minor (where sites are associated with soil erosion and annual vegetation) effect over the long term.

Future impacts would occur from the uses and impacts noted above. Cultural resources on BLM-administered lands would be protected by compliance with the NHPA, and any adverse impacts to eligible sites from authorized activities would be avoided or mitigated by following protocols designed to comply with Section 106 of the NHPA.

### 3.7.3.3 Alternative A – No Action

Not permitting trailing would eliminate trampling impacts and improve site integrity; however, it would have a negligible benefit relative to impacts from other activities occurring in the APE. Negligible to minor impacts from grazing, wildfire, recreational uses, and natural weathering would occur annually over some of the APE, or over the entire APE.

### 3.7.3.4 Alternative B

Trailing impacts would be a negligible and an additive impact to cultural resources in the APE. Negligible to minor impacts from yearly permitted grazing would occur annually over the entire APE, but would not always overlap temporally (e.g., where vegetation regrowth occurs after fall, winter, or early spring use and before trailing use). There would be a high degree of spatial overlap between recreational uses and trailing because OHV use primarily occurs on existing maintained and unmaintained routes. Cross-country OHV use is widespread; however, repeated use that causes loss of vegetation occurs in a small portion of the APE. In a normal or above average fire year (e.g., 2012), wildfires could affect a portion of the APE and negligible to minor short-term affects to site integrity could overlap spatially and temporally with trailing events. Natural weathering would occur throughout the APE and temporally overlap trailing.

### 3.7.3.5 Alternative C

Cumulative impacts to cultural resources would be similar to those described in Alternative B.

### 3.7.3.6 Alternative D

Cumulative impacts to cultural resources would be similar to those described in Alternative B.

## 4.0 Consultation and Coordination

### 4.1 List of Preparers

Name	Title	Responsibility
Tate Fischer	Manager, Four Rivers Field Office	Review, Oversight
Matthew McCoy	Assistant Manager, Four Rivers Field Office	Review, Oversight
Lara Hannon	NEPA Specialist	NEPA Compliance
Sarah Garcia Castro	Rangeland Management Specialist	Project Lead, Rangeland Management, Soils/Watersheds
Tom McGinnis	Ecologist	Upland Vegetation, Invasive Plants, Noxious Weeds
Mark Steiger	Botanist	Special Status Plants
Allen Tarter	Natural Resource Specialist	Riparian Resources, Water Quality, Fisheries
Joseph Weldon	Wildlife Biologist	Wildlife
Dean Shaw	Archaeologist	Cultural Resources
Larry Ridenhour	Outdoor Recreation Planner	Recreation
Michele Porter	GIS Specialist	GIS

## **4.2 List of Agencies, Organizations, and Individuals Consulted**

Idaho Department of Lands  
Idaho State Historic Preservation Office  
Soulen Livestock Company  
J.G. Schwarz

## **4.3 Public Participation**

A crossing permit application was received by Soulen Livestock Company on September 13, 2013. The project was posted on the BLM ePlanning website on February 21, 2014. A meeting with Harry Soulen from Soulen Livestock Company and J.G. Schwarz (adjacent landowner and livestock permittee) to discuss the proposed action and alternative development occurred on June 20, 2014. A scoping document was sent to Idaho Department of Lands on July 15, 2014. Written comments were submitted by Idaho Department of Lands on August 25, 2014. These comments are summarized in Section 1.7 and are available in the administrative record.

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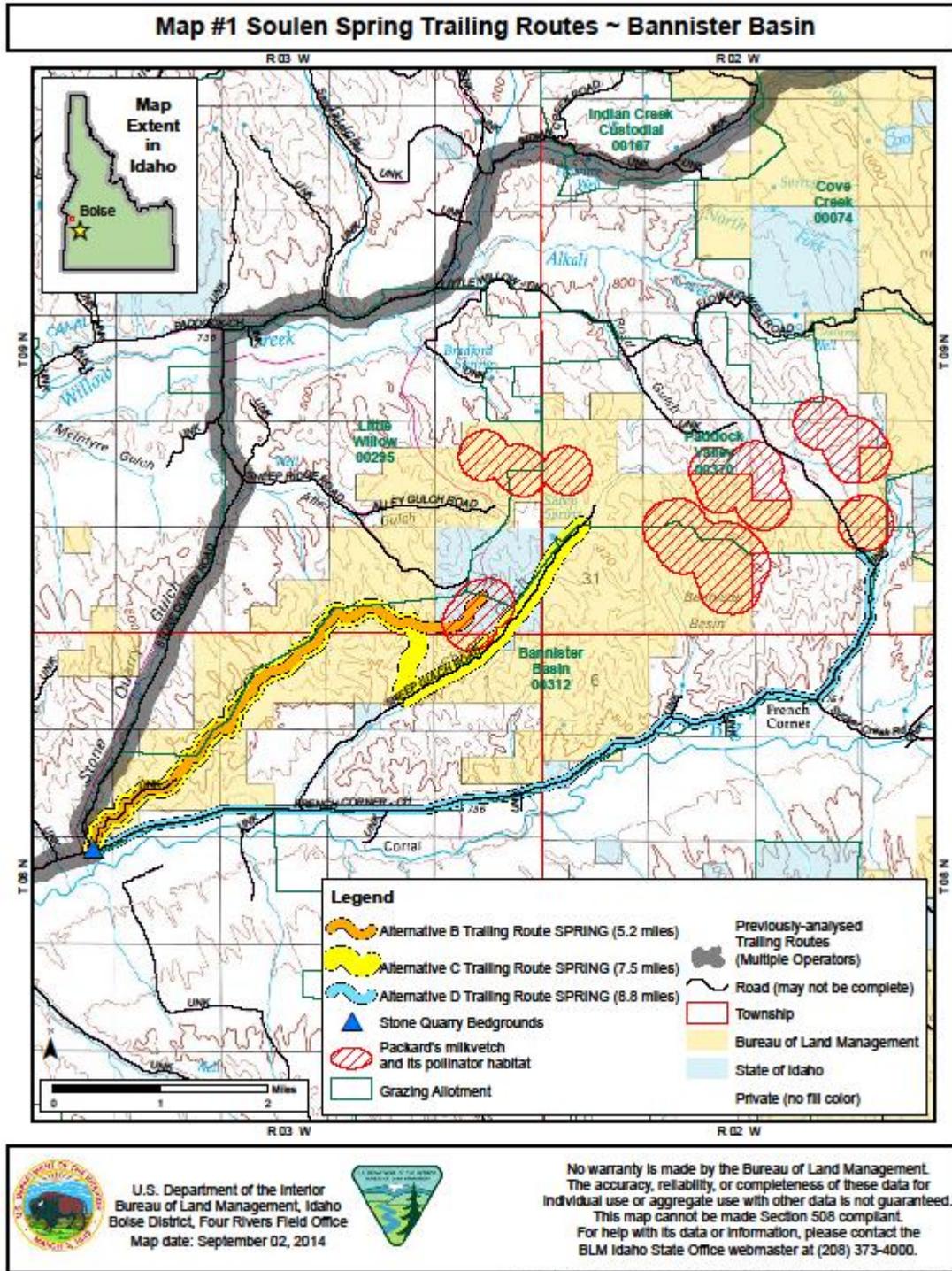
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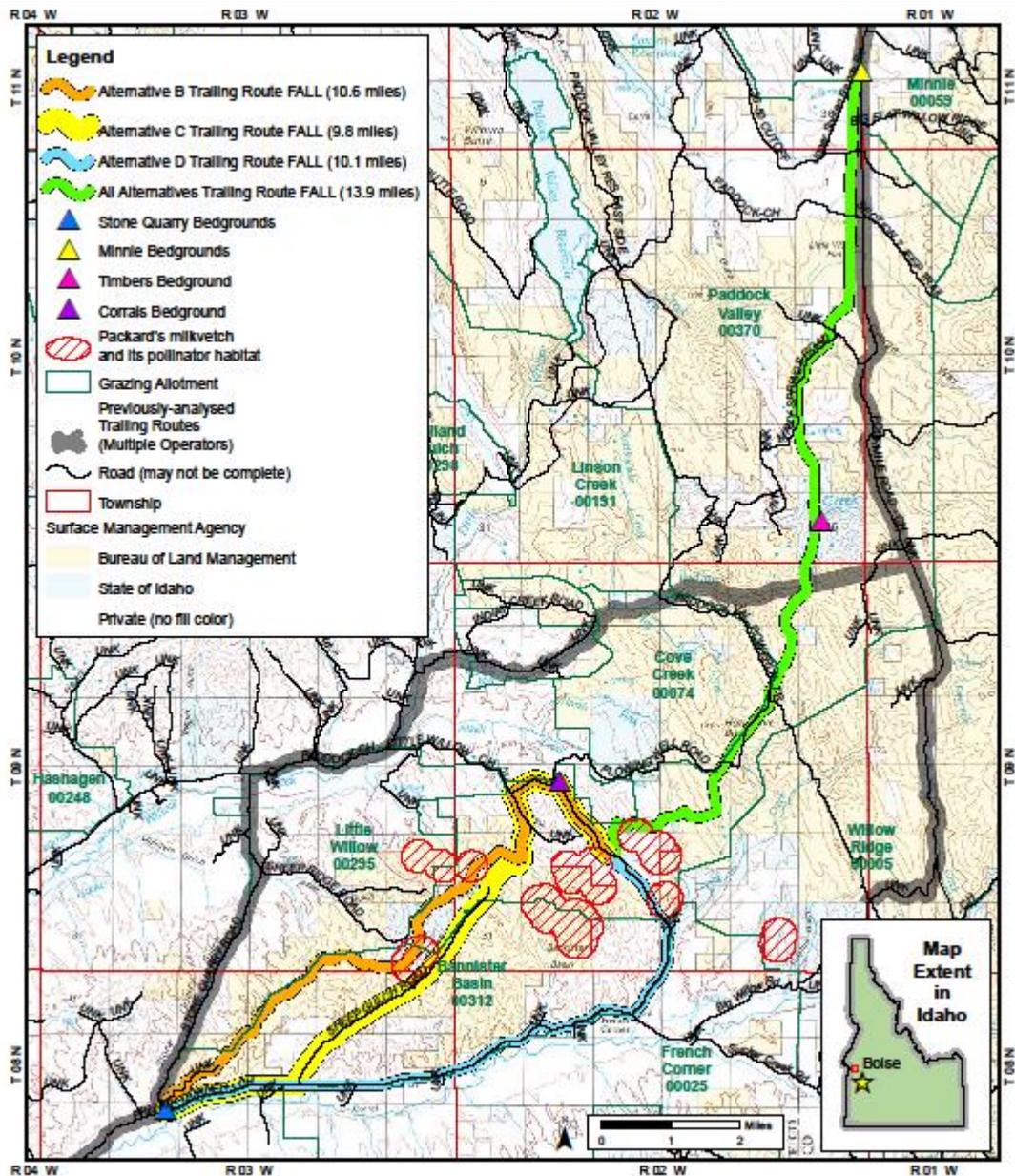
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## 6.0 Maps



## Map #2 Soulen Fall Trailing Routes ~ Paddock Valley and Bannister Basin Allotments



U.S. Department of the Interior  
 Bureau of Land Management, Idaho  
 Boise District, Four Rivers Field Office  
 Map date: September 02, 2014



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