

**BIOLOGICAL OPINION
ON
THE EFFECTS OF BUREAU OF LAND MANAGEMENT ONGOING LIVESTOCK
GRAZING ACTIONS IN IDAHO ON THE SLICKSPOT PEPPERGRASS (*LEPIDIUM
PAPILLIFERUM*)**

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**FISH AND WILDLIFE SERVICE
IDAHO FISH AND WILDLIFE OFFICE
BOISE, IDAHO**

Table of Contents

CHAPTER 1. BACKGROUND	1
1.1. Introduction	1
1.2. Consultation History	1
1.3. Consultation Context	4
1.3.1. Previous Related Consultations	4
BIOLOGICAL OPINION	6
CHAPTER 2. DESCRIPTION OF THE ONGOING ACTIONS	6
2.1. Individual Ongoing Actions	6
2.2. Conservation Agreement and Candidate Conservation Agreement for the Slickspot Peppergrass	9
CHAPTER 3. ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION .	20
CHAPTER 4. STATUS OF THE SPECIES AND ENVIRONMENTAL BASELINE OVERVIEW	21
4.1. Status of the Species	21
4.1.1. Regulatory Status	21
4.1.2. Reasons for Listing	21
4.1.3. Species Description	22
4.1.4. Life History	22
4.1.5. Genetics	24
4.1.6. Rangewide Status and Distribution	25
4.1.7. Population Dynamics	25
4.1.8. Habitat Characteristics	29
4.1.9. Population Trends	32
4.1.10. Survival and Recovery Needs	33
4.1.11. Ongoing Conservation Efforts	37
4.2. Environmental Baseline	39
4.2.1. Status of Slickspot Peppergrass in the Action Areas	39
4.2.2. Factors Affecting the Species in the Action Areas	39
CHAPTER 5. EFFECTS OF THE ACTIONS AND CUMULATIVE EFFECTS	50
5.1. Overview of the Effects of the Actions Analyses	50
5.2. Boise District Ongoing Actions	56

5.2.1. Livestock Grazing Permits.....	57
5.3. Jarbidge Field Office Ongoing Actions.....	176
5.3.1. Livestock Grazing Permits.....	186
5.4. Effects Summary	226
5.4.1. Summary of Ongoing Actions Effects Determinations	226
5.5. Conclusion.....	252
CHAPTER 6. INCIDENTAL TAKE STATEMENT.....	254
6.1. Incidental Take Statement	254
6.2. Conservation Recommendations	254
CHAPTER 7 REINITIATION	257
7.1. Reinitiation-Closing Statement	257
CHAPTER 8. LITERATURE CITED.....	258
8.1. Published Literature.....	258
8.2. In Litt.	267
8.3. Personal Communications.....	268

List of Tables

Table 1. Ongoing Bureau Actions Considered in this Biological Opinion.....	7
Table 2. Conservation Agreement (CA) Conservation Measures Applicable at the Ongoing Action Level for Ongoing Livestock Grazing Actions (from pages VI-3 – IV-9 of the Assessment as updated by the Bureau on 12/2/09).....	12
Table 3. Candidate Conservation Agreement (CCA) Conservation Measures Applicable at Ongoing Action Level for Livestock Grazing Actions (from pages VI-10 – IV-14 of the Assessment as updated by the Bureau of Land Management on 12/2/09)	17
Table 4 Distribution and landownership of slickspot peppergrass (<i>Lepidium papilliferum</i>) Element Occurrences (EOs) by physiographic region (Cole 2009, threats table; Sullivan and Nations 2009, p. 77). All areas are estimates and may not total exactly due to rounding.....	27
Table 5. Element Occurrences (EOs) entirely or partially on Bureau of Land Management lands by Element Occurrence rank.....	39
Table 6. Bureau Terms and Conditions for Grazing Authorizations in the Boise District (from page IV-20 of the Assessment).....	57
Table 7. Bureau Management Guidelines for Grazing Authorizations in the Boise District (from page IV-20 of the Assessment).....	58
Table 8. Bureau terms and conditions applied to grazing allotments in the Jarbidge Field Office (Bureau 2009, Table IV.E01 on pp. IV-402 through IV-404).....	178

Table 9. Bureau Management Guidelines Applied to Grazing Allotments in the Jarbidge Field Office (Bureau 2009, Table IV.E-2 on pp. IV-405 through IV-409) 180

Table 10. General prescriptions applied to grazing allotments in the Jarbidge Field Office..... 186

Table 11. Summary of effects of 27 ongoing Bureau livestock grazing actions on the slickspot peppergrass. 228

List of Figures

Figure 1. Bureau of Land Management Field Office locations in Idaho and the distribution of the slickspot peppergrass 8

Figure 2. The range of the slickspot peppergrass (*Lepidium papilliferum*) in southwest Idaho, showing its distribution in the Snake River Plain, Boise Foothills, and Owyhee Plateau. Approximately 87 percent of the total Element Occurrence acreage shown on the map above is addressed in this Biological Opinion. 26

List of Appendices

APPENDIX A..... 269

CHAPTER 1. BACKGROUND

1.1. Introduction

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion (Opinion) based on our review of 27 ongoing Bureau of Land Management (Bureau) livestock grazing actions located on Federal lands within the Bureau's Four Rivers Field Office and Jarbidge Field Office in Ada, Adams, Boise, Canyon, Elmore, Gem, Owyhee, Payette, Twin Falls, Valley, and Washington counties, Idaho, and their effects on the threatened slickspot peppergrass (*Lepidium papilliferum*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Your September 16, 2009, request for formal conference was received on September 16, 2009 prior to the December 7, 2009, effective date for the final rule to list this species. Your December 15, 2009, amended request for formal consultation on the above 27 actions was received on December 15, 2009.

This Opinion is based on information provided in the September 16, 2009, *Final Biological Assessment for Slickspot Peppergrass (Lepidium papilliferum): Jarbidge and Four Rivers Field Offices, Land Use Plans and Ongoing Actions* (Assessment) (Bureau 2009), which is herein incorporated by reference; numerous clarifications of the Assessment; field investigations; and other sources of information cited herein. A complete administrative record of this consultation is on file at the Service's Idaho Fish and Wildlife Office in Boise, Idaho.

1.2. Consultation History

- July 15, 2002: The Service proposed to list the slickspot peppergrass as endangered (67 FR 46441).
- December 8, 2003: The *Candidate Conservation Agreement for Slickspot Peppergrass (Lepidium papilliferum)* (State of Idaho et al 2003) was signed by the Idaho Governors Office of Species Conservation, 3 Idaho state agencies, the Bureau, and 2 nongovernmental cooperator representatives (private landowners who also hold Bureau livestock grazing permits).
- January 24, 2004: The Service's decision to withdraw the proposal to list the slickspot peppergrass as endangered was published in the Federal Register. The species was subsequently dropped from inclusion in the Bureau's consultation on existing land use plans (LUPs).
- August 19, 2005: The U.S. District Court for the District of Idaho (Court) reversed the decision to withdraw the proposed rule to list slickspot peppergrass as endangered, with directions that the case be remanded to the Secretary of the Department of the Interior for reconsideration of whether a proposed rule listing the slickspot peppergrass as either threatened or endangered should be adopted.

- May 31–June 2, 2006: The Bureau and Service Technical Team¹ for *Lepidium papilliferum* (LEPA) met in Twin Falls, Idaho, to develop LUP-level draft conservation measures for the slickspot peppergrass.
- June 19–20, 2006: Bureau and Service managers met with LEPA Technical Team biologists/botanists to review and discuss the draft conservation measures for the slickspot peppergrass.
- July 11, 2006: Bureau and Service LEPA Technical Team biologists/botanists met in Boise to revise the draft conservation measures for the slickspot peppergrass.
- August 9, 2006: Bureau and Service managers met to review and finalize LUP-level conservation measures for the slickspot peppergrass.
- August 15, 2006: The Bureau and Service entered into a Consultation Agreement (Bureau and Service 2006) to provide for effective and efficient section 7 consultation on Bureau LUP actions in Idaho affecting the slickspot peppergrass. The agreement was established in accordance with a national agreement regarding plan and program-level consultations.
- August 22, 2006: The Bureau and Service entered into a Conservation Agreement (CA) to implement the conservation measures for the slickspot peppergrass under LUPs.
- Fall 2006: Multiple meetings were held between LEPA Technical Team Service and Bureau biologists/botanists to develop a biological assessment that addressed the potential effects of existing Bureau LUPs and ongoing actions on the slickspot peppergrass.
- January 12, 2007: The Service's decision to withdraw the proposal to list the slickspot peppergrass under the Act is published in the Federal Register, and efforts to complete section 7 consultation on the effects of existing Bureau LUPs and ongoing actions on the slickspot peppergrass ceased.
- June 4, 2008: The Court reversed the decision to withdraw the proposed rule with directions that the case be remanded to the Service for further consideration consistent with the Court's opinion (*Western Watersheds Project v. Kempthorne*, Case No. CV 07-161-E-MHW (D. Idaho)).

¹ The Bureau and Service LEPA Technical Team consisted of Bureau botanists from the Idaho State Office, the Four Rivers FO of the Boise District, and the Jarbidge FO of the Twin Falls District; and a Service biologist from the Idaho Fish and Wildlife Office (formerly the Snake River Fish and Wildlife Office). The Bureau's Idaho State Office biologist also participated as the Bureau and Service LEPA Technical Team leader during 2006.

- Winter 2009: The Service and Bureau met to discuss potential modification to the conservation measures for the slickspot peppergrass within the 2006 CA.
- July 15, 2009: Service and Bureau managers and LEPA Technical Team biologists/botanists met to discuss threats to the slickspot peppergrass and a strategy for completing section 7 conference on the effects of the Bureau's existing LUPs and ongoing actions on this species.
- July 17, 2009: The Bureau developed guidance for LEPA Technical Team biologists/botanists to make effects determinations on individual ongoing livestock grazing permits and right-of-way (ROW) permits. The Service approved these guidelines.
- July 20–22, 2009: Service and Bureau LEPA Technical Team biologists/botanists met in Boise, Idaho to update effects determinations from 2006 section 7 conference efforts on individual ongoing livestock grazing permits and ROW permits, as well as on military training actions.
- July 28, 2009: Service and Bureau LEPA Technical Team biologists/botanists met in Twin Falls, Idaho to update effects determinations on individual ongoing livestock grazing permits and ROW permits.
- August 4–5, 2009: Service and Bureau LEPA Technical Team biologists/botanists met in Boise, Idaho to update effects determinations on individual ongoing livestock grazing permits, ROWs, and military training actions.
- August 27, 2009: The Bureau and Service entered into an updated CA to implement conservation measures for the slickspot peppergrass under LUPs.
- August 31, 2009: The Service received a preliminary copy of Chapter 3 of a draft Assessment that addressed the effects of ongoing LUP programs on the slickspot peppergrass.
- September 11, 2009: Service and Bureau LEPA Technical Team biologists/botanists met in Boise, Idaho to discuss the most recent version of the draft biological assessment on the effects to the slickspot peppergrass associated with individual ongoing livestock grazing permits, ROW permits, and military training actions.
- September 14, 2009: The Service, Bureau, and Idaho Governor's Office of Species Conservation met to develop a strategy and timeline for completing section 7 conference activities for the Bureau's existing LUPs and individual ongoing livestock grazing permits, ROW permits, and military training actions.
- September 16, 2009: In a memorandum transmitting its Assessment, the Bureau requested formal conference with the Service on effects to the slickspot peppergrass associated with implementing 4 LUPs and the CA and 118 individual ongoing actions.

- October 8, 2009: The Service's decision to list the slickspot peppergrass as threatened under the Act was published in the Federal Register.
- October 14, 2009: The Service provided the Bureau with written acknowledgement that adequate information was present in the Assessment to initiate formal consultation. Concurrence was also provided on eight ongoing project-level actions that the Bureau determined were not likely to adversely affect the slickspot peppergrass.
- October–
December 2009 The Service and the Bureau exchanged numerous clarifications on the ongoing actions addressed in the Assessment.
- November 30, 2009 The Service completed formal consultation for the Jarbidge Resource Management Plan (RMP), the Kuna Management Framework Plan (MFP), the Cascade RMP, and the Snake River Birds of Prey National Conservation Area RMP on the effects of land use plan programs on the slickspot peppergrass (14420-2010-F-0019).
- December 7, 2009 The Service's decision to list the slickspot peppergrass as threatened became effective.
- December 15, 2009 The Bureau requested that their original request for formal section 7 conference be changed to a request for formal consultation following the December 7, 2009, effective date for the listing of the slickspot peppergrass.
- January 4, 2010 The Service provided a draft Opinion regarding the effects of 108 individual ongoing actions on the slickspot peppergrass to the Bureau for review and comment.
- January 11-13, 2010 The Service received comments from the Bureau and their applicants on the draft Opinion.
- January 14, 2010 The Service received a letter from the Bureau requesting that we continue to prepare a biological opinion for the 27 ongoing livestock grazing actions, and subsequently prepare a separate biological opinion for the remaining ongoing Bureau ROW and mineral material actions.

1.3. Consultation Context

1.3.1. Previous Related Consultations

1.3.1.1. Bureau of Land Management Land Use Plan-Level Consultations Previously Completed

The effects of the Bureau's existing land use plans (LUPs) in Idaho on the following species are the subject of completed Service consultations: bull trout (*Salvelinus confluentus*), Canada lynx (*Lynx canadensis*), northern Idaho ground squirrel (*Spermophilus brunneus brunneus*), Bliss Rapids snail (*Taylorconcha serpenticola*), Utah valvata snail (*Valvata utahensis*), Snake River

physa snail (*Physa natricina*), Banbury Springs lanx (*Lanx* spp.), Bruneau hot springsnail (*Pyrgulopsis bruneauensis*), and Ute ladies'-tresses orchid (*Spiranthes diluvialis*).

In November 2009, the Service also completed consultation on all existing Bureau land use plans (LUP) implemented in Idaho that may affect the slickspot peppergrass (14420-2010-F-0019). As three of the four plans considered in that consultation (the Jarbidge RMP, the Kuna Management Framework Plan (MFP), and the Cascade RMP) do not provide specific guidance or direction for managing the slickspot peppergrass that may occur on the Bureau lands covered by the LUPs, the Service and Bureau developed species-specific management guidelines that would be applied together with LUP direction where the slickspot peppergrass may occur. In August 2006, the Service and Bureau signed a Conservation Agreement (CA), committing to implement LUP program-specific conservation measures for the slickspot peppergrass (Bureau and Service 2006). This CA was updated on August 27, 2009. A fourth plan (the Snake River Birds of Prey National Conservation Area RMP) incorporated all conservation measures identified in the 2006 CA. Section 7 was not completed for this RMP until November 2009 as the slickspot peppergrass had no status under the Act at the time this LUP was completed.

1.3.1.2. Bureau of Land Management Project-Level Consultations

The Bureau will apply the conservation measures and implementation actions defined in the 2006/2009 CA as part of their authorization process for ongoing, new, and renewable Federal activities, including the 27 ongoing livestock grazing actions analyzed in this Opinion. The effects of these measures and actions on listed species will be analyzed in action-specific consultations.

Implementation actions provide greater detail regarding how, where, and when the conservation measures will be implemented and the processes that will be followed. Conservation measures are not intended to supersede or replace more restrictive LUP-level program conservation measures already in place. However, it is the Service's expectation that the CA conservation measures will be implemented in instances where past consultations have measures that are less protective than those currently identified and will remain in place until such time that the applicable LUP has been revised.

BIOLOGICAL OPINION

CHAPTER 2. DESCRIPTION OF THE ONGOING ACTIONS

2.1. Individual Ongoing Actions

This Opinion is based on the Assessment developed cooperatively by the Bureau and the Service, that considers the effects of 27 individual ongoing livestock grazing actions (Table 1), and implementation of conservation measures as identified in the 2003 *Candidate Conservation Agreement for Slickspot Peppergrass* (*Lepidium papilliferum*) (CCA), as updated in 2006, between the State of Idaho, the Bureau, the Idaho Army National Guard (IDARNG), and nongovernmental cooperators (private landowners who also hold Bureau livestock grazing permits) (State of Idaho et al. 2003, 2006), and the CA between the Bureau and the Service for slickspot peppergrass signed on August 22, 2006, and updated on August 27, 2009 (Bureau and Service 2006, Bureau and Service 2009), on the slickspot peppergrass. Twenty-seven individual ongoing livestock grazing permit actions are analyzed within this Opinion.

Each of the individual ongoing actions analyzed within this Opinion are located within one of four LUP areas (Jarbidge RMP, Kuna MFP, Cascade RMP, and Snake River Birds of Prey NCA RMP). These LUPs provide guidance for activities within the boundaries of the Bureau's Four Rivers FO of the Boise District and the Jarbidge FO of the Twin Falls District (Figure 1). Each Bureau FO area boundary may contain a mixture of Bureau, U.S. Forest Service (USFS), State, and privately owned lands. However, this Opinion is relevant only to those individual ongoing actions authorized by the Bureau, predominantly located on public lands in Ada, Canyon, Elmore, Gem, Payette, and Owyhee counties, Idaho. Detailed descriptions of individual ongoing actions are provided in Chapter 5 of this Opinion, as well as in Chapter IV of the Assessment (Bureau 2009). In addition, maps of each individual ongoing action are provided in Appendix C of the Assessment (Bureau 2009).

Table 1. Ongoing Bureau Actions Considered in this Biological Opinion.

Ongoing Action Name	Project-Specific Effects Determination for the Slickspot Peppergrass ^a
Four Rivers Field Office	
Black Canyon Allotment #00176	MA,LAA
Black Canyon Allotment #00310	MA,LAA
Black Canyon Shaw Allotment #20135	MA,LAA
Bowns Creek Allotment #00830	MA,LAA
Cornell Allotment #00820	MA,LAA
Ditto Creek Allotment #00818	MA,LAA
Hammett #2 Allotment #01034	MA,LAA
Hammett #3 Allotment #01035	MA,LAA
Hammett #4 Allotment #01036	MA,LAA
Hammett Individual Allotment #01054	MA,LAA
Indian Creek Allotment #00878	MA,LAA
Lower Alkali Allotment #01127	MA,LAA
McPherson Individual Allotment #00196	MA,LAA
Melba Seeding Allotment #00868	MA,LAA
Mountain Home Subunit Allotment #00813	MA,LAA
Reverse Allotment #00873	MA,LAA
Southeast Alkali Seeding Allotment #01129	MA,LAA
Spring Valley Allotment #00278	MA,LAA
Squaw Creek Allotment #00886	MA,LAA
Sunnyside Spring Fall Allotment #00825	MA,LAA
Sunnyside Winter Allotment #00826	MA,LAA
SW Alkali Seeding Allotment #01030	MA,LAA
Jarbidge Field Office	
Inside Desert Allotment #00353	MA,LAA
Juniper Butte Allotment #01119	MA,LAA
Juniper Draw Allotment #01138	MA,LAA
Juniper Ranch Allotment #01031	MA,LAA
Poison Butte Allotment #01050	MA,LAA

^a MA,LAA = May Affect, Likely to Adversely Affect

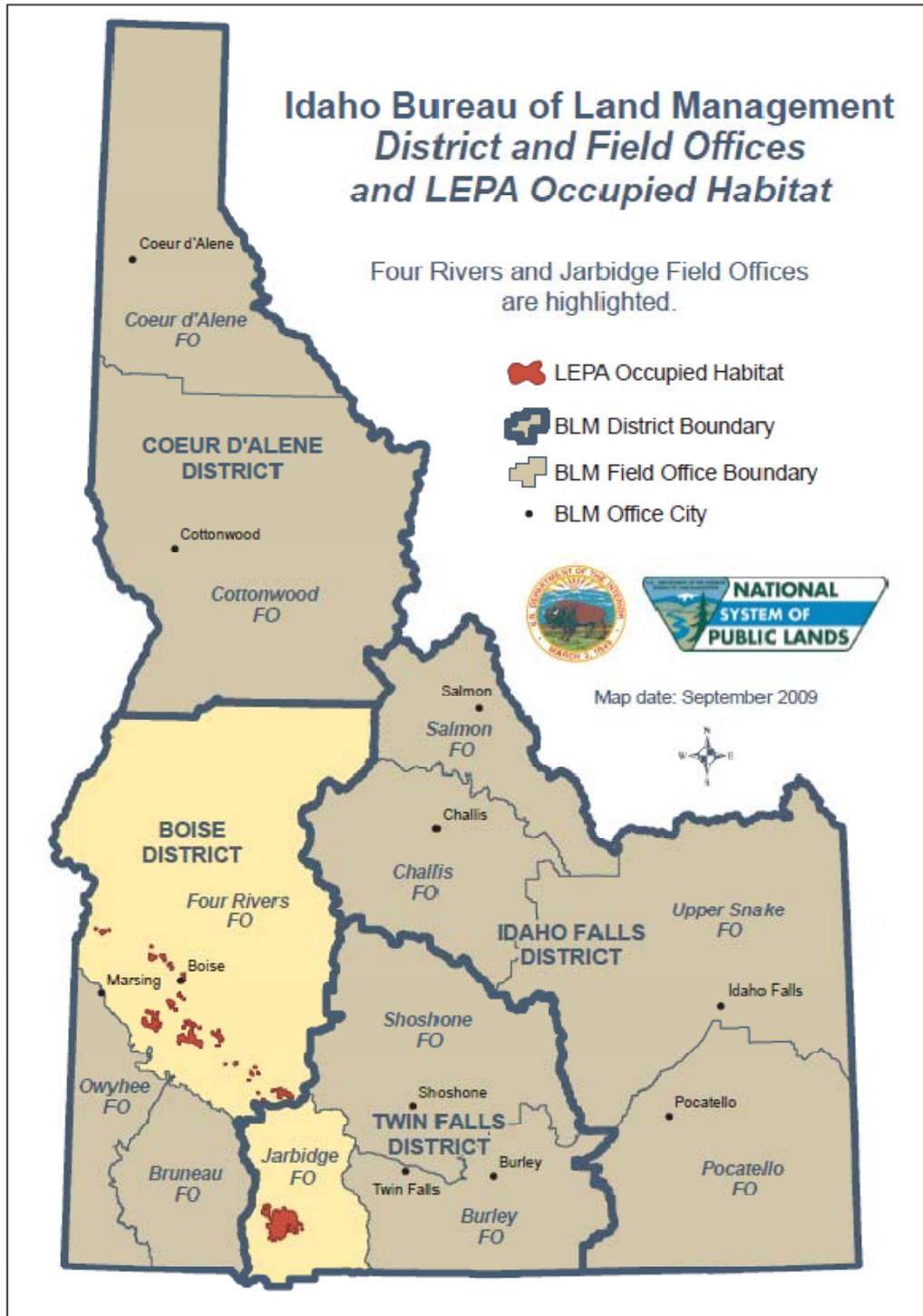


Figure 1. Bureau of Land Management Field Office locations in Idaho and the distribution of the slickspot peppergrass

2.2. Conservation Agreement and Candidate Conservation Agreement for the Slickspot Peppergrass

As noted in section 1.2 of this Opinion, the Service and Bureau have entered into a CA committing to implement conservation measures for the slickspot peppergrass to avoid or minimize effects associated with implementing Bureau actions planned under the standards and guidelines of their LUPs (Bureau and Service 2006). The conservation measures and associated implementation actions for the ongoing Bureau LUP programs provide overall guidance for avoiding or minimizing direct and indirect effects to the habitat of the slickspot peppergrass and restoring and maintaining that habitat. Conservation measures and implementation actions for the slickspot peppergrass include conducting species inventories on Bureau lands, exchanging location information with agency partners, completing site-specific section 7 consultation on both ongoing and new actions, and avoiding or minimizing potential adverse impacts of site-specific projects covered under LUP programs. Site-specific implementation and effectiveness monitoring, including annual reporting requirements, will also be completed to track progress toward achieving conservation objectives. All conservation measures in the CA will be implemented until such time that new LUPs or amendments are approved with completed consultations and signed Records of Decision. The CA provides goals for inventories of the slickspot peppergrass as well as direction for completing section 7 consultations on all ongoing and proposed activities on Bureau lands that may affect this species. The 2009 CA between the Bureau and the Service is presented in its entirety in Appendix A of this Opinion.

The Bureau is also implementing conservation measures defined in a CCA signed between the State of Idaho, Bureau, Idaho Army National Guard (IDARNG), and nongovernmental cooperators (private landowners who also hold livestock grazing permits on Bureau lands) (State of Idaho et al. 2003, 2006). The majority of the individual conservation efforts being implemented for the slickspot peppergrass that are applicable to individual projects are contained in the CCA, which was originally drafted in 2003 and updated in 2006. The CCA represents an important milestone in the cooperative conservation of the slickspot peppergrass given its rangewide scope and coordinated management across Federal and State of Idaho–managed lands. The CCA includes rangewide efforts that are intended to address the need to maintain and enhance slickspot peppergrass habitat; reduce intensity, frequency, and size of natural- and human-caused wildfires; minimize loss of habitat associated with wildfire-suppression activities; reduce the potential of nonnative plant species invasion from wildfire; minimize habitat loss associated with rehabilitation and restoration techniques; minimize the establishment of invasive nonnative species; minimize habitat loss or degradation from off highway vehicle (OHV) use; mitigate the negative effects of military training and other associated activities on the Orchard Training Area (OTA), an IDARNG training area on Bureau land; and minimize the impact of ground disturbances caused by livestock penetrating trampling when soils are saturated (State of Idaho et al. 2006, p. 3). Penetrating trampling is defined by the CCA as breaking through the restrictive layer (i.e., the middle layer of slickspot soil that supports the slickspot peppergrass, as described by Meyer and Allen 2005, p. 3) under the silt surface area of a slickspot during saturated conditions (State of Idaho et al. 2006, p. 9).

As a signatory of the CCA (State of Idaho et al. 2003, 2006), the Bureau is the primary land management agency responsible for implementing conservation actions for the slickspot

peppergrass on their lands. Implementing the conservation measures in the CCA represents a major commitment on behalf of the Bureau, which has management authority for the majority of the range where the slickspot peppergrass occurs (i.e., 87 percent of the total Element Occurrence [EO] area [13,470 ac] and partial-to-entire management authority for 69 of the 80 extant EOs comprising the current population of this species occur on Bureau lands). The Bureau also has the lead for implementing CCA-derived conservation measures that were appropriate for LUP-level programs that were included in the August 22, 2006, CA between the Service and the Bureau to avoid or minimize the adverse impacts of implementing Bureau LUPs to the slickspot peppergrass (Bureau and Service 2006).

Although the majority of the conservation measures identified in the CCA have been implemented to date, relatively few of these measures have been determined at this time to be measurably effective for conserving the slickspot peppergrass. For example, many of the implemented measures include conducting surveys, monitoring, or providing for public outreach and education, which have limited direct or long-term conservation benefits to the species. With the exception of several conservation efforts implemented at the OTA that have been successful in controlling wildfire effects on slickspot peppergrass habitats, many of the remaining conservation efforts and adaptive management provisions identified in the CCA have not been implemented over a long enough period of time to demonstrate their effectiveness in reducing threats to the species. Furthermore, the conservation measures identified in the CCA are concentrated on slickspot peppergrass EOs. While this focus is helpful, effectively controlling the most significant threats to the slickspot peppergrass (wildfire and invasive nonnative plant species) requires efforts that extend well beyond the boundaries of the EOs since these threats are naturally expansive and occur throughout the Great Basin. We recognize the conservation efforts identified in the CCA have a conservational benefit for the slickspot peppergrass, but rangewide, their effectiveness in reducing or eliminating the most significant threats to the species has not been demonstrated at this time.

The IDARNG, another signatory to the CCA, also implements conservation efforts for slickspot peppergrass on the OTA through the *Idaho Army National Guard Integrated Natural Resource Management Plan for Gowen Field/Orchard Training Area* (IDANRG INRMP) (IDARNG 2004, section 4.4.2). The IDARNG conducts military training on Bureau-administered lands under an MOU with the Bureau. The IDARNG's OTA contains 7,213 acres (ac) of occupied slickspot peppergrass habitat, 7,163 ac of which represents some of the highest-quality occupied slickspot peppergrass habitat in the Snake River Plain region. Many of the conservation efforts, such as prohibiting military training activities within areas reserved for slickspot peppergrass conservation, have been implemented by the IDARNG for more than 18 years and have demonstrated to effectively minimize military training impacts to the species.

Conservation measures identified for the slickspot peppergrass are either specific measures designed to reduce impacts to the species and its habitat at the local level, or general measures designed to improve the ecological condition of native sagebrush-steppe vegetation at a landscape scale, inclusive of areas supporting the slickspot peppergrass. Specific measures include management actions such as varying the timing or season of livestock grazing or trailing and moving water or supplements away from EOs. General measures include management actions designed to maintain or increase native forb and grass cover, protect sagebrush through

fire protection or suppression, and restore degraded habitats to improve connectivity between sites. General conservation measures and implementation actions within the CA include direction to prioritize slickspot peppergrass EOs for fire protection and weed control across the range of the species. For example, the CA indicates that fire suppression efforts will be conducted, as possible, to protect slickspot peppergrass habitat; protecting slickspot peppergrass habitat will be a high priority. The Bureau will also promote diversity, richness, and health of native plant communities to support pollinators and habitat for the slickspot peppergrass, including conducting weed control activities compatible with slickspot peppergrass conservation. The Service expects the Bureau's continued implementation of these general conservation measures will reduce effects from wildfire and nonnative invasive plants across the range of the species. And while not necessarily specifically identified for any individual ongoing action, these general measures provide incremental conservational benefits that may appropriately be addressed for each ongoing action.

The ongoing actions are guided by the LUP program, the CA between the Bureau and the Service, and other landscape-scale actions as described in Chapter III of the Assessment (Bureau 2009), and reflect the full action under consideration via this consultation. Table 2 (Bureau 2009, Table IV.B.1) lists the conservation measures from the CA and indicates how each is applied at the ongoing action level. Additionally, activities are guided by various components of the CCA, described in Chapter II, Section II.G.1, "Candidate Conservation Agreement of the Assessment" (Bureau 2009). Table 3 (Bureau 2009, Table IV.B.2) lists measures from the CCA and indicates applicability at the ongoing action level. In the Jarbidge FO, some of the livestock grazing authorizations are also under specific additional requirements, resulting from litigation. CA and CCA-derived conservation measures and actions are summarized in Tables 2 and 3 and are further discussed below in the "Effects of the Action" section of this document.

Table 2. Conservation Agreement (CA) Conservation Measures Applicable at the Ongoing Action Level for Ongoing Livestock Grazing Actions (from pages VI-3 – IV-9 of the Assessment as updated by the Bureau on 12/2/09)

See Appendix A for a full description of the Conservation Measures. The Implementation Actions listed in that section are included in all of these conservation measures.

LUP Programs Evaluated	Conservation Measures	Snake River Plain Population	Owyhee Plateau Populations
		Grazing	Grazing
Special Status Animal and Plant Management Note: Common to All Programs	1) In cooperation with Idaho Department of Fish and Game (IDFG), Idaho Conservation Data Center (IDCDC), Service, IDARNG, the USAF, and others:		
	a) Develop and use survey protocols consistent with the Service Rare Plant Survey Guidelines to conduct Stage 1, 2, and 3 surveys (see Figure III.C.1 for the general survey process).	X	X
	b) Cooperate to refine slickspot peppergrass potential habitat maps (Stage 1 survey, Figure III.C.1), and to identify and map slickspot peppergrass occurrences (Stage 2 survey, Figure III.C.1).	X	X
	c) Cooperate in regular monitoring of slickspot peppergrass population trends and land health conditions on Bureau lands, and follow current monitoring protocols. Land health conditions include forb diversity to support pollinators and habitat for slickspot peppergrass.	X	X
	d) Participate in research essential to conservation of the species.	X	X
	e) Continue to support seed banks in a long-term seed storage facility.		
	f) Support the establishment and maintenance of new populations in slickspot peppergrass habitat. The goal of these activities is to maintain or enhance viable populations.		
	2) Ensure that ongoing Federal actions support or do not preclude species conservation in slickspot peppergrass habitat.	X	X
	3) Ensure that new Federal actions support or do not preclude species conservation in slickspot peppergrass habitat.	X	X
	4) Implement adaptive management as needed to achieve conservation objectives.	X	X
	5) Support programs to conserve and enhance slickspot peppergrass on non-Federal lands.		
	6) Include language in all land use authorizations to require rehabilitation of slickspot peppergrass habitat in case of trespass or permit violations, if damage occurs.	X	X

Table 2. Conservation Agreement (CA) Conservation Measures Applicable at the Ongoing Action Level for Ongoing Livestock Grazing Actions (from pages VI-3 – IV-9 of the Assessment as updated by the Bureau on 12/2/09)

See Appendix A for a full description of the Conservation Measures. The Implementation Actions listed in that section are included in all of these conservation measures.

LUP Programs Evaluated	Conservation Measures	Snake River Plain Population	Owyhee Plateau Populations
		Grazing	Grazing
Upland Vegetation Management: Rangelands (includes weed management)	2) Although non-chemical methods will be the preferred approach in occupied habitat, when appropriate, projects involving the application of pesticides (including herbicides, fungicides, and other related chemicals) in slickspot peppergrass habitat and potential habitat that may affect the species will be analyzed at the project level and designed such that pesticide applications will support conservation and minimize risks of exposure.	X	X
	3) Where needed and feasible, coordinate with adjacent land owners and local governments regarding control of noxious and invasive plants in upland areas through cooperative weed management programs. One of BLM's priorities within the cooperative weed management program is the protection of special status plants on BLM lands.	X	X
	4) The Bureau will promote diversity, richness, and health of native plant communities to support pollinators and habitat for slickspot peppergrass.	X	X
Wildlife and Wildlife Habitat Management	2) Manage facilities installed for wildlife to promote maintenance of slickspot peppergrass habitat.		
	3) Restore wildlife habitat while promoting slickspot peppergrass conservation.		
Livestock Grazing Management: Permits and Leases	2) Manage livestock grazing and trailing to conserve suitable habitat conditions for slickspot peppergrass while implementing rangeland health standards and guidelines (S&Gs). Apply the Implementation of Annual Grazing Adaptive Management Implementation Flowchart (Figure III.C.2) , located at the end of this conservation measures table, to adjust livestock use as appropriate.	X	X
	3) As part of adaptive management, the Bureau will conduct scheduled compliance inspections in pastures with occupied habitat as part of Bureau range use supervision to minimize impacts.	X	X
	4) Provide adequate rest from livestock use for areas treated after major disturbances in slickspot peppergrass habitat. Major disturbances include fire, fire rehabilitation, or other soil-disturbing occurrences.	X	X

Table 2. Conservation Agreement (CA) Conservation Measures Applicable at the Ongoing Action Level for Ongoing Livestock Grazing Actions (from pages VI-3 – IV-9 of the Assessment as updated by the Bureau on 12/2/09)

See Appendix A for a full description of the Conservation Measures. The Implementation Actions listed in that section are included in all of these conservation measures.

LUP Programs Evaluated	Conservation Measures	Snake River Plain Population	Owyhee Plateau Populations
		Grazing	Grazing
	5) The Bureau will work cooperatively with the livestock permittees to promote slickspot peppergrass conservation.	X	X
Livestock Grazing Management: Livestock Management Facilities	2) Manage livestock facilities to promote slickspot peppergrass conservation while implementing rangeland health S&Gs.	X	X
Wild Horse Management	2) If the range of wild horses and slickspot peppergrass occupied habitat overlaps now or in the future, protect these areas from wild horses by including applicable conservation measures in herd management plans.		
Recreation Management	2) Developed facilities (paved campgrounds, vault toilets, interpretive kiosks, etc.): Manage existing and new recreation facilities to promote conservation of species habitat.		
	3) Dispersed use areas (informal areas, including camping areas and tie-up areas for pack animals): Manage dispersed use sites to promote conservation of species habitat. This includes limiting disturbances to the species resulting from human uses.		
	4) Commercial and noncommercial recreation permits, including hunting guides and outfitter camps: issue commercial and noncommercial recreation permits to promote conservation of slickspot peppergrass habitat. This includes management of physical facilities (such as camps), as well as disturbances to slickspot peppergrass habitat resulting from human uses.		
Recreation Management: Travel Management	2) Manage roads, OHV routes and areas, as well as non-motorized trails, to promote species habitat conservation. This includes management of roads and trails, as well as ground disturbance resulting from human uses.		
	3) Perform compliance checks on OHV closures to protect occupied habitat, identify problems as soon as possible, and take immediate corrective measures.		

Table 2. Conservation Agreement (CA) Conservation Measures Applicable at the Ongoing Action Level for Ongoing Livestock Grazing Actions (from pages VI-3 – IV-9 of the Assessment as updated by the Bureau on 12/2/09)

See Appendix A for a full description of the Conservation Measures. The Implementation Actions listed in that section are included in all of these conservation measures.

LUP Programs Evaluated	Conservation Measures	Snake River Plain Population	Owyhee Plateau Populations
		Grazing	Grazing
Special Designation Area Management	2) Explore the potential for new designations that would enhance species conservation.	X	X
Fire Management: Fire Suppression	2) Fire suppression efforts will be conducted, as possible, to protect slickspot peppergrass habitat. Place a high priority on protecting slickspot peppergrass habitat.		
	3) As needed, coordinate with appropriate agency personnel regarding fire suppression activities in or adjacent to slickspot peppergrass habitat.		
Fire Management: Emergency Stabilization and Rehabilitation	2) Implement Emergency Stabilization and Rehabilitation (ES&R) activities to consider slickspot peppergrass in and adjacent to slickspot peppergrass habitat rehabilitation.	X	X
	3) Fire rehabilitation projects involving the application of pesticides in slickspot peppergrass habitat will be analyzed and implemented in accordance with the approach described in the Upland Vegetation Management: Rangelands (includes weed management) program section.		
Fire Management: Wildland Fire Use	1) Wildland fire use projects will not be allowed in slickspot peppergrass habitat.		
Fire Management: Prescribed Fire	2) Prescribed fire projects will be designed to conserve and enhance slickspot peppergrass habitat.		
Fire Management: Non-Fire Fuels Management	2) Implement projects involving the application of pesticides in accordance with the approach described in the Upland Vegetation Management: Rangelands (includes weed management) program section.		
	3) Fuels management projects conducted in slickspot peppergrass habitat should have long-term benefits to slickspot peppergrass.		

Table 2. Conservation Agreement (CA) Conservation Measures Applicable at the Ongoing Action Level for Ongoing Livestock Grazing Actions (from pages VI-3 – IV-9 of the Assessment as updated by the Bureau on 12/2/09)

See Appendix A for a full description of the Conservation Measures. The Implementation Actions listed in that section are included in all of these conservation measures.

LUP Programs Evaluated	Conservation Measures	Snake River Plain Population	Owyhee Plateau Populations
		Grazing	Grazing
Fire Management: Community Assistance	2) Follow all measures included throughout the Fire Management program sections.		
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	2) Where feasible and funding is available, acquire through land exchange or purchase private lands that contain slickspot peppergrass habitat.		
	3) Retain occupied slickspot peppergrass habitat in Federal ownership unless such a transfer would result in a net benefit to the species.		
Lands and Realty Management: Land Use Permits and Leases	2) Issue new land use permits and leases and review existing permits and leases at renewal to conserve species habitat. This includes management of physical facilities, as well as ground disturbance resulting from human uses.		
Lands and Realty Management: Rights-of-Way	2) Issue new rights-of-way and review existing rights-of-way at renewal to conserve species habitat. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.		
Mineral Management: Locatable Minerals	2) Approve plans of operations or allow notice level operations so as not to preclude species habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.		
Mineral Management: Saleable and Leasable Minerals	2) Approve development of saleable or leasable minerals so as not to preclude species habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.		

Table 3. Candidate Conservation Agreement (CCA) Conservation Measures Applicable at Ongoing Action Level for Livestock Grazing Actions (from pages VI-10 – IV-14 of the Assessment as updated by the Bureau of Land Management on 12/2/09)

Refer to the CCA (State of Idaho et al. 2003) for a full description of CCA conservation measures

Action	Action Description	Responsible Party	Snake River Plain Population	Owyhee Plateau Population
			Grazing	Grazing
.01	Provide special status plant and habitat awareness training to fire resource advisors, engine operators, incident commanders, fire cooperators, and fire operations supervisors.	Bureau and fire cooperators		
.02	Will make protection of known Element Occurrences (EOs) a priority over the surrounding Management Area on wildfires.	Bureau and fire cooperators		
.03	Develop slickspot peppergrass SOP to be incorporated into fire management plans.	Bureau		
.04	Evaluate, create, and maintain fire breaks along areas where frequent fires affect occupied and suitable habitat.	Bureau		
.05	Aggressive fire suppression tactics will be utilized in management areas when priority EOs are threatened.	Bureau		
.06	Utilize stationary and mobile vehicle wash points for Bureau vehicles and equipment to reduce transport of undesirable plant materials.	Bureau	X	X
.07	Distribute maps and inform fire crews on locations of Management Areas and slickspot peppergrass EOs to maximize fire protection and to avoid/minimize impacts from fire prevention/suppression activities.	Bureau, State, fire cooperators		
.08	Use minimal soil disturbance seeding techniques in occupied and potential habitat areas.	Bureau	X	X
.09	Rest rehabilitation areas from activities until rehabilitation management objectives are met.	Bureau	X	X
.10	Use native plant materials and seed when possible during restoration and rehabilitation activities.	Bureau		
.11	Avoid use of invasive non-native species for restoration or rehabilitation if native species are not available.	Bureau		
.12	Include forbs in seed mixes to increase diversity and pollen sources for insect pollinators.	Bureau		
.13	Coordinate to increase participation in fire prevention, suppression, planning and rehabilitation.	Private landowners and permit holders, Bureau	X	X

Table 3. Candidate Conservation Agreement (CCA) Conservation Measures Applicable at Ongoing Action Level for Livestock Grazing Actions (from pages VI-10 – IV-14 of the Assessment as updated by the Bureau of Land Management on 12/2/09)

Refer to the CCA (State of Idaho et al. 2003) for a full description of CCA conservation measures

Action	Action Description	Responsible Party	Snake River Plain Population	Owyhee Plateau Population
			Grazing	Grazing
.14	Focus access management on use of marked designated routes and avoid creation of new routes when feasible.	Bureau		
.15	Educate recreationists on special status species and noxious and invasive weeds.	Bureau		
.16	Establish voluntary OHV wash points for dispersed recreationists.	Bureau CWMA Cooperators		
.17	Require the use of equipment wash points for organized events near occupied and suitable habitat.	Bureau		
.18	Require complete botanical survey using Service Rare Plant Inventory Guidelines prior to soil disturbance authorizations.	Bureau, State	X	X
.19	Require all land authorizations contain weed control measures.	Bureau, State	X	X
.20	Increase the frequency of land authorization compliance inspections.	Bureau, State	X	X
.21	Increase research for elimination and control of noxious and invasive species.	Bureau, State	X	X
.22	Require equipment portable wash racks at agency authorized construction sites.	Bureau		
.23	Train weed control staffs on slickspot peppergrass and occupied and suitable habitat recognition.	Bureau, State, CWMA cooperators		
.24	Require botanical survey for slickspot peppergrass and occupied and potential habitat prior to authorizing herbicide use.	Bureau	X	X
.25	Acquire occupied and suitable habitat in land exchanges.	Bureau		
.26	Protect remaining stands of sagebrush and native vegetation. The Service received clarification from the Bureau that this CCA conservation measure is being addressed through prioritized fire suppression, avoidance of military training impacts to areas with 10 percent or greater shrub cover, and fuels management (fuel breaks).	Bureau	X	X

Table 3. Candidate Conservation Agreement (CCA) Conservation Measures Applicable at Ongoing Action Level for Livestock Grazing Actions (from pages VI-10 – IV-14 of the Assessment as updated by the Bureau of Land Management on 12/2/09)

Refer to the CCA (State of Idaho et al. 2003) for a full description of CCA conservation measures

Action	Action Description	Responsible Party	Snake River Plain Population	Owyhee Plateau Population
			Grazing	Grazing
.27	Require all new, amending, or renewing right-of-way and related permit holders to establish 40 percent to 60 percent perennial cover, as appropriate to location, after ground disturbing activities.	Bureau, State		
.28	Incorporate requirements that new, renewing, or amending right-of-way holders contact the Land Management Agency for ground disturbing activities in occupied and suitable habitat, pre- and post-construction.	Bureau, State		
.29	Increase law enforcement patrols to discourage trespass.	Bureau Law Enforcement Cooperator		
.30	Train permittees on slickspot peppergrass and occupied and potential habitat recognition.	BLM, State	X	X
.31	Increase compliance inspections.	Bureau	X	X
.32	Conduct annual monitoring within all EOs in all MAs 1-11 to assess the effectiveness of the conservation measures. Protocols that expand the existing Habitat Integrity Index (HII) to encompass the monitoring required by this CCA will be in place for the 2004 monitoring season.	SPCT, IDCDC	X	X
.33	Continue to survey lands within the LEPA Consideration Zone and report survey information to the IDCDC and incorporate the information into the CCA adaptive management strategy.	Bureau, Service, and the State	X	X
.34	Aggressively work to prevent the risk of insect (i.e., Mormon crickets and grasshoppers) herbivory when outbreaks occur that may threaten existing element occurrences.	Bureau, USDA Plant Protection and Quarantine (PPQ)		
.35	Provide USDA PPQ with the location of <i>Lepidium papilliferum</i> habitat. Mormon cricket and grasshopper control in <i>Lepidium papilliferum</i> habitat will only include those methods that do not significantly impact the plant's pollinators.	Bureau		

CHAPTER 3. ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

In accordance with policy and regulation, the jeopardy analysis in this Opinion relies on four components: (1) the Status of the Species, which evaluates the rangewide condition of the slickspot peppergrass, the factors responsible for that condition, and its survival and recovery needs; (2) the Environmental Baseline, which evaluates the condition of the slickspot peppergrass in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the slickspot peppergrass; (3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the slickspot peppergrass; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the slickspot peppergrass.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the slickspot peppergrass' current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the slickspot peppergrass in the wild.

The jeopardy analysis in this Opinion places an emphasis on consideration of the rangewide survival and recovery needs of the slickspot peppergrass and the role of the action areas in the survival and recovery of the slickspot peppergrass as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

CHAPTER 4. STATUS OF THE SPECIES AND ENVIRONMENTAL BASELINE OVERVIEW

This chapter presents information about the regulatory, biological, and ecological status of the slickspot peppergrass and environmental baseline conditions that provide context for evaluating the significance of potential effects to the slickspot peppergrass that would result from continued implementation of 27 ongoing Bureau livestock grazing actions in Idaho and the Bureau's implementation of conservation measures identified in the CA and CCA. The environmental baseline is defined as the current habitat condition for the species in the action areas for these 27 actions, taking into account: past and present impacts on the species of all Federal, State, and private actions, and other relevant human activities in the action areas; the anticipated effects of proposed Federal activities in the action areas that have already undergone consultation under section 7 of the Act; and the impacts of non-Federal actions that are contemporaneous with the actions considered in this Opinion.

The following discussion summarizes the current status and environmental baseline for the slickspot peppergrass. A full review of the slickspot peppergrass' status and environmental baseline conditions is presented in the Bureau's Assessment (Bureau 2009, pp. II-1 through II-51) and the Service's final listing decision (74 FR 52014, October 8, 2009).

4.1. Status of the Species

4.1.1. Regulatory Status

Effective December 7, 2009, the slickspot peppergrass was listed as threatened under the Act (74 FR 52014–52064, October 8, 2009). No critical habitat has been designated at this time.

4.1.2. Reasons for Listing

Section 4 of the Act and regulations promulgated to implement the listing provisions of the Act (50 CFR part 424) set forth the procedures for adding species to the Federal list. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1) of the Act. Three of the five factors apply to the slickspot peppergrass: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) disease or predation; and (3) other natural or manmade factors affecting its continued existence.

The primary factors threatening the slickspot peppergrass include changes in wildfire regime (i.e., increased wildfire frequency) and invasive nonnative plants, especially cheatgrass (*Bromus tectorum*). Additional factors threatening the species include land conversion associated with urban and agricultural development (a moderate risk factor); seed predation by harvester ants (an emerging threat); habitat fragmentation and isolation of small populations; and climate change. Livestock use, wildfire management and post-fire rehabilitation, military training, and recreation are not considered to pose a significant threat to the species rangewide, although localized adverse effects to individual plants or habitat may occur related to these factors. Refer to the final listing rule for more details on these factors (74 FR 52027–52048, October 8, 2009).

4.1.3. Species Description

The slickspot peppergrass is an intricately branched, tap-rooted plant, averaging 2 to 8 inches (in.) high, but occasionally reaching up to 16 in. high. Leaves and stems are covered with fine, soft hairs, and the leaves are divided into linear segments. Flowers are numerous, 0.11 to 0.15 in. in diameter, white, and four-petaled. Fruits (siliques) are 0.10 to 0.15 in. across, round in outline, flattened, and two-seeded (Moseley 1994, pp. 3, 4; Holmgren et al. 2005, p. 260). The species is monocarpic (it flowers once and then dies) and displays two different life history strategies—an annual form and a biennial form. The annual form reproduces by flowering and setting seed in its first year and dies within one growing season. The biennial life form initiates growth in the first year as a vegetative rosette but does not flower and produce seed until the second growing season. Biennial rosettes must survive generally dry summer conditions, and consequently many of the biennial rosettes die before flowering and producing seed. The number of prior-year rosettes is positively correlated with the number of reproductive plants present the following year (ICDC 2008, p. 9; Unnasch 2008, p. 14; Sullivan and Nations 2009, p. 44). The proportion of annuals versus biennials in a population can vary greatly (Meyer et al. 2005, p. 15), but in general, annuals appear to outnumber biennials (Moseley 1994, p. 12).

4.1.4. Life History

4.1.4.1. Seed Production

Depending on an individual plant's vigor, the effectiveness of its pollination, and whether it is functioning as an annual or a biennial, each slickspot peppergrass plant produces varying numbers of seeds (Quinney 1998, pp. 15, 17). Biennial plants normally produce many more seeds than annual plants (Meyer et al. 2005, p. 15). Average seed output for annual plants at the OTA was 125 seeds per plant in 1993 and 46 seeds per plant in 1994. In contrast, seed production of biennials at this site in 1993 and 1994 averaged 787 and 105 seeds per plant, respectively (Meyer et al. 2005, p. 16). Based on data collected from a 4-year demography study on the OTA, survivorship of the annual form of the slickspot peppergrass was demonstrated to be higher than survivorship of biennials (Meyer et al. 2005, p. 16). For example, of the 4,065 plants counted in spring 1993, a total of 2,503 survived to fruit as annuals, while only 85 survived to fruit as biennials in spring 1994. Meyer et al. (2005, p. 21) hypothesize that the reproductive strategy of the slickspot peppergrass is a plastic response, meaning that larger plants will flower and produce seed in their first season, whereas smaller plants that stand less chance of successfully setting seed in their first season will delay reproduction until the following year. The biennial life form is thus maintained, despite the higher risk of mortality.

Like many short-lived plants growing in arid environments, above-ground numbers of slickspot peppergrass individuals can fluctuate widely from year to year, depending on seasonal precipitation patterns (Mancuso and Moseley 1998, p. 1; Meyer et al. 2005, pp. 4, 12, 15; Palazzo et al. 2005, p. 9; Menke and Kaye 2006a, p. 8; Menke and Kaye 2006b, pp. 10, 11; Sullivan and Nations 2009, p. 44). Mancuso and Moseley (1998, p. 1) note that sites with thousands of above-ground plants one year may have none the next, and vice versa. Above-ground plants represent only a portion of the population; the seed bank (a reserve of dormant seeds generally found in the soil) contributes the other portion and in many years, constitutes the majority of the population (Mancuso and Moseley 1998, p. 1). Seed banks are

adaptations for survival in a “risky environment” because they buffer a species from stochastic (random) impacts, such as lack of soil moisture (Baskin and Baskin 2001, p. 160).

4.1.4.2. Seed Viability and Germination

The seeds of the slickspot peppergrass are found primarily within the slickspot microsites where the plants are found (Meyer and Allen 2005, pp. 5–6). Slickspots, also known as mini-playas or natric (high sodium content) sites, are visually distinct openings in the sagebrush-steppe created by unusual soil conditions characterized by significantly greater sodium and clay content relative to the surrounding area (Moseley 1994, p. 7). The vast majority of slickspot peppergrass seeds in slickspots have been located near the soil surface, with lower numbers of seeds located in deeper soils (Meyer et al. 2005, p. 19; Palazzo et al. 2005, p. 3). Slickspot peppergrass seeds have been found in slickspots even if no above-ground plants are present (Meyer et al. 2005, p. 22; Palazzo et al. 2005, p. 10). When above-ground plants are present, flowering usually occurs in late April and May, fruit set occurs in June, and the seeds are released in late June or early July. Seeds produced in a given year are dormant for at least a year before any germination takes place. Following this year of dormancy, approximately 6 percent of the initially viable seeds produced in a given year germinate annually (Meyer et al. 2005, pp. 17–18). When combined with an average annual 3 percent loss of seed viability, approximately 9 percent of the original seed cohort per year is lost after the first year. Thus, after 12 years, all seeds in a given cohort will likely have either died or germinated, resulting in a maximum estimated longevity of 12 years for seeds in the seed bank (Meyer et al. 2005, p. 18).

Billinge and Robertson (2008, pp. 1005–1006) report that both small and large slickspot peppergrass populations share similar spatial structure, and that spatial structuring within its unique microsite slickspot habitats suggests that both pollen dispersal and seed dispersal are low for this species and occur over short distances (Robertson et al. 2006a, p. 3; Billinge and Robertson 2008, pp. 1005–1006). Dispersal and seed dormancy modeling of desert annual plants predicts that plants with long-range dispersal will have few dormancy mechanisms and quick germination (Venable and Lawlor 1980, p. 272). Contrary to this prediction, however, the slickspot peppergrass has delayed germination (Meyer et al. 2005, pp. 17–18), and, therefore, according to the model, may not disperse long distances. The primary seed dispersal mechanism for the slickspot peppergrass is not known (Robertson and Ulappa 2004, p. 1708), although viable seeds have been found outside of slickspots, indicating that some seed dispersal is occurring beyond slickspot habitat (Palazzo et al. 2005, p. 10). Additionally, beginning in mid-July, entire dried-up biennial plants and some larger annual plants have been observed to break off at the base and are blown by the wind (Stillman, pers. obs., as reported in Robertson et al. 2006b, p. 44). This tumbleweed-like action may have historically resulted in occasional long-distance seed dispersal (Robertson et al. 2006b, p. 44). Ants are not considered a likely disperser despite harvesting an average of 32 percent of fruits across six sites (Robertson and White 2007, p. 11).

Slickspot peppergrass seeds located near the soil surface show higher rates of germination and viability (Meyer and Allen 2005, pp. 6–8; Palazzo et al. 2005, p. 10) and the greatest seedling emergence success rate (Meyer and Allen 2005, pp. 6–8). Viable seeds were more abundant and had greater germination rates from the upper 2 in. of soil (Palazzo et al. 2005, pp. 8, 10), while Meyer and Allen (2005, pp. 6–8) observed the upper 0.08 in. as optimal for germination. Deep

burial of slickspot peppergrass seeds (average depths greater than 5.5 in.) can entomb viable seeds and may preserve them beyond the 12-year period previously assumed as the maximum period of viability for slickspot peppergrass seeds (Meyer and Allen 2005, pp. 6, 9). However, seeds buried at such depth, even if they remain viable, are unlikely to regain the surface for successful germination. The effects of environmental factors, such as wildfire, on slickspot peppergrass seed dormancy and viability are unknown although slickspot peppergrass abundance is reduced in burned areas.

4.1.4.3. Pollination

Slickspot peppergrass is primarily an outcrossing species requiring pollen from separate plants for more successful fruit production and has a low seed set in the absence of insect pollinators (Robertson 2003, p. 5; Robertson and Klemash 2003, p. 339; Robertson and Ulappa 2004, p. 1707; Billinge and Robertson 2008, pp. 1005–1006). Slickspot peppergrass is able to self-pollinate, with a selfing rate (rate of self-pollination) of 12 to 18 percent (Billinge 2006, p. 40; Robertson et al. 2006a, p. 40). In pollination experiments where researchers moved pollen from one plant to another, fruit production was higher when pollen from distant sources was used (4 to 12.4 miles (mi)) between patches of plants) than when pollen from plants within the same patch was used (246 to 330 feet (ft)) between plants within the same patch) (Robertson and Ulappa 2004, p. 1705; Robertson et al. 2006a, p. 3).

Fruits produced from fertilized flowers reach full size approximately two weeks after pollination (Robertson and Ulappa 2004, p. 1706). Each fruit typically bears two seeds that drop to the ground when the fruit dehisces (splits open) in midsummer (Billinge and Robertson 2008, p. 1003).

Known slickspot peppergrass insect pollinators include several families of bees (Hymenoptera), including Apidae, Halictidae, Sphecidae, and Vespidae; beetles (Coleoptera), including Dermestidae, Meloidae, and Melyridae; flies (Diptera), including Bombyliidae, Syrphidae, and Tachinidae; and others (Robertson and Klemash 2003, p. 336; Robertson et al. 2006b, p. 6). In slickspot peppergrass insect pollinator studies conducted at three study sites, seed set was not limited by the number of pollinators at any study site (Robertson et al. 2004, p. 14). Studies have shown a strong positive correlation between insect diversity and the number of slickspot peppergrass plants flowering at a site (Robertson and Hannon 2003, p. 8). Measuring fruit set per visit revealed considerable variability in the effectiveness of pollination by different types of insects, ranging from 0 percent in dermestid beetles to 85 percent in honeybees (*Apis mellifera*) (Robertson et al. 2006b, p. 15).

4.1.5. Genetics

The genetics of slickspot peppergrass have been studied using samples collected from areas across the entire range of the species (Stillman et al. 2005, pp. 6, 8, 9; Larson et al. 2006, p. 14 and Fig. 4; Smith et al. in press, pp. 15–16). Genetic exchange can occur either through pollen or seed dispersal. Some researchers consider the slickspot peppergrass to be closely related to mountain pepperweed (*Lepidium montanum*), and the slickspot peppergrass was originally described as *L. montanum* var. *papilliferum* in 1900 by Louis Henderson.

Recent genetic studies (Smith et al. in press, p. 18) confirm that the slickspot peppergrass is a full species distinct from mountain pepperweed. The accepted taxonomy recognizes the slickspot peppergrass (Henderson) A. Nels. and J.F. Macbr. as a full species (Taxonomic Serial No. 53383, ITIS 2009). There is some evidence that the slickspot peppergrass has reduced genetic variability relative to other native species of *Lepidium*, such as mountain pepperweed, and that smaller populations of the slickspot peppergrass have less genetic diversity than larger populations. Populations of the slickspot peppergrass in the Owyhee Plateau demonstrate distinctive genetic differences from individuals in the Snake River Plain, likely a reflection of the isolation of these two populations due to limited seed dispersal and the limited range of pollinators, resulting in little gene flow between them. We are not aware of any studies that may have examined the relative genetic differentiation, if any, of the Boise Foothills population from the remainder of the Snake River Plain.

4.1.6. Rangewide Status and Distribution

The slickspot peppergrass range is restricted to the volcanic plains of southwest Idaho, occurring primarily in the Snake River Plain and its adjacent northern foothills, with a single disjunct population on the Owyhee Plateau (Figure 2). The plant occurs at elevations ranging from approximately 2,200 to 5,400 ft in Ada, Canyon, Gem, Elmore, Payette, and Owyhee Counties (Moseley 1994, pp. 3–9). Based on differences in topography, soil, and relative abundance, we have divided the extant slickspot peppergrass populations into three physiographic regions: the Boise Foothills, the Snake River Plain, and the Owyhee Plateau. The nature and severity of factors affecting the species also vary between the three physiographic regions for the purposes of analysis. For example, urban and rural development, agriculture, and infrastructure development has been substantial in the sagebrush-steppe habitat of the Boise Foothills and the Snake River Plain regions, while very little of these types of development have occurred within the Owyhee Plateau region.

As of February 2009, there were 80 extant EOs in the three physiographic regions that collectively comprise approximately 15,801 ac of total area broadly occupied by the slickspot peppergrass (Cole 2009, threats table). This acreage does not include the 0.5 mi buffers defined as part of the occupied habitat analyzed within the Bureau's Assessment (Bureau 2009). The area actually occupied by the slickspot peppergrass is a small fraction of the total acreage since slickspots occupy only a small percentage of the landscape, and the slickspot peppergrass occupies only a fraction of those slickspots (see U.S. Air Force 2002, p. 9). Table 4 presents distribution, land ownership and management information for all slickspot peppergrass EOs, in total and by region. The majority of slickspot peppergrass sites are located on Federal lands, most of which are administered by the Bureau.

4.1.7. Population Dynamics

Due to its occupancy of patchily distributed slickspots, the habitat of the slickspot peppergrass is somewhat naturally fragmented. However, large-scale fragmentation can pose problems for the slickspot peppergrass by creating barriers in the landscape that prevent effective genetic exchange between populations. Seed dispersal for the slickspot peppergrass likely occurs only over very short distances; thus, pollinators and pollen dispersal are the primary means for

reproductive and genetic exchange between slickspot peppergrass sites (Robertson and Ulappa 2004, pp. 1705, 1708; Stillman et al. 2005, pp. 1, 6–8).

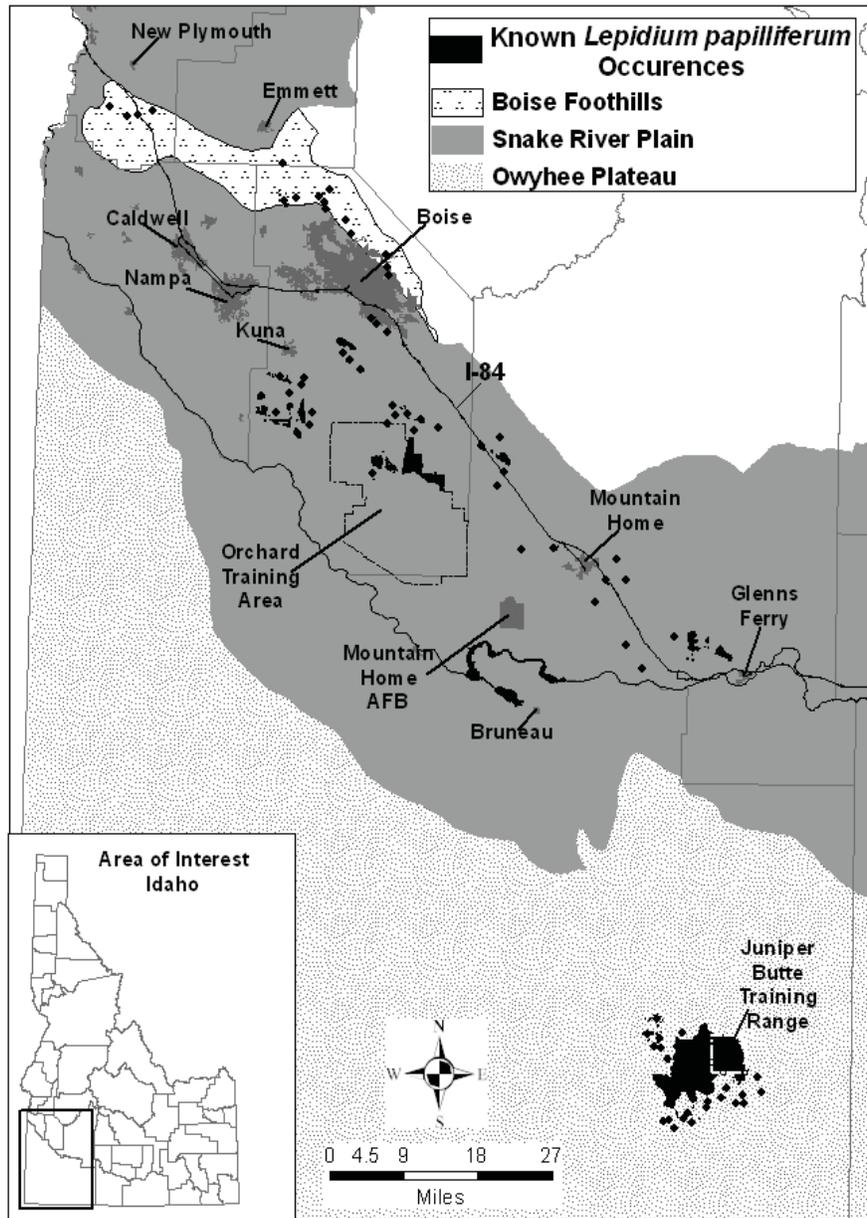


Figure 2. The range of the slickspot peppergrass (*Lepidium papilliferum*) in southwest Idaho, showing its distribution in the Snake River Plain, Boise Foothills, and Owyhee Plateau. Approximately 87 percent of the total Element Occurrence acreage shown on the map above is addressed in this Biological Opinion.

Table 4 Distribution and landownership of slickspot peppergrass (*Lepidium papilliferum*) Element Occurrences (EOs) by physiographic region (Cole 2009, threats table; Sullivan and Nations 2009, p. 77). All areas are estimates and may not total exactly due to rounding.

	Slickspot Peppergrass EOs		Federal		State		Private		Total	
	Number	Percent (%)	Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)	Acres	Percent (%)
Snake River Plain	43	54.0	12,754	98.0	55	0.5	164	1.5	12,980	82.0
Boise Foothills	16	20.0	89	48.0	0	0.0	96	52.0	185	1.2
Owyhee Plateau	21	26.0	2,636	99.7	7 ac	0.3	0	0.0	2,643	16.8
All Extant EOs	80	100.0	15,479	98.0	62 ac	0.4	260	1.6	15,801	100.0

Research indicates that seeds generated by the pollen of nearby plants have reduced viability, and that slickspot peppergrass seed viability increases as the distance to the contributing pollination source increases (Robertson and Ulappa 2004, pp 1705, 1708). The ability to exchange pollen with distant populations is therefore an advantage for the slickspot peppergrass. Barriers or too much distance between slickspots and pollinating insect habitats can reduce the effective range of insects important to slickspot peppergrass pollination (Robertson et al. 2004, pp. 2–4). Barriers can include agricultural fields, urban development, and large areas of annual and perennial grass monocultures that do not support diversity and suitable floral resources such as nectar or edible pollen for pollinators. Slickspot peppergrass habitats separated by distances greater than the effective range of available pollinating insects (about 0.6 mi. as described in Colket and Robertson in litt. 2006, p. 1) are at a genetic disadvantage and may become vulnerable to the effects of loss of genetic diversity (Stillman et al. 2005, pp. 1, 6–8) and a reduction in seed production (Robertson et al. 2004, p. 1705). A genetic analysis of the slickspot peppergrass suggested that populations in the Snake River Plain and Owyhee Plateau “may have reduced genetic diversity” (Larson et al. 2006, p. 1).²

Many of the remaining occurrences of the slickspot peppergrass, particularly in the Snake River Plain near urban centers, are restricted to small, remnant patches of suitable sagebrush-steppe habitat. When last surveyed, 31 of the 80 EOs (39 percent) each had fewer than 50 plants (Colket et al. 2006, Tables 1–13). Many of these small, remnant EOs exist within habitat that is degraded. Small slickspot peppergrass populations have likely persisted due to their long-lived seed bank, but the potential risk of depleting each population’s seed bank with no new genetic input makes the persistence of these small populations uncertain. Providing suitable nesting and foraging habitats for the species’ insect pollinators is important for maintaining slickspot peppergrass genetic diversity. Small populations are vulnerable to relatively minor environmental disturbances such as wildfire, herbicide drift, and nonnative plant invasions (Given 1994, pp. 66–67) and are subject to the loss of genetic diversity from genetic drift and inbreeding (Ellstrand and Elam 1993, pp. 217–237). Populations with lowered genetic diversity are more prone to extirpation (Barrett and Kohn 1991, pp. 4, 28). Smaller populations generally have lower genetic diversity, and lower genetic diversity may lead to even smaller populations by decreasing the species’ ability to adapt, thereby increasing the probability of population extinction (Newman and Pilson 1997, p. 360).

Fragmentation (either by development or wildfires) has occurred in 62 of 79 EOs (15 of 16 on the Boise Foothills, 35 of 42 on the Snake River Plain, and 12 of 21 on the Owyhee Plateau), and within 0.31 mi in 78 of the 79 EOs (all except one on the Owyhee Plateau) (Cole 2009, threats table).³ Additionally, several development projects are planned within slickspot peppergrass occupied range that would contribute to further large-scale fragmentation of its habitat, potentially resulting in decreased viability of populations through decreased seed production,

² The Boise Foothills were not analyzed separately in this study.

³ Habitat information is known for 79 of the 80 extant EOs; habitat information is not known for 1 EO on the Snake River Plain.

reduced genetic diversity, and increased inherent vulnerability of small populations to extirpation.

4.1.8. Habitat Characteristics

The native, semiarid sagebrush-steppe habitat of southwestern Idaho where slickspot peppergrass is found can be divided into two plant associations, each dominated by the shrub Wyoming big sagebrush (*Artemisia tridentata* spp. *wyomingensis*): Wyoming big sagebrush–Thurber’s needlegrass (*Achnatherum thurberianum* [formerly *Stipa thurberiana*]) and Wyoming big sagebrush–bluebunch wheatgrass (*Pseudoroegneria spicata* [also known as *Agropyron spicatum*]) habitat types (Moseley 1994, p. 9). Menke and Kaye (2006a, p. 1) describe high-quality matrix habitat conditions for slickspot peppergrass as sagebrush-steppe habitat in late seral condition, and Fisher et al. (1996, p. 1) note that “habitat with vigorous slickspot peppergrass populations has not been recently burned, is not heavily grazed, has an understory of native bunchgrasses, and a well developed microbiotic soil crust.” Moseley (1994, p. 4) suggests that slickspot peppergrass serves as an indicator species for the health of the sagebrush-steppe ecosystem in the western Snake River Plain.

The biological soil crust, also known as a microbiotic crust or cryptogamic crust, is one component of quality habitat for slickspot peppergrass. Such crusts are commonly found in semiarid and arid ecosystems and are formed by living organisms, primarily bryophytes, lichens, algae, and cyanobacteria, that bind together surface soil particles (Moseley 1994, p. 9; Johnston 1997, p. 4). Microbiotic crusts play an important role in stabilizing the soil and preventing erosion, increasing the availability of nitrogen and other nutrients in the soil and regulating water infiltration and evaporation levels (Johnston 1997, pp. 8–10). In addition, an intact crust appears to aid in preventing the establishment of invasive plants (Brooks and Pyke 2001, p. 4 and references therein; Serpe et al. 2006, pp. 174, 176). These crusts are sensitive to disturbances that disrupt crust integrity, such as compression due to livestock trampling or OHV use and are subject to damage by fire; recovery from disturbance is possible but occurs very slowly (Johnston 1997, pp. 10–11).

The slickspot peppergrass occurs in slickspot habitat microsites scattered within the greater semiarid sagebrush-steppe ecosystem of southwestern Idaho. On a broad scale, the Snake River Plains and the Owyhee Plateau physiographic regions are volcanic in nature and underlain by Tertiary basalt or rhyolite; the adjacent Boise Foothill sites are underlain by Pliocene/Quaternary lacustrine deposits (Moseley 1994, p. 8). Slickspots are visually distinct openings characterized by natric soils and distinct clay layers; they tend to be highly reflective and relatively light in color, making them easy to detect on the landscape (Fisher et al. 1996, p. 3). Slickspots are distinguished from the surrounding sagebrush matrix as having the following characteristics: microsites where water pools when rain falls (Fisher et al. 1996, pp. 2, 4); sparse native vegetation, distinct soil layers with a columnar or prismatic structure, higher alkalinity and clay content, and natric properties (Fisher et al. 1996, pp. 15–16; Meyer and Allen 2005, pp. 3–5, 8; Palazzo et al. 2008, p. 378); and reduced levels of organic matter and nutrients due to lower biomass production (Meyer and Quinney 1993, pp. 3, 6; Fisher et al. 1996, p. 4). Fisher et al. (1996, p. 11) describe slickspots as having a “smooth, panlike surface” that is structureless and slowly permeable when wet, moderately hard and cracked when dry. Although the low

permeability of slickspots appears to help hold moisture (Moseley 1994, p. 8), once the thin crust dries out, slickspot peppergrass seedling survival depends on its ability to extend its taproot into the argillic horizon (soil layer with high clay content) to extract moisture from the deeper natric zone (Fisher et al. 1996, p. 13).

How long slickspots take to form is unknown, but is hypothesized to take several thousands of years (Nettleton and Peterson 1983, p. 193; Seronko 2006, in litt. p. 2). Climate conditions that allowed slickspot formation in southwestern Idaho are thought to have occurred during a wetter Pleistocene period. Holocene additions of wind-carried salts (often loess deposits) produced the natric soils characteristic of slickspots (Nettleton and Peterson 1983, p. 191; Seronko 2006, in litt., p. 2). Several hundred years may be necessary to alter or lose slickspots through natural climate change or severe natural erosion (Seronko 2006, in litt. p. 2). However, some researchers hypothesize that new slickspots are no longer being created given current climatic conditions (Nettleton and Peterson 1983, pp. 166, 191, 206). As slickspots in southwest Idaho appear to have formed during the Pleistocene and new slickspots are not being formed, slickspot loss is apparently permanent.

Some slickspots subjected to past light disturbance may be capable of reforming (Seronko 2006, in litt. p.2). However, disturbances that alter the physical properties of the soil layers, such as deep disturbance and the addition of organic matter, may lead to the destruction and permanent loss of slickspots. For example, deep soil tilling and adding organic matter and gypsum have been recommended for eliminating slickspots from agricultural lands in Idaho (Peterson 1919, p. 11; Rasmussen et al. 1972, p. 142). Slickspot soils are especially susceptible to mechanical disturbances when wet (Rengasamy et al. 1984, p. 63; Seronko 2004, in litt. pp. 1–2). Such disturbances disrupt the soil layers important to slickspot peppergrass seed germination and seedling growth and alter hydrological function. Meyer and Allen (2005, p. 9) suggest that if sufficient time passes following the disturbance of slickspot soil layers, the slickspot soil layers may regain their pre-disturbance configuration yet not support the species. Thus, while the slickspot appears to have regained its former character, some essential component required to sustain the life history requirements of the slickspot peppergrass has apparently been lost, or the active seed bank is no longer present.

Most slickspots are between 10 and 20 square feet (ft²) in size although some are as large as 109 ft² (Mancuso et al. 1998, p. 1). Slickspots cover a relatively small cumulative area within the larger sagebrush-steppe matrix, and only a small percentage of slickspots are known to be occupied by the slickspot peppergrass.

The slickspot peppergrass has infrequently been documented outside of slickspots on disturbed soils, such as along graded roadsides and badger mounds. These are rare observations and the vast majority of plants documented over the past 19 years of surveys and monitoring for the species were within slickspot microsite habitats (Service 2006b, p. 20). For example, in 2002, a complete census of an 11,070-ac area recorded approximately 56,500 slickspots (U.S. Air Force 2003 in litt., p. 15), of which approximately 2,450 (about 4.0 percent) were occupied by slickspot peppergrass plants (Bashore, pers. comm. 2003, p. 1). Of the approximately 11,300 slickspot peppergrass plants documented during the survey effort, only 11 were documented outside of slickspots (U.S. Air Force 2002, summary attachment).

Not all potential slickspot peppergrass habitats in southwest Idaho have been surveyed, and additional slickspot peppergrass sites may be found outside of areas known to be occupied. Recent modeling was completed to develop a high-quality, predictive-distribution model of the slickspot peppergrass to identify potential habitat (Colket 2008, p. 1). The Assessment defines potential habitat as areas within the known range of the slickspot peppergrass that have certain general soil and elevation characteristics that indicate the potential for the area to support the slickspot peppergrass although the presence of slickspots or the plant is unknown (Bureau 2009, p. B-2). Although surveys were conducted in 2008 in some areas identified as potential, previously unsurveyed habitat, these did not result in any new locations of the species (Colket 2008, pp. 4-6). The slickspot peppergrass has also been surveyed for in eastern Oregon, but the species has never been found there (Findley 2003 in litt., p. 1). We have no historical records indicating that the slickspot peppergrass has ever been found anywhere outside of its present range in southwestern Idaho.

The Idaho Natural Heritage Program (INHP) uses an EO ranking system for assessing the status of the slickspot peppergrass. This system ranks slickspot peppergrass occurrences based on measures of habitat quality and species abundance. EO ranks are useful for assessing estimated viability or probability of persistence and helping prioritize conservation planning or actions (NatureServe 2002). The ranks are defined as follows (Colket et al. 2006, pp. 3-4):

- A-Rank—
 - SIZE: Greater than 1,000 detectable genets.
 - CONDITION: Native plant community is intact with trace introduced plant species cover. Slickspots have zero or trace introduced weed cover and/or livestock disturbance. Zero or few minor anthropogenic disturbances are present. EO is unburned.
 - LANDSCAPE CONTEXT: Surrounding landscape less than 0.6 mi away has not been fragmented by agricultural lands, residential or commercial development, introduced annual grasslands, or drill seeding projects.
- B-Rank—
 - SIZE: 400-999 detectable genets.
 - CONDITION: Native plant community is intact with low introduced plant species cover. Slickspots have low introduced weed cover and/or livestock disturbance. Zero or few minor anthropogenic disturbances present. EO is predominantly unburned.
 - LANDSCAPE CONTEXT: Surrounding landscape less than 0.6 mi away is minimally to partially fragmented by agricultural lands, residential or commercial development, introduced annual grasslands, or drill seeding projects.
- C-Rank—
 - SIZE: 50-399 detectable genets.
 - CONDITION: Native plant community is partially intact with low-to-moderate introduced plant species cover. Slickspots have low-to-moderate introduced weed cover and/or livestock disturbance. Few or several minimally to moderately severe anthropogenic disturbances are evident. EO has partially burned. Portions of EO may have been drill seeded, but slickspots are largely intact.

- LANDSCAPE CONTEXT: Surrounding landscape less than 0.6 mi away is partially to predominantly fragmented by agricultural lands, residential or commercial development, introduced annual grasslands, or drill seeding projects.
- D-Rank—
 - SIZE: 1–49 detectable genets.
 - CONDITION: Few components of the native plant community remain and introduced plant species cover is high. Slickspots have high introduced weed cover and/or livestock disturbance. Few or several moderately severe anthropogenic disturbances are evident. EO has been predominantly to completely burned. Portions of EO may have been drill seeded, and slickspot soils have been altered by drill seeding.
 - LANDSCAPE CONTEXT: Surrounding landscape less than 0.6 mi away is moderately to completely fragmented by agricultural lands, residential or commercial development, introduced annual grasslands, or drill seeding projects.
- E-Rank (Extant)—
 - EO has been verified extant, but population size, condition, and landscape context have not been assessed.
- F-Rank (Failed to find)—
 - EO has been surveyed by experienced individuals who failed to find any slickspot peppergrass individuals, despite searching under conditions appropriate for the element at a location where it was previously recorded. Only one visit is required for this rank designation, but the survey should cover the entire extent of the EO. The F-rank was first standardized by NatureServe (2002) and not implemented for the slickspot peppergrass before 2006.

As of February 2009, the INHP has ranked 80 extant EO records for the slickspot peppergrass based on habitat quality and abundance (Cole 2009, threats table). No A-ranked EOs for slickspot peppergrass exist. The most common rangewide EO ranks for the slickspot peppergrass are C and D. EO ranks also vary by physiographic region. A little more than one-half of the extant EO area in the Boise Foothills region is C-ranked. Approximately three-quarters of the total EO area in the Snake River Plain is B-ranked. The majority of B-ranked EO acreage rangewide occurs on the IDANG's OTA. The majority of the total EO area in the Owyhee Plateau physiographic region is also B-ranked. In addition, nine EOs are ranked as extirpated or probably extirpated (X-ranked or X?-ranked), and seven EOs are considered historical (H-ranked - information is too vague for relocation of the sites).

4.1.9. Population Trends

Extreme variability in annual plant counts makes detecting significant population trends in the slickspot peppergrass difficult. However, the best available evidence suggests that slickspot peppergrass numbers may be trending downward. The data set from the rough census areas on the OTA shows a significant downward trend in density over the last 18 years. Furthermore, we believe it is reasonable to infer that this negative trend may be similar or possibly even greater rangewide in areas outside the high-quality habitat of the OTA, and this trend appears to be

independent of any precipitation trend. The best available scientific and commercial data suggest slickspot peppergrass has likely significantly declined in abundance over the past two decades (74 FR 52025, October 8, 2009).

Uncertainties associated with both the data and the model preclude our ability to project future trends. These uncertainties include, but are not limited to, great annual variability in plant numbers; the confounding influence of the long-lived seed bank; complications associated with annual variability in both precipitation and temperature; and inconsistent results between the special-use plots and the rough census areas on the OTA (see Sullivan and Nations 2009, pp. 28–33 for an explanation of these two OTA survey methodologies). The evaluation by Sullivan and Nations (2009, pp. 1–278) was based on a simple model of slickspot peppergrass abundance or density as a linear function of time and intended only to discern whether there was any general population trend (74 FR 52025, October 8, 2009). The authors acknowledge that the dynamics are complicated, and note their model is not intended to describe (nor explain) the details of the temporal pattern of abundance or density of the slickspot peppergrass (Sullivan and Nations 2009, p. 38). In addition, we do not have any models for the slickspot peppergrass based on multivariate analyses, which would simultaneously consider additional variables such as precipitation to potentially allow for the prediction of abundance or density of the slickspot peppergrass over time based on projected conditions. Although the available model is helpful for interpreting the population information available to date and indicates that the slickspot peppergrass has likely been trending downward for all of the reasons outlined above, it would be inappropriate to rely on this model to predict any future population trajectory for the slickspot peppergrass.

4.1.10. Survival and Recovery Needs

Although recovery planning has not been completed for the slickspot peppergrass, the Service anticipates that providing for its survival and recovery will entail reducing the threats that are the basis for its being listed: habitat loss, degradation, and fragmentation primarily caused by increased fire frequencies and the invasion of exotic plants; lack of sufficient gene flow between populations; and reduced viability of seed banks. The Service anticipates that the following factors will be important for survival and recovery of the species:

- Protection, restoration, and maintenance of suitable habitat conditions for all life stages of the slickspot peppergrass;
- Reduction and mitigation of negative effects caused by increased fire frequencies and invasive nonnative plants on the slickspot peppergrass;
- Establishment of vegetation management goals and objectives that are compatible with slickspot peppergrass recovery;
- Identification of what is necessary to conserve genetic diversity and gene flow among populations of the slickspot peppergrass; and monitor to ensure that this diversity and gene flow are being maintained;
- Implementation of an adaptive management–based research and monitoring program that uses feedback from implemented, site-specific recovery tasks to implement and evaluate slickspot peppergrass recovery activities;

- Use of all available conservation programs and regulations to protect and conserve the slickspot peppergrass and sagebrush-steppe habitats, including slickspot microsites; and
- Development of a management area-based recovery program that relies on adaptive management to implement and revise, as appropriate, recovery actions for the slickspot peppergrass.

Slickspot peppergrass survival and recovery depends on maintaining and enhancing Wyoming big sagebrush-steppe habitat and the slickspot microsites located within this ecosystem in southwestern Idaho. The long-term conservation of the slickspot peppergrass is dependent upon the maintenance or improvement of ecological function of the higher quality (C- through A-ranked) EOs rangewide, including maintaining or improving connectivity within and between EOs, which may involve the maintenance or enhancement of currently lower ranked EOs (D-through F-ranked) as necessary to facilitate pollinator activity; the maintenance of genetic diversity; and limiting the establishment of invasive nonnative plant species.

Key to maintaining quality habitat includes preserving existing Wyoming big sagebrush stands by avoiding or minimizing adverse effects of wildfire and invasive nonnative plants, such as cheatgrass and medusahead (*Taeniatherum caput-medusae*). The Service has identified the modified wildfire regime in the Great Basin and subsequent proliferation of invasive nonnative plants as the primary threats to the slickspot peppergrass. Adequate resources should be made available to reduce the wildfire risk in remaining sagebrush stands, and efforts to maintain and restore native shrubs, grasses, forbs, and biological soil crust should be identified as a priority in areas that have burned in or nearby slickspot peppergrass population strongholds. Plant species that may invade slickspots and compete with slickspot peppergrass should be avoided for use in emergency stabilization and rehabilitation or habitat restoration seedings in areas that support the slickspot peppergrass. Native forb cover should be maintained or restored to levels that would encourage diverse insect pollinators available for slickspot peppergrass seed production. Activities that could cause direct plant mortality should be minimized. Ground disturbance that could cause decreased suitability of microsites to support the slickspot peppergrass should be avoided or minimized. When soils are saturated, ground disturbing activities should be minimized to reduce the likelihood of directly affecting plants and burying seeds too deep to successfully germinate and emerge. Conservation measures should be implemented to mitigate the effect of actions that create conditions conducive to invasive nonnative plants within and adjacent to slickspot habitat.

Secondary threats, such as commercial and residential development, seed predation, habitat fragmentation and isolation, and climate change, were identified in the Federal Register notice for listing of the slickspot peppergrass as factors that could impact the slickspot peppergrass throughout a significant portion of its range. Other factors, including livestock grazing, fire rehabilitation activities, military training, and recreational use, were discussed as not having significant impacts that would lead to the slickspot peppergrass becoming endangered in the foreseeable future. However, both secondary threats and these other factors have been identified as aggravating degraded habitat conditions caused by the modified wildfire regime and associated invasion of nonnative plants. While not identified as rangewide issues, secondary threats and other factors may adversely affect individual slickspot peppergrass plants at the physiographic regional or local level. In areas containing high-quality sagebrush-steppe habitats,

conservation measures should be taken to avoid or minimize the impacts of habitat loss on the slickspot peppergrass. Actions that could degrade slickspots to the point that they can no longer provide the essential functions to support the slickspot peppergrass should be avoided as losing habitat represents a permanent loss for the species. Using pesticides near EOs should also be minimized to avoid impacts to individual slickspot peppergrass plants or insect pollinators.

Based on our understanding of the requirements for the survival and recovery of the species as described above, individual action areas analyzed within this Opinion were categorized as to their conservation value for the slickspot peppergrass. For the purposes of analyzing the overall effects of ongoing actions addressed in this Opinion, the State of Idaho's INHP EO rankings described in the "Habitat Characteristics" section above were used to characterize the conservation value of each action area considered in this document. These INHP criteria address population size of the EO, the condition of habitat within the EO, and the landscape condition of the area surrounding the EO. In general, B-ranked EOs represent areas supporting greater numbers of individual slickspot peppergrass plants with a higher proportion of intact native sagebrush-steppe habitat both within and surrounding the EO. In contrast, D-ranked EOs represent areas with relatively low numbers of plants (typically less than 50) with degraded habitat conditions (typically disturbed areas with high levels of nonnative invasive plant cover) both within and surrounding the EO. For the purposes of the analyses presented in this Opinion, action areas containing B- or BC-ranked (intermediate between B-rank and C-rank, see Colket et al. 2006, p. 5) EOs were categorized as having high conservation value for the slickspot peppergrass, action areas containing C-ranked EOs were categorized as having medium conservation value for the species, and action areas containing D- and F-ranked EOs were considered as having low conservation value for the species, except where they were integral to maintaining the viability of higher-ranked EOs. When multiple EOs of varying INHP ranks were located within an action area, the conservation value of the action area was categorized based on the highest-ranked EO located within the area.

For purposes of this jeopardy analysis, the maintenance or improvement of medium-to-high conservation value EOs (i.e., those currently ranked C through B by INHP, and including any EOs that may be A-ranked in the future) will be an important component of the rangewide conservation strategy for the slickspot peppergrass. We anticipate the enhancement of these higher-quality EOs will effectively offset the relatively low contribution made by the lower-ranked EOs of lesser conservation value to the species. In general, small populations of the slickspot peppergrass in degraded and fragmented habitat are at high risk of extirpation and are unlikely to significantly contribute to the conservation of the species. However, the potential contribution of D- and F-ranked EOs to the survival and recovery of the species should be evaluated on a case-by-case basis; for example, a D-ranked EO that provides genetic connectivity between two EOs of high conservation value may play an important role in the conservation of the species. In addition, EOs may be of the same rank, but their conservation value may not be similar due to a variety of other considerations (i.e., distance from adjacent EOs, health of surrounding habitat, etc.). Although ongoing actions may incrementally decrease the conservation value of a few individual EOs, overall maintenance of the aggregate conservation value of all EOs across the range of the slickspot peppergrass should ensure its survival and recovery. Future recovery and critical habitat planning efforts may identify

additional conservation actions and essential factors appropriate for consideration when ongoing actions are reauthorized.

The effects of the Bureau's ongoing implementation of slickspot peppergrass conservation measures, in addition to anticipated beneficial and adverse effects of each individual action considered in this document, form the basis for our determinations as to whether the Bureau's ongoing actions are expected to maintain, reduce, or improve the current conservation value of the affected area for the slickspot peppergrass over the remaining term of the ongoing action. The remaining terms of individual ongoing actions vary by individual Bureau permit authorizations. For example, actions scheduled for renewal (and subject to future section 7 consultation) in the next few years may be likely to maintain the conservation value of an action area for the slickspot peppergrass even with the implementation of limited conservation measures. Renewal of such actions for longer terms may include additional conservation measures to ensure the the conservation value of the action area is maintained or improved over the subsequent term of the renewed action. Conservation measures designed to reduce wildfire threats and competition from invasive nonnative plants are expected to be especially important for the survival and recovery of the species.

Warmer temperature regimes associated with global climate change represent another potentially significant risk factor for the slickspot peppergrass. Researchers confirmed "experimentally in an intact ecosystem that elevated carbon dioxide may enhance the invasive success of *Bromus* spp. in arid ecosystems," and suggest that this enhanced success will then expose these areas to accelerated fire cycles (Smith et al. 2000, p. 81). Chambers and Pellant (2008, p. 32) also suggest that higher carbon dioxide levels are likely increasing cheatgrass fuel loads due to increased productivity, with a resulting increase in fire frequency and extent. Based on the best available information, we therefore expect continuing production of atmospheric carbon dioxide at or above current levels, as predicted, to increase the threat posed to the slickspot peppergrass by cheatgrass and from more frequent, expansive, and severe wildfires (Smith et al. 1987, p. 143; Smith et al. 2000, p. 81; Brown et al. 2004, p. 384; Neilson et al. 2005, pp. 150, 156; Chambers and Pellant 2008, pp. 31-32). Thus, under current climate-change projections, we anticipate future climatic conditions will favor further invasion by cheatgrass, fire frequency will continue to increase, and the extent and severity of fires may also increase.

Current projections for the Pacific Northwest region are that precipitation will increase in the winter but decrease in the summer months (Karl et al. 2009, p. 135). The survivorship of slickspot peppergrass rosettes to flower the following spring is favored by greater summer precipitation (Meyer et al. 2005, p. 15; CH2MHill 2007a, p. 14; Sullivan and Nations 2009, pp. 33, 41), and increased winter precipitation appears to decrease survivorship (Meyer et al. 2005, pp. 15-16; Sullivan and Nations 2009, pp. 39, 43-44). As the projected rainfall pattern under climate change would follow the opposite pattern, this alteration in seasonal precipitation could result in decreased survivorship of the slickspot peppergrass. Alterations in precipitation patterns, however, are more uncertain than predicted changes in temperature for the Great Basin region (Neilson et al. 2005, p. 153).

The consequences of climate change, if current projections are realized, are therefore likely to exacerbate the existing primary threats—changing wildfire regime and invasive nonnative plants, particularly cheatgrass—to slickspot peppergrass conservation. Because the Intergovernmental

Panel on Climate Change (IPCC) projects changes to the global climate system in the twenty-first century will likely be greater than those observed in the twentieth century (IPCC 2007, p. 45), we anticipate that these effects will continue and likely increase into the future. Due to the uncertainty associated with climate change projections, we did not consider climate change in and of itself to represent a significant rangewide threat to the slickspot peppergrass in our listing decision. However, we acknowledge that climate change will likely play a potentially important supporting role in intensifying the most significant current threats to the species in the foreseeable future. The severity and scope of the primary threats of changing wildfire regime and invasive nonnative plants to the slickspot peppergrass are likely to be magnified, depending on the realized outcome of climate change. Habitat conservation and restoration efforts are likely to be further complicated by these climatic changes. Additional conservation measures may be needed to mitigate the effects of habitat degradation that are aggravated by climate change. For a more detailed discussion of climate change and the slickspot peppergrass, refer to the final listing rule (74 FR 52014, October 8, 2009).

4.1.11. Ongoing Conservation Efforts

Four formalized plans contain conservation measures for slickspot peppergrass: (1) the *Candidate Conservation Agreement for Slickspot Peppergrass* (*Lepidium papilliferum*) (CCA) with the State of Idaho, Bureau, IDARNG, and nongovernmental cooperators (private landowners who also hold livestock grazing permits on Bureau lands) (State of Idaho et al. 2003, 2006); (2) the *Idaho Army National Guard Integrated Natural Resource Management Plan for Gowen Field/Orchard Training Area* (IDARNG INRMP) (IDARNG 2004); (3) the *Final Juniper Butte Range Integrated Natural Resource Management Plan* (U.S. Air Force INRMP) (U.S. Air Force 2004); and (4) the *Conservation Agreement for Slickspot Peppergrass* (*Lepidium papilliferum*) *at the Boise Airport, Ada County, Idaho* (Boise Airport CA) (Boise Airport 2003). A fifth plan, Hull's Gulch Agreement, expired in October 2006 and was a CA by, and between, Boise City and the Service for Aase's onion (*Allium aasea*), Mulford's milkvetch (*Astragalus mulfordiae*), and slickspot peppergrass (Service 1996, in litt. pp. 3–17). A new agreement is being crafted and will include conservation measures for portions of four, small slickspot peppergrass EOs in the Boise Foothills region on lands administered by both the City of Boise and Ada County. This new agreement is expected to be completed in 2010.

Prior to our 2007 withdrawal notice (72 FR 1622; January 12, 2007), we reviewed the available information for all individual conservation efforts contained in the five conservation plans developed for slickspot peppergrass (CCA, IDARNG INRMP, U.S. Air Force INRMP, Boise Airport CA, and Hull's Gulch Agreement) to evaluate how many conservation measures were implemented or certain to be implemented in the future and how many efforts were so effective as to have contributed to eliminating or reducing one or more threats to the species. Based on our 2006 review, we determined that 373 of the nearly 600 individual conservation efforts identified in the 5 plans were currently implemented and that 35 of these efforts were determined to be both certain to be implemented and effective in reducing threats to the slickspot peppergrass or were already known to be implemented and effective in reducing threats to the species. These 35 conservation efforts determined to be implemented and effective are from the CCA, U.S. Air Force INRMP and IDARNG INRMP, and are not applicable rangewide. For example, 20 of the 35 conservation efforts are primarily directed at conserving the slickspot peppergrass at 1 of

3 EOs located on the OTA. As described in our October 8, 2009, listing rule, we do not consider these 35 actions sufficient to offset the threats posed to the slickspot peppergrass across its range (modified wildfire regime, invasive nonnative plants, development, potential seed predation by harvester ants, and habitat fragmentation and isolation) to the point that we would consider it unlikely that the slickspot peppergrass will become endangered within the foreseeable future (74 FR 52051, October 8, 2009). Recovery planning efforts may identify additional conservation measures for the slickspot peppergrass and, as new information becomes available, further opportunities for species conservation may be defined.

Since 2007, we have received additional information from the implementing agencies that describes the status of at least 152 of the 373 implemented conservation measures included in 3 of the 5 conservation plans (State of Idaho CCA, IDARNG INRMP, and U.S. Air Force INRMP) that were implemented in 2007 and 2008 (CH2MHill 2007a, p. 16; CH2MHill 2007b, pp. 1–6; Quinney 2007 in litt., pp.1–3; Bureau 2007, p. 2–4; CH2MHill 2008a, p. 17; CH2MHill 2008b, pp. 1–6; Quinney 2008, in litt. pp.1–3; Bureau 2008a, pp. 2–38; Bureau 2008b, pp. 1–15; Colket 2009, pp. 65–72). We have not received specific information regarding conservation measures contained in the Boise Airport CA that have been implemented, or how effective these measures have been in reducing threats to the slickspot peppergrass for 2007 or 2008. The fifth conservation plan, the Hull’s Gulch Agreement between Boise City and the Service, expired in October 2006 and has yet to be renewed.

Conservation measures identified for the slickspot peppergrass are either specific measures designed to reduce impacts to the species and its habitat at the local level or general measures designed to improve the ecological condition of native sagebrush steppe vegetation at the landscape scale, inclusive of areas supporting slickspot peppergrass. Specific measures include management actions such as varying the timing or season of livestock grazing or trailing, moving water or supplements away from EOs, and reducing trampling during periods when slickspot soils are saturated. General measures include management actions designed to maintain or increase cover of native forbs and grasses, protect sagebrush through fire protection or suppression, and restore degraded habitats to improve connectivity between sites. As these conservation measures are implemented over the long term, their effectiveness may be demonstrated. For both specific and general conservation measures, habitat condition improvements since the CCA measures were implemented 5 years ago have been difficult to detect with available monitoring data. The slickspot peppergrass is an annual or biennial plant that responds to spring precipitation and has seeds that remain viable for up to 12 years in the seed bank; thus, detecting the effectiveness of specific conservation measures using the 5 years of available habitat integrity and population (HIP) monitoring data is difficult. Decades are expected to be necessary for the effectiveness of general conservation measures designed to improve native sagebrush steppe ecological condition to be detectable although ongoing research may provide information and techniques to accelerate these types of recovery efforts.

4.2. Environmental Baseline

This section assesses the effects of past and ongoing human and natural factors that have led to the current status of the slickspot peppergrass, its habitat, and the associated ecosystem in the action areas for the 27 ongoing Bureau livestock grazing actions considered in this Opinion. Also included in the environmental baseline are the anticipated impacts of all proposed Federal projects in the action areas that have already undergone section 7 consultations, and the impacts of State and private actions that are contemporaneous with this consultation.

The baseline conditions in the action area, including the status of the slickspot peppergrass and the factors affecting its status, are described below at a general landscape-scale. Site-specific scale discussion of baseline conditions is included in the “Effects of the Action” sections in Chapter 5 below. For additional information on the environmental baseline, see the Assessment (Bureau 2009, Chapter 2).

4.2.1. Status of Slickspot Peppergrass in the Action Areas

4.2.1.1. Slickspot Peppergrass Element Occurrences across the Action Areas

Of the 98 percent of EO area under Federal ownership, the Bureau has management authority on 87 percent of the total EO area (13,470 ac) rangewide and on all or portions of 69 of the 80 extant EOs for the slickspot peppergrass. This represents the majority of the slickspot peppergrass range. The EO rankings (discussed in section 4.1.8 above) for slickspot peppergrass EOs located entirely or partially on Bureau-managed lands are presented in Table 5.

Table 5. Element Occurrences (EOs) entirely or partially on Bureau of Land Management lands by Element Occurrence rank

EO Rank	B	BC ^a	C	D	E	F	Total
Number of Bureau-managed EOs	13	1	27	13	10	5	69
Percentage of Total Bureau-managed EOs (%)	19	2	39	19	15	7	100

^a Indicates an EO that is an intermediate between B-rank and C-rank (see Colket et al. 2006, p. 5).

As shown in Table 5, the majority (65 percent) of EOs entirely or partially on Bureau-managed land are ranked as C, D, and F. EOs with rankings of C, D, or F are indicative of lower-quality habitat and lower plant abundance. However, as discussed previously in this chapter, a lower EO ranking is not always indicative of the overall conservation value of a particular EO.

4.2.2. Factors Affecting the Species in the Action Areas

Several threat factors are contributing to the destruction, modification, or curtailment of slickspot peppergrass habitat or range in the action areas of individual ongoing actions. The sagebrush-steppe habitat of the Great Basin where the slickspot peppergrass occurs is becoming increasingly degraded due to the impacts of multiple threats, including the invasion of nonnative annual grasses, such as cheatgrass, and increased fire frequency. Cheatgrass can impact the slickspot peppergrass directly through competition but also indirectly by providing continuous

fine fuels that contribute to the increased frequency and extent of wildfires. Frequent wildfires have numerous negative consequences in the sagebrush-steppe system, which is adapted to much longer fire-return intervals, ultimately resulting in the conversion of the sagebrush community to nonnative annual grasslands with associated losses of native species diversity and natural ecological function. Because the modified wildfire regime and invasion of cheatgrass create a positive feedback loop, independently separating the effects of each threat is difficult.

Climate change is expected to exacerbate this feedback loop between the primary threats of invasive nonnative plants (e.g., cheatgrass) and changes in wildfire regime. As there is some degree of uncertainty regarding the potential effects of climate change on the slickspot peppergrass specifically, climate change in and of itself was not considered a significant factor in our determination to list slickspot peppergrass as a threatened species. However, we recognize that the severity and scope of the primary threats to the slickspot peppergrass of frequent wildfire and invasion by nonnative plants such as cheatgrass are likely to magnify, depending on the realized outcome of climate change within the foreseeable future; thus, we consider climate change as playing a potentially important supporting role in intensifying the primary threats to the species.

Secondary threats of residential and commercial development, seed predation, and climate change; and other factors including livestock use, wildfire management activities, post-fire stabilization and restoration activities, and military training; also may affect the slickspot peppergrass, both directly through the damage or mortality to individual plants and loss of slickspot microsites and indirectly through habitat fragmentation and isolation. The loss of slickspots is a permanent loss of habitat for slickspot peppergrass since the species is specialized to occupy these unique microsite habitats that were formed in the Pleistocene; once lost, slickspots likely cannot be re-created on the landscape. For a detailed discussion of these factors, refer to the final listing rule for the slickspot peppergrass (74 FR 52014, October 8, 2009).

All of these threats have long been recognized as contributing to the ongoing degradation of the sagebrush-steppe ecosystem of southwestern Idaho. However, we have only recently received independent evaluations of the direct relationship between the more significant threats and indicators of population viability, specifically for the slickspot peppergrass. New evidence suggests a significant negative association between both cheatgrass cover and wildfire and the abundance of the slickspot peppergrass, such that the species appears to be in decline across its range with adverse impacts continuing and likely increasing into the foreseeable future (Sullivan and Nations 2009, pp. 109–112, 114–118, 137).

We acknowledge that gaps exist in available information on the slickspot peppergrass; these gaps create uncertainty, however, the best information available was used for developing this Opinion. Science may reduce but can never completely estimate nor eliminate the uncertainty regarding future events (Bureau 2000, p. 3, 5). As stated in the Endangered Species Consultation Handbook, “Where significant data gaps exist there are two options: (1) if the action agency concurs, extend the due date of the biological opinion until sufficient information is developed for a more complete analysis; or (2) develop the biological opinion with the available information giving the benefit of the doubt to the species” (Service and NMFS 1998, pp. 1–6). Conducting research studies on the effects of various management actions to gather missing effects data on a plant with a seed bank cohort that is viable for up to 12 years would likely delay

this consultation for many years. Consultation timelines under the Act do not allow for such a delay; thus, for purposes of completing this consultation, the Service has provided the benefit of the doubt to the slickspot peppergrass with respect to data gaps regarding the effects of various ongoing project-level actions considered in this Opinion.

The ongoing project-level actions addressed in this Opinion are limited to 27 livestock grazing permits. Additional information regarding the potential impacts of ongoing livestock grazing permits is provided below. For a more detailed discussion of livestock use and the slickspot peppergrass, refer to the final listing rule for slickspot peppergrass (74 FR 52014, October 8, 2009) or to the Assessment (Bureau 2009, Chapter II).

4.2.2.1. Livestock Use

Livestock use in areas that contain the slickspot peppergrass has the potential to result in both positive and negative effects on the species, depending on factors such as stocking rate and season of use. The potential effects of livestock grazing activities on the slickspot peppergrass and its habitat include herbivory, trampling of plants, reduction of native forb cover, destruction or disturbance of the soil crust layer, soil compaction, pushing some seeds too deep into the soil for subsequent germination and emergence, and removal of fine fuels.

Herbivory by livestock does not appear to be a problem, as the slickspot peppergrass seems to be largely unpalatable to anything but insects. Domestic cattle are not known to feed upon the slickspot peppergrass, and domestic sheep have been observed pulling plants from the ground and spitting them out (Quinney and Weaver 1998, pers. comm.). Herbivory by large ungulates, whether wild or domestic, thus does not appear to pose a threat to the slickspot peppergrass. Livestock herbivory of invasive nonnative plants, especially annual grasses such as cheatgrass, is suggested as one of the potential benefits of livestock use that may contribute to the restoration of the sagebrush-steppe ecosystem (e.g., Pellant 1996, pp. 6, 10, 13) by reducing competition imposed by annual grasses and reducing fine fuels capable of carrying fire. At the same time, livestock use may have negative effects on the slickspot peppergrass. Trampling from livestock may result in direct damage or mortality of individual slickspot peppergrass plants, and the mechanical disturbance damages the slickspot soil layers, altering slickspot function and creating conditions conducive to the invasion of weedy nonnative plants.

Grazing results in some plants being crushed, severed, or bruised by hoofs (Vallentine 2001, p.155). To date, HIP monitoring data indicate that trampling damage to individual slickspot peppergrass plants appears to be localized, and while occasional damage or mortality of individual above-ground plants is likely to occur, it is probably not of much consequence to the species as a whole rangewide, because studies and modeling of the slickspot peppergrass life cycle indicate that the persistence of the plant is largely dependent on the proliferation of the seed bank (Palazzo et al. 2005, pp. 2–4, 8–9; Meyer et al. 2006, p. 900). If trampling results in the mortality of individual plants prior to seed set, however, that will have a negative impact on the persistence of the seed bank itself by reducing the number of seeds added.

Although not addressed in the listing decision, there are likely differences in the effects of different classes of livestock which may determine the extent of adverse effects on the slickspot peppergrass. For example, Laylock and Harniss (1972, as described in Vallentine 2001, p. 155) found that 18 percent of the herbage in paddocks was consumed by sheep in late summer, and an

additional 17 percent was damaged by trampling. Herded sheep in late summer on open range consumed 23 percent of forage, and an additional 27 percent of vegetation was damaged. In contrast, cattle grazed in paddocks all summer consumed 50 percent of forage, and an additional 13 percent of vegetation was damaged. Because they were succulent and easily broken, forbs suffered disproportional trampling losses. While making up less than 20 percent of the diets of cattle, 66 percent of the missing material (i.e., trampling damaged or converted to litter) was forbs. Therefore, it is likely that effects on forbs such as the slickspot peppergrass from trampling damage may be greater by cattle than that by sheep.

Livestock trampling can also disrupt the soil layers of slickspots, altering slickspot function (Seronko 2004, in litt.; Colket 2005, p. 34; Meyer et al. 2005, pp. 21-22). Trampling when slickspots are dry can lead to mechanical damage to the slickspot soil crust, potentially resulting in the invasion of nonnative plants and altering the hydrologic function of slickspots. In water-saturated slickspot soils, trampling by livestock can break through the restrictive clay layer; this is referred to as penetrating trampling (State of Idaho et al. 2006, p. 9). Trampling that alters the soil structure and the functionality of slickspots (Rengasamy et al. 1984, p. 63; Seronko 2004, in litt.) likely impacts the suitability of these microsites for the slickspot peppergrass. Trampling can also negatively affect the seed bank by pushing seeds too deeply into the soil for subsequent successful germination and emergence. Meyer and Allen (2005, pp. 6-8) found that seed emergence success decreased with increasing depth in the soil, from a mean of 54 percent emergence success at the shallowest planting depth of 0.1 in. to a mean emergence success of 5 percent at 1.2 in. planting depth.

The first recorded impact of domestic livestock grazing on the vegetation of the western Snake River Plain was associated with the Oregon Trail wagon trains: 250,000 head of livestock are estimated to have crossed the Snake River Plain each year during the 1850s, the years of peak emigration (Yensen 1980, p. 10, 13). Early grazing practices on the western Snake River Plain followed a general yearly grazing pattern. The lower desert elevations have been grazed in early spring for generations although some operations moved cattle from the desert in spring to avoid larkspur poisoning. When the desert grasses began to dry up, cattle moved to the foothills, and when these grasses browned, to the forest margins, or into the forest meadows of the Owyhee Mountains and the Boise Front Range. In fall, cattle moved back down to the lower desert ranges to feed on dried perennial grasses (Yensen 1980, p. 21). Sheep grazing practices in southwestern Idaho were similar to those of cattle at that time (Yensen 1980, p. 26). In the 1950s, stockmen began to provide stock watering tanks on the desert range, allowing for more use of the range (Yensen 1980, p. 57). Slickspot peppergrass occurs in topographic positions that lack streams so most of these areas rely on water hauling or pipelines for livestock watering; supplemental water for livestock has only been made available in the last 50–60 years.

While the effects of soil compaction on the slickspot peppergrass by livestock use were not discussed in our final listing rule, the Assessment and the Service's 2006 *Draft Best Available Biological Information on Slickspot Peppergrass* (*Lepidium papilliferum*) (Service 2006b, pp. 74–75; Bureau 2009, p. II-39) indicate that soil disturbance by vehicle tracks or animal trampling may directly impact the seed bank by crusting and compaction of soils, which can cause seed entrapment and hinder seedling emergence (Chambers and MacMahon 1994, p. 270 and 279–280; P. Seronko 2004, in litt. pp. 1–2). Both seed incorporation into the seed bank and seedling

emergence have been demonstrated as being lower on compacted than on non-compacted soils as compaction reduces soil pore space and increases soil rigidity (Sheldon 1974, p. 63). The Assessment indicates that effects of soil compaction through soil disturbance, including disturbance by localized livestock trampling, may impact the viability of the slickspot peppergrass seed bank, which constitutes the majority of the plant population.

We are aware of three incidents where livestock trampling events have been suggested as the likely cause of reduced slickspot peppergrass numbers at sites where the plants were formerly abundant, while reduced plant numbers were not observed at similar adjacent sites within the same year (Robertson 2003, p. 8; Meyer et al. 2005, p.22; Colket 2006, pp. 10-11). In one case, slickspot peppergrass plant numbers were reduced from thousands of plants annually observed prior to the livestock trampling event to 0 -- 10 plants observed each year (Meyer et al. 2005, p. 22). In a second case, a pollinator research study site near Glens Ferry was no longer used after 575 percent reduction in slickspot peppergrass numbers following a livestock trampling event between 2002 and 2003 (Robertson 2003, p. 8). Trampling has been suggested as the likely cause of the ensuing population reductions in these two incidents, but as these were observational reports, it is not known whether other factors may have also acted on these populations. The third incident occurred in 2005 at a HIP monitoring transect in EO 68, in CCA Management Area (MA) 1 of the Boise Foothills region. In 2005, penetrating livestock hoof prints were observed in 3 of 10 slickspots on the transect to a depth of 3 in., but not to the extent that the livestock penetrating-trampling trigger was tripped (the penetrating trampling "trigger" refers to a 10 percent cover threshold for penetrating trampling set in the CCA). Since that time, slickspot peppergrass numbers at this transect were substantially reduced, going from 631--1,277 plants observed in 2004 to a total of 9 plants observed in 2005 and 3 plants observed in 2006. Similar reductions in plant abundance were not observed in other HIP transects in CCA MA 1 in 2005 and 2006 (Colket 2009, p. 31), indicating that environmental factors shared by these sites were likely not responsible for the observed declines (Colket 2006, pp. 10-11). In 2007 and 2008, slickspot peppergrass numbers in this transect appeared to be slowly increasing (167 plants documented in 2007 and 224 plants documented in 2008), but had not reached the levels observed in 2004 prior to the trampling incident (Colket 2009, p. 31). It is unknown how reducing the number of seeds that replenish the seed bank associated with these localized reductions in plant numbers during 2005 and 2006 may affect the longer term status of the slickspot peppergrass at this site. While slickspot peppergrass numbers are slowly recovering at the site in the Boise Foothills (Colket 2009, p. 31), the site at the OTA has shown no apparent recovery over time (Meyer et al. 2005, p.22; Meyer 2009, in litt. p. 1), and the status of the third site at Glens Ferry is unknown, as it has not been revisited since the event.

Penetrating trampling by livestock may have a potentially detrimental effect on the slickspot peppergrass; however, these effects appear to be seasonal (most detrimental when soils are wet in the spring) and localized in nature. While we acknowledge that livestock use may have negative impacts on individual slickspots, statistical analyses of monitoring data available at this time have not demonstrated a significant correlation between livestock use and the abundance of the slickspot peppergrass on a rangewide basis. In a statistical analysis of Habitat Integrity Index (HII) data from 1998 to 2001, recent livestock use did not appear to have any effect on the slickspot peppergrass, slickspot attributes, and plant community attributes (Menke and Kaye 2006a, p. iii). The evidence from this study is not strong, however, as the analysis of grazing

impacts were limited to areas that had already been burned and had likely been previously grazed (Menke and Kaye 2006a, pp. 18-19). These researchers recommended additional analysis to confirm their findings (Menke and Kaye 2006a, p. iii). Later statistical analyses using additional years of rangewide HIP data, based on 4 years (2005–2008) and 5 years (2004–2008) of livestock use, also showed no significant relationships between slickspot peppergrass abundance and penetrating livestock hoof prints in slickspots (Salo 2009, p. 1; Sullivan and Nations 2009, p. 122), or between slickspot peppergrass abundance and total livestock-print cover or livestock-feces cover in slickspots (Sullivan and Nations 2009, p. 122). Sullivan and Nations (2009, p. 136) found only a single year (2007) where a consistent negative relationship existed between slickspot peppergrass abundance and each of the measures of livestock presence within slickspots (e.g., total livestock print percent cover, penetrating livestock print percent cover, and livestock feces percent cover), and this relationship only occurred within the Owyhee Plateau physiographic region. Statistical analyses of slickspot peppergrass data from 3 years of surveys on the Owyhee Plateau (2000–2002) showed that sites with low levels of livestock trampling exhibited greater numbers of slickspot peppergrass plants (averaging twice the total number of plants) than sites with high levels of trampling, although these results were statistically significant for only the year 2000. A significant positive relationship was also found between slickspot peppergrass abundance and distance to water and salt stations for use by livestock with total plant abundance increasing with increasing distance away from the water or salt sources (Popovich 2009, pp. 27–28). Like the Menke and Kaye (2006a) study, these three analyses of grazing impacts on slickspot peppergrass were limited to areas that had been previously grazed, making potential effects difficult to detect.

A 2-year study designed to examine the relationship between the effects of livestock trampling in slickspots and slickspot peppergrass density did not show a significant change in slickspot peppergrass density as a result of the 10 percent livestock trampling cover treatment applied. Year-to-year variations in slickspot peppergrass density observed in this 2-year study were attributed to stochastic environmental factors and not trampling events (Young 2007, p. 19). Further research is needed to determine if higher levels of trampling, greater mean hoof-print depths, or more frequent trampling treatments may affect slickspot peppergrass abundance (Young 2007, pp. 19–20). The ability to discern livestock trampling effects was limited since all study areas were grazed 2 to 4 years prior to study initiation.

Livestock trampling events most likely to adversely affect the slickspot peppergrass usually occur when large numbers of livestock are concentrated on or around slickspots that are saturated with water (Hoffman 2005, in litt.; Meyer et al. 2005, pp. 21–22). Saturated conditions typically exist for short periods each year and may never occur in some drought years (Hoffman 2005, in litt.). In spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Under the CCA, penetrating trampling is monitored to detect and subsequently use adaptive management to avoid future livestock-related impacts to slickspots containing the slickspot peppergrass. Predicting when soils will be wet in a climate with few and inconsistent precipitation events is difficult. Supplemental salt and watering sites can alter livestock distribution, and depending on location, can increase or decrease trampling of slickspots. As described below, protective measures provided in several of the existing conservation plans for the slickspot peppergrass are designed specifically to prevent or minimize the impacts to the species from livestock trampling, particularly during the seasons when

slickspot soils are wet and most susceptible to damage. During dry soil conditions, the surface of slickspots exhibit a concrete-like consistency; therefore, our assumption is that slickspot soil layers and the seed bank are not expected to be adversely impacted by livestock trampling, including penetrating trampling, during dry soil conditions.

Indirect effects from livestock use have also impacted the sagebrush-steppe ecosystem. Livestock use has been suggested as a contributing factor to the spread of both native and invasive nonnative plant species (e.g., Young et al. 1972, pp. 194–201; Hobbs and Huenneke 1992, p. 329; Frost and Launchbaugh 2003, pp. 43–45; Loeser et al. 2007, p. 95). The spread of cheatgrass across portions of the Snake River Plain has been attributed to several causes, including the past practice of intensive livestock use in the late 1800s (Mack 1981, pp. 145–165). A small number of case studies from western North America suggest that grazing plays an important role in the decrease of native perennial grasses and an increase in dominance by nonnative annual species; however, invasion by nonnative grasses has been found to occur both with and without grazing in some areas. Today, nonnative annual plants such as cheatgrass are so widespread that they have been documented spreading into areas not impacted by disturbance (Piemeisel 1951, p. 71; Tisdale et al. 1965, pp. 349–351; Stohlgren et al. 1999, p. 45); therefore, the absence of livestock use no longer protects the landscape from invasive nonnative weeds (Frost and Launchbaugh 2003, p. 44), at least with respect to cheatgrass.

Analysis of 3 years of HII data, from 1999 through 2001, showed no effect of livestock grazing on slickspot perimeter integrity (described as “loss of slickspot perimeter distinctness” in Mancuso et al. 1998, p. 7), weedy species density, perennial forb or grass establishment, or organic debris accumulation in slickspots (Menke and Kaye 2006a, p. 10). Cumulative livestock sign (an indicator of livestock presence) had a significant negative correlation with exotic grass dominance around slickspots (Menke and Kaye 2006a, p. 11) and with the frequency of slickspots with dense weedy annuals in 2001 (Menke and Kaye 2006a, p. 10). The analysis of grazing effects was limited since the HII data were observational only (i.e., no controlled experiments were performed); all areas were likely grazed at some point in the past; and grazing effects could only be observed in previously burned habitats (Menke and Kaye 2006a, p. 18). In addition, there was no significant difference in cover of exotic plant species in slickspots between grazed and ungrazed areas in the 2004 HIP data set, although biological soil crust cover was significantly lower in grazed transects (Menke and Kaye 2006b, p. 19). As described above, biological soil crusts are important to the sagebrush-steppe ecosystem and slickspots where slickspot peppergrass occur; they stabilize and protect soil surfaces from wind and water erosion, retain soil moisture, discourage annual weed growth, and fix atmospheric nitrogen (Eldridge and Greene 1994 as cited in Belnap et al. 2001, p. 4).

The relationship between biological soil crust cover and slickspot peppergrass abundance varies by physiographic region and whether biological soil crust cover is associated with slickspot microsites or the general area surrounding slickspots. Recent statistical analyses determined that the Boise Foothills physiographic region exhibited a positive relationship between slickspot peppergrass abundance and biological soil crust cover within slickspots; no relationship was evident between slickspot peppergrass abundance and biological soil crust cover within slickspots in the Snake River Plain where the biological soil crust percent cover was intermediate; and Owyhee Plateau had the lowest percent cover of biological soil crust cover

within slickspots and a negative relationship with slickspot peppergrass abundance (Sullivan and Nations 2009, p. 135). In contrast, slickspot peppergrass abundance was positively associated with biological soil crust cover in the general area surrounding slickspots for both the Boise Foothills and Snake River Plain physiographic regions (Sullivan and Nations 2009, p. 130). Therefore, livestock trampling that impacts biological soil crust cover in the areas surrounding slickspots may also impact the slickspot peppergrass, at least within the Boise Foothills and the Snake River Plain physiographic regions.

Young (2007, p. 19) did not find a significant change in the density of cheatgrass, bur buttercup (*Ceratocephala testiculata*), and clasping pepperweed (*Lepidium perfoliatum*) following the application of a one-time, annual trampling treatment over a 2-year period. Both studies (Menke and Kaye 2006a,b; Young 2007) represent short-term data sets that likely are not capable of reflecting any potential long-term effects to slickspot peppergrass habitat.

“Additional mechanical effects of foraging on woody plants include intentional or inadvertent breaking off of limbs and bark wounding by horning, rubbing, feeding, or hooves” (Vallentine 2001, p. 156). While not addressed in the Service’s listing rule, the Assessment indicates that livestock may also have a negative impact on shrub distribution due to breaking of shrubs by rubbing on them or reaching through shrubs to access forage. The Assessment indicates that damage to existing shrubs has been observed near areas of livestock congregation, such as near watering sites and mineral supplement areas, and may be amplified in sites that already exhibit limited shrub cover (Bureau 2009, P. II-40). Shrub damage by livestock is more likely in pastures that have limited shrub stands since livestock congregate around shrubs when the weather is windy and to rub on. The Assessment states that the loss of shrub cover may impact the slickspot peppergrass by allowing more wind to the soil surface and drying the areas out. Shrubs also act as snow fences and help catch and retain winter moisture (Rosentreter and Jorgensen 1986, p. 3). Although the specific function of shrubs in relation to slickspot peppergrass habitat parameters is not discussed in our final listing rule, the Service acknowledges that shrubs are important components of slickspot peppergrass habitat. Increased numbers of slickspot peppergrass plants observed in 2008 were largely based on substantial increases at 6 of 80 HIP transects, with 66 percent of all slickspot peppergrass plants counted in 2008 found at these 6 transects (Colket 2009, p. 26). The plant community where these 6 transects are located has not been burned, is dominated by native sagebrush, and represents some of the highest-quality habitat remaining for the species. In addition, an analysis of 5 years of HIP monitoring data indicated that slickspot peppergrass “abundance was lower within those slickspot (sic) that had previously burned” (Sullivan and Nations 2009, p. 137). HIP monitoring identifies burned areas within the range of the slickspot peppergrass by their lack of Wyoming big sagebrush shrub cover. It is unknown if this relationship between slickspot peppergrass abundance and fire is the result of the lack of shrubs in burned areas, physical or chemical changes to habitat parameters as the result of burning, or a combination of both. The vast majority of impacts to shrub cover within the range of the slickspot peppergrass are related to wildfire, with additional shrub cover loss associated with development. In contrast, the effects of livestock use on shrub cover reduction are typically localized, and primarily occur in areas of livestock concentration such as near water or salt/supplement sites. Effects of livestock use on shrub cover are expected to be most impacting to the slickspot peppergrass in EO areas where shrub cover has already been reduced.

Livestock grazing may reduce native forb cover or preclude the recovery of historic forb cover levels (Kimball and Schiffman 2003, pp. 1687–1688). Native perennial and annual forbs may be consumed during the growth and flowering period, especially with spring livestock grazing (Kimball and Schiffman 2003, p. 1683). Generally speaking, habitat degradation may be linked to livestock grazing, particularly historic unmanaged and/or excessive grazing (see review by Jones 2000). However, some livestock permittees have stated that slickspots and slickspot peppergrass have persisted “in the wake of tremendous habitat destruction, including livestock disturbance” (T. Hoffman in litt. 2005, p. 4). Conversely, as described above, the highest numbers of slickspot peppergrass plants have been documented in areas that are unburned and are dominated by native sagebrush, representing some of the highest-quality habitat remaining for the species.

Lack of forbs in occupied slickspot peppergrass habitat can constitute a barrier that reduces the effective range of insects important to slickspot peppergrass pollination (Robertson et al. 2004, p. 2–4). A lack of insect pollinators has the potential to impact seed production for renewal of the slickspot peppergrass seed bank. Barriers to insect pollinators can include large areas of degraded sagebrush steppe habitat that do not support sufficient forb diversity necessary for insect pollinators to be available for slickspot peppergrass pollination. If livestock grazing occurs during April through June when many annual and perennial forbs actively grow and flower in southwestern Idaho, livestock consumption of forbs may affect forb vigor and seed production, potentially reducing the present and future forb cover in the vicinity of slickspot peppergrass habitat. In addition, some of the slickspot peppergrass pollinators are ground-dwelling insects that may be negatively impacted by livestock trampling (Sugden 1985, pp. 300, 309).

The potential benefit of livestock use in reducing wildfire effects through a reduction of fine fuels has generated discussion in recent years (e.g., Pellant 1996; Loeser et al. 2007). The introduction of cattle, sheep, and horses to the Great Basin in the 1860s quickly created large ranching operations and grazing pressure. Heavy livestock grazing removed fine fuels and resulted in a substantial reduction in the number of fires and acres burned. Only 44 fires, burning a total of 11,000 ac, were reported from 1880 to 1912 in Great Basin rangelands (Miller and Narayanan 2008, p. 9). The number of livestock in Great Basin and sagebrush ecosystems has dropped rapidly since the passage of the Taylor Grazing Act of 1934 (43 USC 315; http://www.blm.gov/wy/st/en/field_offices/Casper/range/taylor.1.html, accessed July 23, 2008, as cited in Launchbaugh et al. 2008, p. 2). Livestock numbers in Idaho decreased in the 1950s primarily from the loss of large sheep operations. Livestock numbers have fluctuated at or below this decreased amount through the remainder of the twentieth century, with a steady conversion from sheep to cattle. In the last decade, a substantial decrease in authorized use of livestock grazing on Bureau lands in Idaho has been recorded (Launchbaugh et al. 2008, p. 2).

With careful management, livestock grazing may potentially be used as a tool to control cheatgrass (Frost and Launchbaugh 2003, p. 43) or, at a minimum, retard the rate of invasion (Loeser et al. 2007, p. 95). Targeted grazing of cheatgrass-dominated sites has been suggested as a first step in breaking the cheatgrass–fire cycle via removal of fire disturbance. However, caution must be used in applying this level of biomass removal in a community that retains some native or desirable plant species, and use of this grazing treatment should therefore be limited to degraded rangeland with little or no native perennial plant cover. (Diamond et al. 2009, pp. 949--

950). Although the spread of cheatgrass has been strongly linked with high-impact grazing, some evidence indicates that grazing at more moderate levels may potentially inhibit cheatgrass colonization (e.g., Loeser et al. 2007, pp. 94–95); the researchers note, however, that experimental study over a longer time period is needed to verify this tentative conclusion. Others, however, have suggested that given the variability in the timing of cheatgrass germination and development, and its ability to spread vegetatively, effective control of cheatgrass through livestock grazing may be a challenge (Hempy-Mayer and Pyke 2008, p. 121; Mayer 2004, p. 32). One recent study demonstrated that livestock grazing on cheatgrass can increase the amount of cheatgrass seed set for the following year (Clements et al. 2008, p. 1). While it is difficult to discern the relative importance of grazing, climate, and wildfire in contributing to nonnative plant abundance (D’Antonio et al. 1999, as described in Zouhar et al. 2008, pp. 23–24), areas with a history of livestock grazing often support a wide variety of nonnative species, especially in areas where nonnatives have been introduced to increase the forage value of rangelands or pastures (Zouhar et al. 2008, pp. 23–24).

Following investigations of the 2007 Murphy Wildland Fire Complex, fire-modeling efforts revealed that grazing in grassland vegetation can reduce the surface rate of spread and fire-line intensity to a greater extent than grazing in shrubland vegetation (Launchbaugh et al. 2008, pp. 1–2). However, under extreme fire conditions (i.e., low fuel moisture, high temperatures, and gusty winds), grazing applied at moderate levels has limited or negligible effects on fire behavior. When weather and fuel-moisture conditions are less extreme, grazing may reduce the rate of spread and intensity of fires, allowing for patchy burns with low levels of fuel consumption (Launchbaugh et al. 2008, pp. 1–2). Some research also indicates that grazed areas have a reduced likelihood of wildfire ignitions, likely by reducing the availability of fine fuels (Romero-Calcerrada et al. 2008, p. 351).

However, “fire behavior in sagebrush vegetation types is driven by sagebrush cover and height, with the herbaceous component on which livestock focus their grazing, playing a lesser role” (Launchbaugh et al. 2008, p. 30). “Grazing as a fuels management technique would be most effective on uniform grasslands and becomes less effective as the amount and size of the shrub component in the plant community increases” (Launchbaugh et al. 2008, p.31), which may limit the utility of livestock grazing as an effective wildfire control technique within sagebrush-steppe habitats containing slickspot peppergrass. In addition, using livestock grazing to reduce fine fuel levels at a landscape scale may conflict with other land management goals. Launchbaugh et al. (2008, p. 32) state that “changes in grazing management aimed at managing fuel loads are not appropriate for homogeneous application across large landscapes and multiple management units. Such application of grazing across entire landscapes at rates necessary to reduce fuel loads and affect fire behavior, especially under extreme conditions, could have negative effects on livestock production and habitat goals.” Targeted grazing to accomplish fuel objectives holds promise but requires detailed planning that includes clearly defined goals for fuel modification and appropriate monitoring to assess effectiveness (Launchbaugh et al. 2008, p. 32). It is unknown if targeted grazing to reduce fuel loads would be compatible with slickspot peppergrass recovery. The degree to which livestock grazing influences fuel loads and and fire spread in slickspot peppergrass habitat is currently unknown. Additional data are needed in order to determine the magnitude of the potential beneficial effects of livestock grazing on the reduction wildfire within the range of the slickspot peppergrass.

4.2.2.1.1. Conservation Measures for Livestock Use Implemented on Bureau of Land Management Lands

Existing conservation plans (CCA, U.S. Air Force INRMP, IDARNG INRMP) contain numerous measures to avoid, mitigate, and monitor the effects of livestock use on the slickspot peppergrass. Livestock grazing conservation measures implemented through the CCA and the U.S. Air Force INRMP apply to all Federal and State-managed lands within the occupied range of the slickspot peppergrass (98 percent of the acreage encompassing the range of the slickspot peppergrass occurs on Federal and State-managed lands). Conservation measures prescribed by the CCA include minimum distances for placement of salt and water troughs away from occurrences of the slickspot peppergrass. Several troughs and salt blocks have been moved as a result of these measures (State of Idaho et al. 2005; State of Idaho et al. 2006, p. 133). Although the specific locations of these salt and water relocations in relation to slickspot peppergrass EOs has not been provided to the Service, we assume that these conservation measures have been implemented by the Bureau.

As part of the CCA, high-priority EOs were designated to emphasize protection and restoration of slickspot peppergrass habitats. Criteria for designating these EOs were based on existing habitat quality, geographic location relative to other existing EOs, minimal land-use activities, the absence or presence of resources to address threats, and the need to preserve enough EOs throughout the species' range to prevent extinction in case of a catastrophic event. To protect these high-priority EOs, the Bureau has shifted the season of livestock use on some allotments from spring to fall and implemented a deferred-rotation management system on some allotments to protect annual flowering slickspot peppergrass plants from grazing impacts (State of Idaho et al. 2006, pp. 133–134).

The CCA also includes measures to reduce livestock trampling during wet periods, including trailing (moving cattle to or between allotments repeatedly on the same path) restrictions (State of Idaho et al. 2006, pp. 132–134). High-priority slickspot peppergrass EOs identified in the CCA were assigned additional conservation measures, such as no early spring grazing, fencing to exclude livestock, and delaying turnout of livestock onto allotments when soils are saturated (State of Idaho et al. 2006, pp. 133–134). Delaying turnout is important following a soil-saturating precipitation event in areas containing slickspot peppergrass since it is difficult to avoid trampling effects on saturated slickspot soils. Under the CCA, penetrating trampling is monitored to detect potential livestock-related impacts to slickspots containing slickspot peppergrass. Once penetrating trampling is detected during 2 years at an individual transect, adaptive management may be implemented to avoid or minimize future potential impacts. To date, adaptive management has resulted in modification of a trailing permit to avoid livestock trailing by one livestock permittee across the allotment of another livestock permittee, providing for greater control of livestock to minimize or avoid potential livestock-related impacts to the slickspot peppergrass. Predicting when soils will be wet in a climate with few and inconsistent precipitation events is difficult. Conservation measures for the slickspot peppergrass contained in the CA and the CCA are designed specifically to prevent or minimize potential impacts to the species from livestock activities, particularly during the seasons when slickspot soils are wet and most susceptible to damage.

CHAPTER 5. EFFECTS OF THE ACTIONS AND CUMULATIVE EFFECTS

5.1. Overview of the Effects of the Actions Analyses

In analyzing the effects of the 27 ongoing actions considered in this document on the slickspot peppergrass, the Bureau used *A Framework to Assist in Making Endangered Species Act Determinations of Effect for Slickspot Peppergrass (Lepidium papilliferum)* (Framework) (Service 2006a). The Framework is a tool developed to assist Federal agencies when working with the Service to assess effects of their actions on the slickspot peppergrass. The Framework was developed based on the species' life history, ecological requirements, and threats. Using the Framework includes providing a description of baseline conditions for the species and its habitat in the action area and changes in conditions for the species resulting from the action. Since the slickspot peppergrass is a desert annual, emphasis is placed on the condition of the habitat rather than on the number of plants present in a given year. Populations of desert annuals change drastically in response to annual weather conditions; therefore, habitat condition is a much better long-term measure of the annual plants' potential ecological health (Elzinga et al. 1998, p. 55). The Framework is intended for analyzing an individual action's potential effects on the species and may be applied to ongoing and proposed actions. The Framework consists for three major components: (1) a Matrix of Pathways and Indicators, (2) a Checklist of Diagnostics, and (3) a Dichotomous Key of Effects Determinations.

To complete the effects analyses, the Bureau consistently applied the Matrix of Pathways and Indicators from the Framework for all of the ongoing actions to review both the baseline conditions and ongoing actions affecting slickspot peppergrass occupied habitat. This matrix considers indicators that reflect resource characteristics and their condition that are described as a quality ranking. The actual matrices generated by this analysis process are provided in the Assessment for each action under each individual project-specific "Effects of Action" section (Bureau 2009). The Framework matrix categorizes a series of habitat quality indicators both within and outside of slickspots for each ongoing action. High, moderate, and low quality rankings of habitat represent points on a gradation of habitats rather than absolute thresholds for habitat quality. And while habitat quality may be categorized as low for a particular habitat quality indicator, in a given year slickspot peppergrass plant abundance at that location may be high due to other environmental variables, such as precipitation.

Slickspot peppergrass survival and recovery is dependent on maintaining and enhancing Wyoming big sagebrush-steppe habitat and the slickspot microsites located within this ecosystem in southern Idaho. The long-term conservation of slickspot peppergrass is dependent upon the maintenance or improvement of ecological function of the higher quality (C- through A-ranked) EOs rangewide, including maintaining or improving the connectivity within and between EOs which may involve the maintenance or enhancement of currently lower ranked EOs (D- through F-ranked), as necessary to facilitate pollinator activity; the maintenance of genetic diversity, and limiting the establishment of invasive nonnative plant species. As described in the "Survival and Recovery of the Species" section above (section 4.1.10), the Service used the State of Idaho's INHP EO rankings to characterize the conservation value of

each action area considered in this document. These INHP criteria address population size of the EO, habitat condition within the EO, and the landscape condition of the area surrounding the EO. For the purpose of analyses presented in this Opinion, action areas containing EOs that are B- or BC-ranked were categorized as having high conservation value for the slickspot peppergrass, action areas containing C-ranked EOs were categorized as having medium conservation value for the species, and action areas containing D- and F-ranked EOs were considered as having low conservation value for the species. When multiple EOs of varying INHP ranks were located within an action area, the conservation value of the action area was categorized based on the highest ranked EO located within the area. Once the conservation value of an action was identified, effects of the action were examined to determine whether the action was expected to increase, maintain, or decrease the current conservation value of the action area over time. These analyses were subsequently summarized at the end of this Chapter as part of the basis for our jeopardy determination for the 27 ongoing livestock grazing actions considered in this Opinion. Note that while some action areas may have been categorized as having a low or medium conservation value for the slickspot peppergrass based on the INHP ranking system for EOs, other factors such as their geographic position relative to other EOs of higher value for purposes of facilitating genetic exchange between populations of the slickspot peppergrass may make these sites of high conservation value for the species.

The indicators and quality rankings used to determine the effects of the 27 ongoing livestock grazing actions on the slickspot peppergrass are based on best available science. However, we acknowledge that information gaps and disagreement exist with respect to the available information on the slickspot peppergrass; however, in accordance with Service policy, the best information available was used to develop this Opinion. As described above in section 4.2.2, page 1-6 of the *Endangered Species Consultation Handbook* states that “Where significant data gaps exist there are two options: (1) if the action agency concurs, extend the due date of the biological opinion until sufficient information is developed for a more complete analysis; or (2) develop the biological opinion with the available information giving the benefit of the doubt to the species.” Researching the effects of various management actions to gather missing effects data on a plant with a seed bank cohort that is viable for up to 12 years would likely delay this consultation for many years. Thus, the Service has provided the benefit of the doubt to the slickspot peppergrass with respect to data gaps regarding the potential effects of the ongoing actions considered in these analyses. Therefore, if there is a reasonable possibility that an adverse impact could occur to a single slickspot peppergrass plant or seed associated with an ongoing action, a “may affect, likely to adversely affect” determination was made for the individual ongoing action.

The Assessment states that the action area does not typically equate to an entire allotment, but rather to only those areas containing occupied habitat. However, within this Opinion, the Service considers the action area as the entire allotment. While we acknowledge that slickspot peppergrass occupied habitat does not necessarily occur across the entire allotment, overall rangeland health in and around occupied habitat likely has some influence on slickspot peppergrass conservation. We submit that a grazing management system that is employed across an allotment is influenced by grazing occurring in any and all of its subdivisions (i.e., pastures). Thus, grazing in any allotment subdivision has the ability to but may not necessarily influence the slickspot peppergrass contained within the same allotment. Factors that are considered may

include kind of livestock, size of the allotment, flexibility of operators, season of use of pastures, distance of pastures from the EO, number of pastures, current stocking rate, and current grazing system. Authorized livestock use is defined at the allotment level, use within allotment subdivisions is dependent on this authorized use, the intent of a grazing system implemented through an allotment management plan considers sustainability and overall rangeland health, and the ongoing permitted action under consideration is the entire allotment. Therefore, for the purposes of this Opinion, we have defined the action area as the allotment in its entirety.

Within each action area, all available data were used for specific sites and then applied broadly to the action area. The Bureau used satellite imagery, fire frequency, range trend, rangeland standard and guide data, and HIP data, if available. If the data were not broad enough to cover the entire action area, they were extrapolated from these key sampling sites to encompass the broader level action area.

Many of the actions analyzed in this Opinion are described as having “localized effects” on the slickspot peppergrass. Localized effects are those that are anticipated to occur within a relatively small area in relation to slickspot peppergrass occupied habitat located within an action area. Because actions are often patchy in their distribution and the intensity of effects varies across an action area, it is not expected that impacts caused by an action would occur at the same level of intensity or on every portion of habitat within an individual action area. Localized effects are not expected to impact the slickspot peppergrass to the extent that the conservation value of an action area to the continued survival and recovery of the slickspot peppergrass is likely substantively reduced over the term of the action. For example, livestock are typically not evenly distributed across an allotment, and areas with trampling impacts have been observed to be portions of pastures where livestock congregate near or within EOs, particularly when soils are saturated. Based on 5 years of HIP monitoring data, the total area affected by trampling within slickspots in the majority of transects has been relatively low (less than 5 percent mean hoof print cover documented for 63 of 388 total data points), which at least in part may be the result of implemented conservation measures (e.g., water trough and salt placement, herding, fencing, season of use adjustments, etc.); however, we have no baseline data to compare livestock trampling impacts prior to the implementation of the conservation measures. Total livestock hoof print cover over 5 years of HIP monitoring has only exceeded 16 percent cover for 6 out of 388 total data points, and has never exceeded 26 percent cover. While these results indicate that some localized impacts may occur to the slickspot peppergrass due to trampling, these impacts are likely to be limited to isolated areas with livestock concentrations during periods of saturated soils conditions or when individual plants are flowering. Trampling impacts are not expected to occur throughout all slickspot peppergrass occupied habitat located within an allotment.

The acreage described as occupied slickspot peppergrass habitat within the Assessment may present an inflated sense of the extent of the habitat affected by the ongoing action and should be considered a broad brush estimate. The “occupied acreage” is a calculation of the affected EO acres plus the area contained within a 0.5-mi-wide buffer area surrounding the EO. In some cases, the area within the 0.5-mi-wide buffer includes roads and other non-habitat. This 0.5-mi area surrounding the EO is considered important to maintain or improve habitat integrity and pollinator populations for species conservation (see pollinator discussion on pages 27--28 in the Status of the Species section of this Opinion). This 0.5 mi buffer is also referred to as the “0.5 mi

pollinator buffer” or the “EO pollinator buffer” in the individual ongoing action descriptions below.

Most of the following discussion in this chapter describes the effects of project-specific actions on the slickspot peppergrass. For each ongoing activity analyzed, specific management direction beyond the LUP guidance and the conservation measures as described above are identified as part of the description of the action. Additional guidance derived from the CCA or as a result of litigation is also identified. For each of the individual ongoing actions, the effects analysis considers the specific requirements of the authorization at issue, including applicable conservation measures and adaptive management actions to reduce the potential for adverse effects to the slickspot peppergrass and its habitat. To the extent appropriate, the effects analysis also considers voluntary measures taken by permittees or others with authorizations to reduce or mitigate potential adverse effects to the slickspot peppergrass and its habitat.

Minor differences exist in the effects analyses discussions for the 27 ongoing livestock grazing actions between the Snake River Plains physiographic region in the Four Rivers FO area and the Owyhee Plateau physiographic region in the Jarbidge FO area. These differences result from differences in slickspot peppergrass habitat quality between the two areas. The Snake River Plains physiographic region is at a lower elevation and receives less annual rainfall than the Owyhee Plateau physiographic region. The Snake River Plain also has experienced extensive habitat conversion from Wyoming sagebrush steppe to invasive nonnative annual grasses because of a modified wildfire regime, and shrub and forb cover are often limited. In contrast, the Owyhee Plateau generally has larger EOs and more intact habitat because of relatively fewer repetitive fire events and fewer habitats that contain extensive areas of invasive annual plants, such as cheatgrass and medusahead, than on the Snake River Plain. The Owyhee Plateau has generally higher quality habitat for the slickspot peppergrass with larger contiguous areas dominated by native shrubs and forbs when compared to the Snake River Plain area. While some large slickspot peppergrass EOs occur on the Snake River Plains, such as on the Orchard Training Area, there are also numerous smaller EOs that are isolated due to habitat fragmentation caused by conversion of Wyoming sagebrush steppe to invasive nonnative annual grasses. Due to the small size of some of these EOs and isolation of these sites, the habitat condition in the areas surrounding the EOs were given more emphasis in the analyses of effect for ongoing actions on the Snake River Plains ongoing actions than in the analyses for ongoing actions on the Owyhee Plateau.

The individual project-specific effects determinations examine the effects of livestock use on the slickspot peppergrass. Within these individual effects analyses, the term “livestock” refers to the class of livestock that occur within each individual ongoing project area (e.g., allotment) as described in the “Description of the Action” section for each ongoing action.

5.1.2.1. Livestock Grazing Allotment Conservation Measures Common to the Boise District and the Jarbidge Field Office

The Bureau and the Service agreed on slickspot peppergrass conservation measures included as a part of the 2006 CA, which was updated in 2009. These conservation measures and associated implementation actions, as listed in Appendix A of this Opinion and Table III.C-1 of the Bureau’s Assessment (Bureau 2009), will be incorporated into Bureau affected decisions for

grazing and other land uses. Conservation measures that will be imposed on future livestock grazing uses include those in the following LUP programs: Special Status Animal and Plant Management and Livestock Grazing Management (includes both Permits and Leases, and Livestock Management Facilities). The 2003 CCA established a number of conservation measures for slickspot peppergrass CCA MAs, as well as special conservation measures for specific EOs. The Assessment lists the applicable management areas, and identifies the specific pages of the 2003 CCA relevant to each allotment (Bureau 2009).

Literature indicates that slickspot peppergrass plants may be directly affected by actions that modify various habitat characteristics. Livestock trampling of slickspots has been identified as one of the possible disturbances to slickspot microsites (Colket 2005, Mancuso 2001), especially in the spring (approximately April through June) when soils are typically not frozen and are likely to be saturated. Livestock trampling of saturated slickspot soils that breaks through the restrictive layer is referred to as “penetrating trampling” in the CCA (State of Idaho et al. 2003), and has the potential to alter the soil structure and the function of slickspots and to adversely affect the seedbank, as described in Chapter II of the Assessment (Bureau 2009). Management actions that increase livestock movements within a pasture or congregate livestock near slickspot peppergrass EOs may increase the potential for livestock trampling of slickspots. These management actions may include, but are not limited to the following:

- Water or salt and supplements near slickspots
- Fences in locations that alter livestock movement so that the movements impact slickspots
- Livestock trailing through slickspot areas
- Sheep bedding grounds near slickspots

Conservation measures have been developed and are being used to reduce or avoid these management actions.

5.1.2.2. Use of Habitat Integrity and Population Monitoring Data in Assessing the Effects of Bureau of Land Management Livestock Grazing Authorizations on the Slickspot Peppergrass

HIP monitoring that has been conducted to date has occurred in the EOs within occupied habitat (Colket 2009, pp. 3–7). HIP monitoring evaluates whether the actions identified in the CCA are being implemented and the effects of those actions are as anticipated. This monitoring information is used herein to inform the effects of the 27 ongoing livestock grazing actions on the slickspot peppergrass.

If grazing is conducted during the slickspot peppergrass growing season when soils are saturated, then there is potential for trampling damage to slickspots in that allotment. Two key components were used to make effects determinations for livestock grazing on the slickspot peppergrass in the Assessment: (1) total livestock hoof print cover and (2) penetrating hoof print cover (Bureau 2009). Data for both are collected as part of the HIP monitoring. Total livestock hoof print cover within slickspots data were used to examine the potential effects of livestock use on individual slickspot peppergrass plants and seeds and its slickspot microsite habitat. Total livestock hoof print cover includes both non-penetrating and penetrating livestock hoof prints. Any livestock trampling of the slickspot surface can result in damage or death of individual

slickspot peppergrass plants, particularly when the plants are actively growing and flowering in May and June. Livestock trampling damage to individual slickspot peppergrass plants during the flowering period may result in lower recruitment of slickspot peppergrass seeds available to enter the seed bank.

Penetrating trampling is defined by the CCA (State of Idaho et al. 2006) as breaking through the restrictive layer under the silt surface area of a slickspot and is mostly likely to occur during saturated conditions. The restrictive layer of a slickspot is defined as the heavy clay (35–45 percent clay content) prismatic structured subsoil layer (Btn 1 horizon) below the silty vesicular surface layer (E horizon) and above the lighter textured (25–35 percent clay content) blocky structured clayey layer (Btn 2 horizon). Generally, penetrating trampling occurs when a livestock hoof print attains a depth of 1.0 in. When hoof prints attain depths of greater than 1.0 in., they may submerge slickspot peppergrass seeds to a depth where individual germinants are unable to reach the soil surface. Slickspot peppergrass plants that die before emerging from the soil surface would not contribute additional seeds to the seed bank.

The number of livestock prints observed and recorded during HIP monitoring may represent a small proportion of soil disturbance that occurred when livestock use occurred, making even a small percent of documented trampling biologically meaningful. For example, during a study of livestock trampling and slickspot peppergrass, Young (2007, pp. 16 and 39) observed that in as little as three weeks, livestock hoof prints originally documented as “penetrating trampling” had silted in and thus no longer met the depth criteria for classification as “penetrating trampling.” During past surveys in the Jarbidge FO, areas observed as containing livestock hoof prints were documented as being totally obliterated following precipitation events (Popovich 2002, pp. 11 and 20–21). Since HIP monitoring is only conducted annually, precipitation events may “silt in” penetrating hoof prints or obliterate livestock hoof prints prior to monitoring, reducing or eliminating evidence of potential trampling impacts to slickspot habitats. Depending on the timing of precipitation events, evidence of trampling since the previous year of HIP monitoring may be difficult to detect, making the determinations of effect associated with livestock use challenging.

Penetrating livestock hoof print cover was used when making effects determinations for ground disturbance that may occur in the general area surrounding slickspots. HIP penetrating trampling data were used by the Bureau in its Assessment as a surrogate for ground-disturbance levels outside of slickspots because if hoof prints were deep enough to meet the CCA definition of “penetrating trampling” within slickspots (e.g., hoof prints at least 1 in deep), then at least some level of ground disturbance could reasonably be expected to also be occurring outside of slickspots.

Livestock are typically not evenly distributed across an allotment, and areas with trampling impacts are pasture areas where livestock congregate near or within EOs, particularly when soils are saturated. In the instance of livestock trampling effects, 5 years of HIP monitoring data indicate that total trampling cover within slickspots in the majority of transects has been relatively low (less than 5 percent mean hoof print cover in 318 of 388 total data points) across the range of the species (Colket 2009, pp.50–61). Total livestock hoof print cover over 5 years of HIP monitoring has only exceeded 16 percent cover in 6 out of 388 total data points and has never exceeded 26 percent total hoof print cover (Colket 2009, pp.50–61). While these results

indicate that some localized impacts to slickspot peppergrass may occur from trampling (e.g., some seeds may be buried too deep for successful emergence following germination or seed production of some plants may be reduced due to mechanical damage from trampling), we anticipate that effects will be limited to isolated areas with livestock concentrations during periods of saturated soils conditions or when individual plants are flowering. Potential trampling-related effects are not expected to occur throughout all occupied habitat located within an allotment.

Trampling of individual slickspot peppergrass plants by livestock can also occur but the Service has indicated in the listing rule that, given existing information, trampling damage to plants is localized and may not be of much consequence to the species as a whole rangewide. Trampling by livestock could result in localized damage to or mortality of individual live slickspot peppergrass plants or localized impacts to the seed bank of the plant within individual slickspots. Slickspot peppergrass habitat can also be affected by the spread of invasive nonnative plants facilitated by livestock use, which may directly displace slickspot peppergrass plants or affect slickspot peppergrass insect pollinators. The extent of invasive nonnative plant species is identified for each allotment as part of the effects analysis.

Slickspot peppergrass also depends on insect pollinators for its reproduction (Robertson and Ulappa 2004, p. 1707) and survival. The availability and condition of forb cover affects the availability of insect pollinators. For these reasons, the effects of livestock grazing on forb cover are considered in the Assessment and in this Opinion. Livestock grazing of native forbs has the potential to reduce pollinating insect populations that are critical to slickspot peppergrass reproduction and survival by reducing their pollen and nectar food source. Additionally, livestock trampling may potentially reduce ground dwelling insect pollinators and cause a decline in pollinator populations (Shephard et al. 2003, p. 73). The current conservation measures and grazing management standards are designed to retain existing forb cover to support insect pollinators and minimize potential adverse effects on the slickspot peppergrass.

5.2. Boise District Ongoing Actions

The ongoing actions in the Four Rivers FO of the Boise District, including the Morley Nelson Snake River Birds of Prey NCA, occur in the Boise Foothills and the Snake River Plain physiographic regions for the slickspot peppergrass. The Boise District ongoing actions addressed in the Bureau's Assessment include 23 ongoing livestock grazing permits. One of the above grazing permits (Double Anchor Allotment #01097) previously was the subject of a concurrence from the Service to the Bureau that it may affect, but is not likely to adversely affect, the slickspot peppergrass; for that reason, that action is not addressed in this Opinion. Thus, this Opinion addresses the effects of 22 ongoing livestock grazing actions within the Boise District on the slickspot peppergrass.

5.2.1. Livestock Grazing Permits

The 22 ongoing livestock grazing allotments addressed herein range in size from 642 ac to more than 275,000 ac. In many of the allotments, slickspot peppergrass occupied habitat exists in only one or a few of the pastures. Each allotment may contain multiple permits; seasons of use; and site-specific terms, conditions, and management guidance. However, the basic approaches to management and some of the effects that are typically attributable to grazing are similar. Detailed allotment-specific descriptions, management actions, effects, and effects determinations are discussed in the Bureau’s Assessment for each individual grazing allotment permit. In describing the ongoing livestock grazing allotment actions, the Bureau used animal unit months (AUMs) in the Assessment. AUMs are defined as the amount of forage required to feed one 1,000-lb cow and her calf, or five sheep, for 1 month. Livestock grazing terms and conditions and management guidelines for livestock grazing permits in the Boise District are provided in Tables 6 and 7 below (originally Tables IV.D-1 and IV.D-2 on page IV-20 of the Assessment).

Table 6. Bureau Terms and Conditions for Grazing Authorizations in the Boise District (from page IV-20 of the Assessment)

1	The allotment listed on this grazing permit is subject to the requirements of 43 CFR 4180, Fundamentals of Rangeland Health and Guidelines for Grazing Administration. This permit shall be modified (if necessary) to meet these requirements upon completion of a Standard and Guidelines Assessment and determination as scheduled by the authorized officer.
2	Pursuant to 43 CFR 10.4(b), you must notify the BLM Field Manager, by telephone with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony on federal lands. Pursuant to 43 CFR 10.4 (c), you must immediately stop any ongoing activities connected with such discovery and make a reasonable effort to protect the discovered remains or objects.
3	As provided in the Code of Federal Regulations (CFR 4130.6-2D), you are hereby required to submit a certified Actual Use Report within 15 days after completion of your annual grazing use. Failure to comply could result in the cancellation of your permit in whole or part.
4	Salt and/or supplements shall not be placed within one quarter (1/4) mi of springs, streams, meadows, aspen stands, playas or water developments.
5	Changes to the scheduled use require prior approval.
6	Trailing activities must be coordinated with the BLM prior to initiation. A trailing permit or similar authorization may be required prior to crossing public lands.
7	Livestock enclosures located within your grazing allotment are closed to all domestic grazing use. It is your responsibility to keep the fences in good repair where maintenance has been assigned to you. Permittees who willingly cause and willingly allow their livestock to graze in enclosures closed to grazing will be charged with trespass.
8	Range improvements must be maintained in accordance with the cooperative agreements and range improvement permits in which you are a signatory or assignee.

Table 6. Bureau Terms and Conditions for Grazing Authorizations in the Boise District (from page IV-20 of the Assessment)

9	All appropriate documentation regarding state and/or private leased lands, private lands offered for exchange-of-use, and livestock control agreements must be approved by the authorized officer prior to allowing livestock to graze on public lands.
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Note: The wording on each individual permit may not be exactly the same as listed here; however, the intent is the same.

Table 7. Bureau Management Guidelines for Grazing Authorizations in the Boise District (from page IV-20 of the Assessment)

1	Permittees will supplement federal and state agency surveys and monitoring by surveying their allotments for slickspots and plants, including existing occurrences, during their normal course of business.
2	Permittees will report survey information to the Idaho Conservation Data Center (currently the INHP) for the purposes of aiding monitoring efforts and contributing to the CCA adaptive management strategy.
3	Supplement placement shall be considered in the annual slickspot peppergrass tour with the BLM range specialist and other appropriate resource specialists, based on the experience in the previous year's grazing season. Terms and Conditions with a permit will be adjusted to reflect the distance necessary for supplements from existing EOs and slickspots; however, requirements for maximum distance from water may be waived for a compelling reason involving minimizing impact on a slickspot or the plant. If the aforementioned is not possible, then existing sites will be examined by BLM and the permittee to determine the best available location.
4	Permittee within the management area will use only existing roads and tracks for vehicle travel.
5	Permittee will request modification of time of use for fall and winter grazing only.

5.2.1.1. Considerations for Effects Determinations Common to Boise District Ongoing Livestock Grazing Actions

The Assessment states that, overall, opportunities for establishing slickspot peppergrass populations outside of known EOs based on current vegetation conditions appear to be limited on the Boise District. The high level of habitat fragmentation from past wildfires throughout the species' range and the challenges of restoring cheatgrass-dominated sites to native shrubs, grasses, and forbs reduces the probability that moderate- to high-quality slickspot peppergrass habitat currently exists outside of known EOs. If some opportunities for establishing additional slickspot peppergrass populations exist, or if an allotment has extreme limitations for the slickspot peppergrass, this is discussed below within individual allotment environmental baseline descriptions.

An effects determination is provided below for each specific allotment. The justification for that determination for many of the allotments, however, is similar. On the Boise District, the majority of habitat is dominated by invasive nonnative annual grasses, which may limit the capability of the area to support the slickspot peppergrass.

5.2.1.2. Boise District Individual Ongoing Livestock Grazing Allotment Descriptions and Effects Determinations

Descriptions of the 22 individual ongoing livestock grazing actions (i.e., allotments) on the Boise District and their effects on the slickspot peppergrass are as follows.

5.2.1.2.1. Black Canyon Allotment #00176

Description of the Action Area

Black Canyon Allotment #00176 is located in T6N, R3W and T7N, R3W/4W; permits grazing by cattle only; and consists of approximately 6,355 ac of Federal, State, and private land—91 percent of the allotment is Bureau-administered land. This allotment contains 341 ac of Bureau-administered slickspot peppergrass-occupied habitat on in the northern portion of West Pasture, which contains EO 70 in CCA MA 1; occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The grazing permit allocates 505 spring and 704 fall/winter cattle AUMs. Current management consists of spring grazing from March 1 to May 15, and fall/winter grazing from November 15 to February 28, although the winter season in the West Pasture ends on February 15. A historic stock driveway is located in the east half of the allotment, along the Payette and Gem County line, and accommodates both spring and fall sheep trailing. Only the West Pasture, which is used November 15 through February 15 by 202 cattle (704 AUMs), is documented as containing slickspot peppergrass (EO 70). This permitted action expires on August 31, 2014.

The permit was modified in April 2000 to increase AUMs from 640 to 1,100 in order to decrease vegetation height to enhance long-billed curlew (*Numenius americanus*) habitat. A four-pasture grazing system is used to help meet long-billed curlew habitat management objectives. A September 10, 2004, decision was issued to implement CCA slickspot peppergrass conservation measures for MA 1 and EO 70 in this allotment. Among other things, the decision established a new grazing season in the West Pasture, which extends from November 15 to February 15. Another grazing authorization adjustment was made in 2006, due to the Packer John State Exchange with the Idaho Department of Lands (IDL), which increased the public land base. This grazing permit adjustment did not increase the overall grazing authorization on the allotment; it just transferred to the Bureau the previously permitted IDL AUMs associated with the State land.

Range improvement projects in this allotment include boundary fences, a water pipeline, a storage tank, and troughs. No surface water exists within occupied habitat or within 1.0 mi of occupied habitat in this allotment. In 1999, the water pipeline, storage tank, and water troughs were constructed to more effectively locate water and maximize livestock distribution. This pipeline is located approximately 0.7 mi east of occupied habitat associated with EO 70, and the

water storage tank is located approximately 2.25 mi east of occupied habitat. This allotment contains 15.2 mi of fence, 1.25 mi of which occur in occupied habitat.

Specific terms and conditions within the Black Canyon Allotment #00176 permit that address the conservation of the slickspot peppergrass include the following:

- Livestock grazing in West Pasture will be restricted to November 15 to February 15 only.
- Livestock will be removed from the allotment within 3 days of notification if the following conditions occur: if the ground becomes soft and/or muddy and if continued livestock use would result in shearing or other physical damage to the vegetation or compaction of the soils.
- Within the West Pasture, permittee shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mile, and preferably 0.75 mi, if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.
- No trailing of livestock through EOs in the management area when soils are saturated. Permittee will move cattle away from vicinity of EOs when soils become saturated.
- Within West Pasture, when soils become moist, the livestock will be moved, before the soils become saturated, to a fenced pasture east of the EO.

For additional details on the description of the action for the allotment, see pages IV-25 through IV-29 of the Assessment.

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Black Canyon Allotment #00176 contains a single slickspot peppergrass site, EO 70 (1 ac). EO 70 is located in the Boise Foothills physiographic region and has exhibited plant numbers ranging from 833 to 2,911 individual plants over 5 years of HIP monitoring (Colket 2009, p.31). No obvious trends in are apparent in plant numbers at the HIP transect for EO 70 over these 5 years of monitoring. Variations in slickspot peppergrass plant numbers over the 5 years of HIP monitoring at EO 70 are likely due to environmental factors such as spring precipitation levels. The highest plant numbers in this HIP transect were observed in 2008, with the lowest plant numbers observed in 2006 (Colket 2009, p.31). The INHP has classified EO 70 as B-ranked. All 0.9 ac of EO 70 are located within the boundaries of the West Pasture of the Black Canyon Allotment #00176.

Current conditions in slickspots at EO 70 exhibit moderate to high habitat quality for the slickspot peppergrass, and the EO has contained high plant numbers during annual monitoring. Low slickspot peppergrass habitat quality parameter ratings are the result of frequent burning with subsequent invasion of cheatgrass and loss of native forbs from past management practices in surrounding areas.

The 341 total acres of Bureau-administered slickspot peppergrass-occupied habitat in this allotment consist primarily of Wyoming big sagebrush, and the surrounding habitat consists predominantly of exotic annuals (cheatgrass), with scattered pockets of Wyoming big sagebrush

and isolated pockets of stiff sagebrush (*Artemisia rigida*) on some of the shallower soils in the southern portion of the allotment.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 70 percent of the occupied habitat in the allotment contains native shrub habitat.
- Approximately 20 percent of the occupied habitat in the allotment is dominated by exotic annuals with minimal or no native shrub component.
- Approximately 10 percent of the occupied habitat is private agricultural land (primarily restricted to the northern one-third of the occupied habitat area).

Slickspot peppergrass conservation possibilities do exist within the 0.5 mi occupied habitat pollinator buffer in this allotment since this area contains 70 percent native shrubs. However, that possibility drops sharply in surrounding habitat, as most of the area is dominated by exotic annuals. Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Black Canyon Allotment #00176 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The occupied habitat associated with EO 70 has not burned in the recent past and consists primarily of Wyoming big sagebrush with pockets of exotic annuals. In contrast, a large percentage of the allotment has burned repeatedly from the 1960s and through the 1990s and, as a consequence, is dominated by cheatgrass. Scotch thistle (*Onopordum acanthium*) is known to occur throughout the allotment including in habitat associated with EO 70. Chemical treatment of Scotch thistle, an Idaho noxious weed, occurs annually throughout the allotment by Payette County Weed Control and the Bureau in accordance with guidelines stipulated in the CCA to control weeds while avoiding pesticide impacts to the slickspot peppergrass.

This allotment is grazed each year from March 1 to May 15 with 505 AUMs and November 15 through February 28 with 704 AUMs. The West Pasture, where EO 70 is located, is only grazed November 15 through February 15.

HIP monitoring documented nonnative plant cover below 2 percent within EO 70 slickspots over the past 5 years of monitoring. HIP monitoring has documented little livestock use in EO 70 slickspots (less than 1 percent total livestock print and penetrating livestock print cover annually over 5 years of monitoring), which is likely due to the lack of forage in the EO 70 area. HIP monitoring has not documented any livestock feces cover within slickspots in EO 70 over 5 years of annual monitoring.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. According to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, an estimated 70 percent of slickspot peppergrass occupied habitat within this allotment contains

shrub dominated vegetation. The Assessment categorizes the habitat in EO 70 as moderate quality for the slickspot peppergrass due to high shrub cover but low native understory diversity. However, the habitat in the allotment overall is categorized as low quality for the slickspot peppergrass since vegetation in this allotment is fragmented due to past wildfires, resulting in isolated pockets of intact shrub communities. Only about 6 percent of the entire allotment contains shrub cover; therefore, the Assessment rated habitat conditions based on shrub cover within the allotment on the whole as low quality.

Sagebrush areas in the vicinity of EO 70 are devoid of most native grasses and forbs in the understory, which can be attributed to wildfire and past heavy livestock use back to the mid-1800s. HIP photos of the area document that the area never recovered from this past heavy use (Colket 2009, pp. 295–298). Due to the current lack of native grasses and forbs in the understory, the likelihood that a current seed bank of desirable native forbs and grasses exists is minimal. In addition, Scotch thistle and Mediterranean sage, both categorized as Idaho noxious weed species, have been documented in the vicinity of EO 70. The Assessment categorizes the current environmental baseline condition for presence of nonnative annual or perennial plants in the vicinity of EO 70 as moderate quality for the slickspot peppergrass due to the presence of noxious weeds near EO 70 and a low incidence of native understory plants in the remnant sagebrush stand near EO 70.

HIP monitoring data indicate that biological crust cover is high (greater than 50 percent over 5 years of monitoring) within slickspots in EO 70; however, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). Thus, if surrounding vegetation is dominated by invasive nonnative plants, it is assumed that biological soil crust cover is relatively low.

HIP monitoring documented native forb cover as below 5 percent in the 2 years of monitoring data available at EO 70. Diversity and cover of native forbs are important as these factors affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

For additional details on the Environmental Baseline for the Black Canyon Allotment # 00176, see pages IV-27 through IV-29 of the Assessment.

Effects of the Action

The West Pasture of the Black Canyon Allotment #00176, which contains EO 70, is annually grazed by livestock only between November 15 and February 15 when the risk of adverse impacts to the slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging is low. Impacts to slickspot soils, the seed bank, and biological soil crusts from mechanical trampling damage are expected to be minimal, as soils in southern Idaho are typically frozen during this time period. Grazing from November through February is also expected to minimize adverse impacts to individual slickspot peppergrass plants as well as native forbs since both annual and perennial forbs would have already completed growth and produced seeds prior to livestock turn out. Although winter grazing could still result in some livestock herbivory on perennial forbs, the low level of livestock concentrated use observed in the vicinity of EO 70 makes the likelihood and severity of grazing impacts on perennial forbs low. Due to the observed lack of concentrated livestock use in EO 70, ongoing grazing activities

are also not expected to adversely impact shrub distribution in this allotment. Because conservation measures implemented in this allotment do not allow for spring grazing in the pasture containing EO 70, the risk of livestock trampling effects in EO 70 is minimal. The possibility exists that adverse effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occasionally occur due to periodic thaws in winter when this pasture is grazed. For example, in February 2005, winter thaw resulted in some penetrating trampling at EO 68 located approximately 1.5 mi west-southwest of EO 70 in the adjacent allotment. However, since livestock use in the vicinity of EO 70 is low, livestock trampling impacts to the slickspot peppergrass and its habitat during periodic years with winter thaws are anticipated to be discountable.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Scotch thistle and Mediterranean sage, which are Idaho noxious weeds, can be dispersed by grazing livestock within and adjacent to EO 70. Therefore, localized effects to the slickspot peppergrass are reasonably likely to occur in the area surrounding EO 70 based on the presence of nearby Scotch thistle and Mediterranean sage populations, coupled with the potential for these weeds to be spread through livestock use. Chemical treatment of Scotch thistle in the Black Canyon Allotment #00176 has occurred annually by the Bureau and cooperators in accordance with the conservation measures in the CCA (State of Idaho et al. 2006) and may serve to reduce but not eliminate localized adverse effects associated with potential livestock-related spread of noxious weeds near EO 70. Therefore, effects on habitat in the area surrounding EO 70 associated with localized livestock trampling and dispersal of weed propagules are reasonably likely to occur. However, these effects are expected to occur at a reduced level due to the implementation of conservation measures in the Black Canyon Allotment #00176, including changing the season of livestock use in the West Pasture (where EO 70 is located) from spring to fall/winter and continued weed control efforts in the allotment.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

Cumulative effects include the effects of future State tribal, local, or private actions that are reasonably certain to occur within the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. Cumulative effects are generally similar for all of the actions considered in this Opinion. Livestock grazing and chemical treatments for weed or insect control that may directly or indirectly affect the slickspot peppergrass can occur on both State and private lands in the vicinity of the ongoing action. Residential, commercial, industrial, and agricultural development on private lands can affect slickspot peppergrass plants and habitat through habitat conversion, increased noxious and invasive weed invasions, increased OHV use, increased wildfire frequency, changes to insect pollinator populations, and increased habitat fragmentation. The Service recognizes that some

actions on non-Federal lands may have adverse effects on the slickspot peppergrass at the individual or EO level. Non-Federal lands within the boundaries of the Black Canyon Allotment #00176 do not contain slickspot peppergrass EOs. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer for EO 70 located on non-Federal lands within the boundaries of the allotment include 0 ac of State land and 50 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the remaining terms of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions.

Overview of Effects

Minimal direct trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains B-ranked EO 70 (1 ac), and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Implementation of conservation measures from the CCA (State of Idaho et al. 2003) have minimized and are expected to continue to minimize adverse effects of livestock grazing by seasonal use restrictions that limit grazing to winter when slickspot soils are less likely to be saturated and subject to physical disturbance and subsequent impacts to the seed bank. However, localized adverse effects on the slickspot peppergrass and its habitat could still occur due to localized spread of invasive nonnative plants associated with livestock use. These effects are expected to be infrequent and of low magnitude due to the relatively low levels of livestock use documented within the area of EO 70, the continued implementation of weed treatments in the allotment, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures over the term of the action. For this reason, this action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.2. Black Canyon Allotment #00310

Description of the Action Area

Black Canyon Allotment #00310 is located in T5N, R1W/1E; T6N, R1W/1E; T5N/6N, R3W; and T5N/6N, R4W/5W; permits grazing by sheep only; and consists of approximately 24,565 ac of Federal, State, and private land. There are 1,047 ac of Bureau-administered slickspot peppergrass occupied habitat within this allotment, which contains EO 52 in CCA MA 2B, EO 47, and a portion of EO 76. Both EO 47 and the portion of EO 76 within this allotment occur outside the boundaries of any currently established CCA management area. Slickspot peppergrass-occupied habitat encompassing a portion of the 0.5-mi pollinator buffer for EO 56 is also located within the allotment. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion

will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

Black Canyon Allotment #00310 consists of seven fragmented (noncontiguous) pastures located south of Emmett, Idaho. The allotment currently has two permittees, both of whom are licensed to graze sheep. The current permits authorize 2,053 spring AUMs and 589 winter AUMs. Of these 2,053 spring AUMs, 558 AUMs (1,600 sheep) are authorized to graze between April 1 and May 23 annually in the Highway 16 East Pasture, which contains EO 47. In Little Gulch Pasture, 222 AUMs (3,070 sheep) are authorized to graze between December 5 and December 15 and 367 AUMs (1,800 sheep) are authorized to graze between December 1 and December 31; however, the permittees are currently not grazing the Little Gulch Pasture, which contains EO 52. This permitted action expires on February 28, 2013.

Livestock grazing is no longer allowed on that portion of Federal land located in T5N, R1E, Sec. 21: W $\frac{1}{2}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$. The permittee sold the adjacent private land, which is expected to be subdivided. EOs 39 and 40 are located on private land. No agreement was made between the Bureau and the private land owner to apply CCA conservation measures on his lands. EO 47 is located outside of any existing management area and is only subject to the LEPA Consideration Zone CCA conservation measures outlined on page 24 of the CCA.

The Assessment indicates that the action area used in this analysis includes slickspot peppergrass occupied habitat for EOs 52 and 76 inclusive of the slickspots, surrounding matrices, and 0.5-mi EO pollinator buffer within the project area, which are all located within CCA MA 2B. HIP monitoring data associated with EO 56 and EO 76 were not used in these effects analyses as the HIP transects are located outside of the Black Canyon Allotment #00310.

The terms and conditions listed in Table IV.D-1 and management guidelines in Table IV-D.2 on page IV-20 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, do not apply to the current permit for Little Cattle Company, which holds one of the two permits for this allotment. As stated on page IV-21 of the Assessment, applicable slickspot peppergrass conservation measures identified in the CA between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Black Canyon Allotment #00310.

Although several range improvements have been constructed over the entire allotment, including fencing and vegetative restoration projects, there are no documented range improvements in the pastures containing slickspot peppergrass occupied habitat. No natural surface water exists on the Federal lands in the Black Canyon Allotment #00310, and thus, all livestock water and salt/supplements must be hauled in by truck to movable troughs or is available on adjacent private lands. There are no interior fences in pastures containing slickspot peppergrass occupied habitat. For additional details on the allotment, see pages IV-38 through IV-39 of the Assessment.

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Black Canyon Allotment #00310 contains at least portions of three slickspot peppergrass EOs: EO 47, EO 52, and EO 76. All EOs within the allotment are located in the Boise Foothills physiographic region. Recent monitoring efforts have failed to find any slickspot peppergrass plants within EO 47, which contains no HIP transects. EO 52 has exhibited plant numbers ranging from about 420 to 3,728 individual plants over 5 years of HIP monitoring (Colket 2009, p. 31). EO 76 has exhibited plant numbers ranging from 2,014 to 6,111 individual plants over the past 4 years of HIP monitoring (Colket 2009, p. 31). No obvious trends in are apparent in plant numbers at the HIP transects for EOs 52 and 76 over the 4--5 years of HIP monitoring. Variations in slickspot peppergrass plant numbers are likely due to environmental factors such as spring precipitation levels. The highest plant numbers in HIP transects for EO 52 were observed in 2005, with lowest numbers being observed in 2004. In the 4 years of HIP monitoring available for EO 72, the highest plant numbers were observed in 2006, with the lowest plant numbers observed in 2005 (no data was collected in 2004) (Colket 2009, p.31). The INHP has classified EO 76 as B-ranked, EO 52 as C-ranked, and EO 47 as F-ranked.

Newly discovered portions of EO 76 that have not yet been verified to determine total EO acreage are located within the Highway 16 East Pasture of the Black Canyon Allotment #00310, although the EO area is known to be at least 2 ac in size. In addition, all 0.1 ac of EO 47 is also located entirely within the boundaries of the Highway 16 East Pasture of the Black Canyon Allotment #00310. All 26 ac of EO 52 are located entirely within the Little Gulch Pasture of the Black Canyon Allotment #00310, which will no longer be grazed.

Slickspot peppergrass occupied habitat for four EOs is located either wholly or partially within the boundaries of the Black Canyon Allotment #00310: EO 47, located within Highway 16 East Pasture, EO 52 located within Little Gulch Pasture (which is no longer grazed), EO 56, located within Helmick Individual Allotment #00141, with a portion of the 0.5 mi occupied habitat pollinator buffer located on Federal land in the Black Canyon 00310 Allotment, and EO 76, recently expanded to include a portion of the Highway 16 East Pasture due to recent surveys. The 1,047 ac of Bureau-administered slickspot peppergrass occupied habitat, as well as the surrounding habitat in this allotment, consists predominantly of exotic annuals such as cheatgrass, tumble mustard (*Sisymbrium altissimum*), and tansy mustard (*Descurainia sophia*) with pockets of Wyoming big sagebrush.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows (No data are currently available for that portion of EO 76 located in the allotment):

- Approximately 70 percent of EO 47, 60 percent of EO 52, and 0 percent of EO 56 occupied habitat in the allotment contains native shrub habitat.
- Approximately 30 percent of EO 47, 40 percent of EO 52, and 50 percent of EO 56 occupied habitat in the allotment is dominated by exotic annuals with minimal or no native shrub component.

While shrub cover does exist, invasive nonnative annual plants will likely continue to spread within occupied habitat in the allotment. Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Species in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Black Canyon Allotment #00310 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Portions of the allotment burned in the 1950s, 1970s, 1980s, 1990s, and 2000s. The largest areas burned in the 1980s. As a consequence, the area is dominated by exotic annuals such as cheatgrass. Approximately 2 ac of occupied habitat associated with EO 47 were chemically treated for rush skeletonweed (*Chondrilla juncea*), an Idaho noxious weed, between 1996 and 1999. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). An additional acre was chemically treated for Russian knapweed (*Acroptilon repens*), another Idaho noxious weed, between 1996 and 1999, and an area immediately adjacent to this site was retreated in 2004. No chemical treatments have occurred since 2004 in areas associated with EOs in this allotment.

Total livestock print cover data from HIP monitoring has documented little livestock use in EO 52 (less than 1 percent total livestock print cover annually over 5 years of monitoring) due to implementation of conservation measures in 2004 that do not authorize grazing within the Little Gulch Pasture where EO 52 is located. No HIP monitoring data are available for that portion of EO 76 located in the Black Canyon Allotment #00310. However, HIP monitoring in the adjacent McPherson Individual Allotment #00196 has documented some livestock hoof prints within slickspots in EO 76. Since the timing and intensity of livestock use in the McPherson Individual Allotment #00196 are similar to that in the Highway 16 East Pasture of the Black Canyon Allotment #00310 where EO 76 is located, some localized livestock trampling within EO 76 in the Black Canyon Allotment #00310 is likely occurring.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. According to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, an estimated 60 to 70 percent of slickspot peppergrass occupied habitat associated with EO 52 and EO 76 within this allotment contains shrub dominated vegetation. The Assessment categorizes the habitat in EOs 52 and 76 as moderate quality for the slickspot peppergrass due to high shrub cover but low native understory diversity. However, the vegetation in this allotment is fragmented due to past wildfires, resulting in isolated pockets of intact shrub communities. The habitat in the allotment overall is categorized as moderate quality for the slickspot peppergrass since about 46 percent of the allotment area contains shrub cover.

High levels of cheatgrass with pockets of shrubs due to past wildfires have been documented in EO 52 (see HIP photos in Colket 2009, pp. 233–236). Noxious weed species have also been documented in the vicinity of EOs in the allotment, including St. John's wort (*Hypericum perforatum*) and Russian knapweed in EO 52 and rush skeletonweed and Russian knapweed in the vicinity of EO 76. Rush skeletonweed has been documented at less than 1 percent cover

within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). The Assessment categorizes the current environmental baseline condition for presence of nonnative annual or perennial plants as low to moderate quality for the slickspot peppergrass due to the presence of noxious weeds near EOs 52 and 76 and the 60 percent invasive nonnative annual grass (e.g., cheatgrass) and low forb cover overall within the allotment.

HIP monitoring data indicate that biological soil crust cover is high (greater than 50 percent in 4 of 5 years of HIP monitoring) within slickspots in EO 52. No HIP data are available for that portion of EO 76 that is located in the Black Canyon Allotment #00310. The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots because areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As 60 percent of the allotment is dominated by exotic annuals, including cheatgrass, biological soil crust cover is likely lower throughout the allotment than within EO 52.

HIP monitoring data indicate that percent native forb cover is moderate quality for the slickspot peppergrass (about 8 percent cover in the 2 years of available HIP monitoring) in EO 52. No monitoring data exist for that portion of EO 76 located in the Black Canyon Allotment #00310. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

For additional details on the Environmental Baseline for the allotment, see pages IV-38 through IV- 39 of the Assessment.

Effects of the Action

No direct effects to the slickspot peppergrass or its habitat from authorized livestock use in EO 52 are expected because the permittee is currently not grazing the Little Gulch Pasture of the allotment, although livestock hoof prints have been documented during 2007 and 2008 HIP monitoring, indicating some unauthorized livestock use has occurred in this pasture. The Highway 16 East Pasture, which includes a portion of EO 76, is annually grazed by sheep between April 1 and May 23 (see Bureau 2009, p. IV-36) when the potential for adverse impacts to the slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging would be higher due to the higher probability for saturated soil conditions.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Russian knapweed and rush skeletonweed, which are Idaho noxious weeds, can be dispersed by grazing sheep within and adjacent to EO 76. Since sheep may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), localized introduction of other invasive nonnative plants into slickspot microsites and the habitat surrounding EO 76 is likely. In

addition, livestock trampling in spring and early summer in the vicinity of EO 76 has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering, as well as native forbs, native grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Sheep have also been observed attempting to consume slickspot peppergrass plants, although individual plants were pulled from the ground but subsequently not eaten. As this has only been documented in a single instance, direct foraging or uprooting individual slickspot peppergrass plants by sheep is likely uncommon, and is not expected to result in significant reductions in the number of slickspot peppergrass plants in EO 76, although some individual plants may be damaged or killed.

Livestock use in spring may also result in trampling impacts to slickspot soils, which are more likely to be wet in spring, and subsequent impacts to the seed bank. However, conservation measures to avoid livestock use when soils are saturated are anticipated to reduce potential trampling effects in EO 76 in the spring. Adverse impacts are also expected to be lower in this allotment as the smaller body weight and hoof size of sheep in relation to cattle could reasonably result in reduced incidence of localized penetrating trampling of slickspot soils and subsequent deep burial of slickspot peppergrass seeds. Continuation of spring grazing annually during the active growing period for native plants over the long-term is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area. The location of only a portion of EO 76 in the allotment coupled with the relatively short term of the action remaining (3 more years) is also expected to further reduce the magnitude of adverse effects associated with spring sheep grazing within EO 76. Therefore, localized livestock herbivory and trampling effects to the slickspot peppergrass in EO 76 and the surrounding area are reasonably likely to occur, although the extent of adverse effects within the Black Canyon Allotment #00310 are expected to be tempered by the short term of the action remaining (3 more years), the class of livestock grazing the pasture containing EO 76, and, the implementation of conservation measures to avoid or minimize impacts to EOs when soils are saturated.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

EOs located on non-Federal lands located within the boundaries of the Black Canyon Allotment #00310 include F-ranked EOs 39 and 40, which are located entirely on private land. It is anticipated that this private land will be developed, resulting in the permanent loss of these lower conservation value EOs as there are currently no known slickspot peppergrass conservation measures associated with these EOs. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 100 ac of State land and 1,520 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67--68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains a portion of B-ranked EO 76 (at least 2 ac), and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Additional EOs located within the allotment include C-ranked EO 52 (26 ac) and F-ranked EOs 47 (0.1 ac). Conservation measures implemented within the Black Canyon Allotment #00310 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (3 more years), and slickspot peppergrass conservation measures will continue to be implemented in the allotment. These conservation measures include livestock exclusion from C-ranked EO 52, delay of livestock turn out in EOs when soils are saturated, restrictions on sheep bedding, trailing, or watering within 0.5 mi of EOs (including B-ranked EO 76), no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the species. For this reason, this action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (3 more years).

5.2.1.2.3. Black Canyon Shaw Allotment #20135

Description of the Action Area

The Black Canyon Shaw Allotment #20135 is located in T6N/R4W and T7N/R4W/5W and permits cattle grazing only. This 13,763 ac allotment has 12 pastures and consists of 80 percent Federal land interspersed with private and State lands. This allotment has 2,287 ac of slickspot peppergrass occupied habitat on Federal lands and contains EOs 66, 68, and 69 in CCA MA 1. A portion of slickspot peppergrass-occupied habitat in the 0.5-mi pollinator buffer for EO 70 is also

located on Federal land in the Cross-freeway Pasture of this allotment. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit allocates 779 spring AUMs and 1,193 winter AUMs. Current grazing management consists of spring grazing from March 1 to May 31 and fall/winter grazing from November 16 to February 28, with the three pastures containing EOs 68 and 69 being grazed only during the period of November 16 through February 15 annually. This permitted action expires on August 31, 2014.

The AUMs are distributed across all 12 pastures, and actual use in each pasture varies from year to year. The permittee attempts to rest one pasture each year. The majority of forage in this allotment is annual, and during years of heavy forage production, a full rest may not be given to any pasture. During these times, cattle may be run through a pasture to remove excessive forage. This practice is utilized to enhance habitat for the long-billed curlew since this area occurs within the Bureau's long-billed curlew ACEC. Management objectives for curlews and slickspot peppergrass are probably incompatible. Livestock are herded through the pasture in a systematic manner. Cattle are constantly being rotated through different pastures, and livestock movements between pastures are determined by utilization levels and soil moisture. Soil moisture is the predominant factor affecting livestock movement in occupied slickspot peppergrass habitat. Livestock are typically not placed in pastures with occupied habitat unless the soil is dry or completely frozen. In 2004, the permittee voluntarily agreed to graze the three pastures containing EOs 68 and 69 only from November 16 to February 15, which was incorporated as a term and condition of the permit.

The Assessment indicates that the action area used in this analysis includes occupied habitat for EOs 66, 68, and 69 inclusive of the slickspots, surrounding matrices, and 0.5-mi EO pollinator buffer within the project area, which are all located within CCA MA 1.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for this allotment (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the CA between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Black Canyon Shaw Allotment #20135 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Black Canyon Shaw Allotment #20135 relevant to the conservation of the slickspot peppergrass are as follows:

- Waterhole Pasture, Center Pasture, and North Winter Pasture use will be restricted to November 16 to February 15 only.

- The turnout date shown above will be subject to range readiness. Range readiness occurs once the soils have firmed after the spring thaw and the physiological requirements of the plants have been met. A copy of the range readiness guidelines is available upon request.
- Within Waterhole Pasture, Center Pasture, and North Winter Pasture, permittee shall place salt/supplements to minimize trampling of slickspot peppergrass and of slickspots, respectively. Supplements will be placed at least 0.5 mi, preferably 0.75 mi if possible, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.
- No trailing livestock through EOs in the management area when soils are saturated. Permittee will move cattle away from vicinity of EOs when soils become saturated.

Range improvement projects in this allotment include restoration seedings; pasture, boundary, emergency stabilization, and rehabilitation fence; and a water pipeline and several water troughs placed at least 0.5 mi from existing EOs in compliance with the CCA conservation measures for CCA MA 1. Livestock water is currently provided to the troughs in the occupied habitat pastures by the Center well and Shaw Ranch well, both of which have pipelines extending to other pastures. A new pipeline was constructed in 2004 and 2005 for the purpose of moving all water facilities at least 0.5 mi away from existing EOs. With the development of this new water system, over 20 water troughs exist within the allotment; 10 are located in pastures that contain slickspot peppergrass occupied habitat, but none actually occur within occupied habitat. The number of water troughs was increased with the intention of minimizing the concentration of livestock in any one area. This allotment has 33.8 mi of fences; 8.5 mi occur in occupied habitat in the Black Canyon Shaw Allotment #20135. For additional details on this allotment, see the Assessment (Bureau 2009, pp. IV-49 through IV-54).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Black Canyon Shaw Allotment #20135 contains three entire slickspot peppergrass sites: EO 66, 68, and 69. All EOs within the allotment are located in the Boise Foothills physiographic region. EO 66 has exhibited plant numbers ranging from 1,238 to 6,754 individual plants over 5 years of HIP monitoring (Colket 2009, p. 31), and is located within a livestock enclosure that has been in place since 1990. EO 68 has documented from 3 to between 631 and 1,277 individual plants over 5 years of HIP monitoring, and EO 69 has exhibited plant numbers from 0 to 25 individual plants over 4 years of HIP monitoring (Colket 2009, p. 31). There was a substantial drop in plant numbers documented at the HIP transect for EO 68 between 2004 (over 630 plants) and 2005 (9 plants), from which this site has not yet fully recovered, with lowest numbers observed in 2006 (see discussion on page 74 below). In contrast, no obvious trends in are apparent in plant numbers at the HIP transects for EOs 66 and 69 over these 4--5 years of monitoring. Variations in slickspot peppergrass plant numbers at EOs 66 and 69 are likely due to environmental factors such as spring precipitation levels. The highest plant numbers in HIP transects for EO 66 were observed in 2008, with lowest numbers being observed in 2006. In the 4 years of HIP monitoring available for EO 69, the highest plant numbers were observed in 2007, with the lowest plant numbers observed in 2006 (no HIP data were collected in 2004) (Colket 2009, p.31). The INHP has classified EOs 66 and 68 as C-ranked and EO 69 as D-ranked.

All 8.5 ac of EO 66 are located within a livestock enclosure fence along the boundary of the Powerline Pasture of the Black Canyon Shaw Allotment #20135. All 6.2 ac of EO 68 are located within the Waterhole Pasture of the Black Canyon Shaw Allotment #20135. All 3.1 ac of EO 69 are located within the Center Pasture and the North Winter Pasture of the Black Canyon Shaw Allotment #20135.

Slickspot peppergrass occupied habitat for the three EOs is located either wholly or partially within the boundaries of the Black Canyon Shaw Allotment #20135: EO 66 is located within the Powerline Pasture; EO 68 is located within Cross-freeway Pasture, the Northwinter Pasture, the Waterhold Pasture, and the Wildwest Pasture; EO 69 is located within the Center Pasture, the Northwinter Pasture, and the Southwinter Pasture. A portion of slickspot peppergrass-occupied habitat in the 0.5-mi pollinator buffer for EO 70 (which is located within Black Canyon Allotment #00176) is also located on Federal land in the Cross-freeway Pasture of the Black Canyon Shaw Allotment #20135. The 2,287 ac of Bureau-administered slickspot peppergrass occupied habitat, as well as the surrounding habitat in this allotment, consists predominantly of exotic annuals interspersed with Wyoming big sagebrush and pockets of perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation within the 0.5-mi occupied habitat pollinator buffer outside of known EOs in this allotment are as follows:

- Approximately 70 percent of the occupied habitat in the allotment contains native shrub habitat.
- Approximately 30 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Black Canyon Shaw Allotment #20135 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The occupied habitat associated with EOs 68 and 69 has burned at least once in every decade from the 1950s through the 1990s and, as a consequence, the majority of the allotment is dominated by exotic annuals interspersed with pockets of Wyoming big sagebrush. The occupied habitat associated with EOs 66 and 70 has not experienced as severe a burn history and both areas have good stands of Wyoming big sagebrush interspersed with exotic annuals. Extensive fire rehabilitation efforts undertaken in the late 1990s met with limited success.

Approximately 0.1 ac of occupied habitat associated with EO 66 was infested with diffuse knapweed (*Centaurea diffusa*) in 2000, and Scotch thistle was observed in occupied habitat in 2001. Scotch thistle was chemically treated in 2001. Scotch thistle was also observed in EOs 68, 69, and 70 in 2000–2004 and was chemically treated in those areas. The total area affected was less than 10 ac. Scotch thistle occurs throughout the allotment and within areas associated with EOs 66, 68 and 69, and 0.5-mi occupied habitat pollinator buffer associated with EO 70. Mediterranean sage (*Salvia aethiopsis*) also occurs on the western side of the allotment. Chemical treatment of Scotch thistle and Mediterranean sage has occurred annually throughout the

allotment by Payette County Weed Control and the Bureau in accordance with guidelines stipulated in the CCA. Diffuse knapweed is widely distributed throughout the allotment, and rush skeletonweed has been observed to be slowly increasing despite chemical treatments.

The Black Canyon Shaw Allotment #20135 supports both spring and fall/winter grazing. EO 66 is located entirely within a livestock exclosure fence. Currently, conservation measures that eliminate spring grazing within EOs 68 and 69 and restrict both livestock trailing and placement of water and supplements near EOs minimize adverse effects to slickspot peppergrass and its habitat. However, the potential for trampling damage to slickspot microhabitats during occasional periods of winter thaw still exists.

The highest mean level of total livestock print cover (which may or may not include penetrating hoof prints) documented in slickspots in the 5 years of HIP transect monitoring in EOs 66, 68, and 69 was 11.3 percent (2008). The highest mean percent penetrating livestock print cover documented in slickspots during HIP monitoring was 4.1 percent (2008). No livestock hoof print cover has been observed in EO 66 in the 5 years of HIP monitoring as this EO is located within a livestock exclosure that has existed since 1990.

A trampling event that did not trip the penetrating trampling trigger in the HIP transect was documented in EO 68 during 2005 HIP monitoring. Although grazing in this pasture is limited to a period when the ground is normally frozen, an atypical warm period during January 2005 thawed the ground while livestock were in the area of EO 68. Since that time, slickspot peppergrass numbers at this transect have been substantially reduced, going from between 631 and 1,277 plants in 2004 to a total of 9 plants in 2005 and 3 plants in 2006. Similar reductions in plant abundance were not observed in other HIP transects in CCA MA 1, indicating that environmental factors shared by these sites, such as precipitation, were likely not responsible for the observed declines (Colket 2006, pp. 10–11). In 2007 and 2008, slickspot peppergrass numbers in this transect appeared to be slowly increasing (167 plants in 2007 and 224 plants in 2008) but had not reached the levels observed in 2004 prior to the incident (Colket 2009, p. 31).

HIP monitoring data show levels of invasive nonnative plant cover in EOs 68 and 69 within slickspots ranged from 4 to about 23 percent. HIP monitoring data show less than 3 percent cover of invasive nonnative unseeded and seeded plants within slickspots in EO 66. These data show levels of livestock feces cover in EOs 68 and 69 within slickspots ranged from 0.2 to about 3 percent; no livestock feces cover was found within slickspots in EO 66 since it is located within a livestock exclosure. HIP monitoring data show levels of penetrating livestock hoof print cover in EOs 68 and 69 ranging from 0 to about 4 percent within slickspots; no penetrating hoof print cover was found within slickspots in EO 66 since it is located within a livestock exclosure.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment categorizes the habitat in EOs as low quality due to EO 69 changing from partially burned and weedy to burned and dominated by cheatgrass between 2005 and 2008 (Colket 2009, p. 63, Table 6). Vegetation in this allotment is fragmented due to past wildfires, resulting in isolated pockets of intact shrub communities in occupied and potential habitat within the allotment. The habitat in the allotment overall is categorized as low quality for the slickspot

peppergrass since the majority of the area has burned, replacing shrubs with invasive nonnative plants.

The Assessment states that the allotment has experienced frequent wildfires, and as a consequence, sagebrush areas in the vicinity of EOs 66, 68, and 69 are dominated by exotic annuals including bur buttercup, cheatgrass, tansy mustard, tumble mustard, and Russian thistle (*Salsola iberica*). Cheatgrass has invaded the sagebrush stands where these EOs occur. Noxious weed species have also been documented in the allotment, including Scotch thistle and diffuse knapweed. The Assessment categorizes the current environmental baseline condition for presence of nonnative annual or perennial plants as low to medium quality for the slickspot peppergrass due to presence of noxious weeds and the widespread and abundant distribution of exotic annuals throughout the allotment.

HIP monitoring data indicate that biological soil crust cover is high (greater than 50 percent in 4 of 5 years of HIP monitoring) within slickspots in EO 66, which is located inside of a livestock exclosure. Within EOs 68 and 69, biological soil crust cover ranged from 8 to 69 percent within slickspots (see also HIP 2008 photos in Colket 2009, pp. 279–282 and 287–294). The level of biological soil crust cover within slickspots based on HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As much of the allotment is dominated by exotic annuals, including cheatgrass, it is anticipated that biological soil crust cover is lower throughout the allotment than within EOs 66, 68, and 69. Occupied habitat areas and surrounding areas within this allotment have low levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass; therefore, biological soil crust cover is expected to be low outside of EOs throughout the allotment.

HIP monitoring data indicate that percent native forb cover is low (between 1 and 7 percent in the 2 years of available HIP monitoring data) in EOs 66, 68, and 69. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The vegetation in this allotment is fragmented due to past wildfires, with isolated pockets of intact shrub communities and low native understory (grasses and forbs) diversity. The 0.5 mi occupied habitat EO pollinator buffers and surrounding habitat in this allotment consists predominantly of invasive nonnative plants, such as cheatgrass, with interspersed pockets of Wyoming big sagebrush.

Effects of the Action

No direct effects to the slickspot peppergrass or its habitat are expected from authorized livestock use in EO 66 as this EO is located within a livestock exclosure. In addition, the permittee has voluntarily agreed to graze livestock in the Waterhole Pasture, Center Pasture, and North Winter Pasture of the Black Canyon Shaw Allotment #20135 between November 16 and February 15 only, when the risk of adverse impacts to the slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging is reduced. Impacts to slickspot soils, the seed bank, and biological soil crusts from mechanical trampling damage would be lower as this is the time period when soils in southern Idaho are typically frozen.

Grazing from November through February would also minimize impacts to individual slickspot peppergrass plants and native forbs since both annual and perennial forbs would have already completed growth and produced seeds prior to livestock turn out.

Because conservation measures implemented in this allotment do not allow for spring grazing in the pastures containing EOs 68 and 69, the risk of livestock trampling effects in these EOs is reduced. However, localized effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occasionally occur due to periodic thaws in winter when this pasture is grazed. For example, in 2005, winter thaw resulted in some penetrating trampling at EO 68. Following this trampling event, individual slickspot peppergrass numbers were dramatically reduced at this site in 2005 and 2006.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Diffuse knapweed, Scotch thistle, rush skeletonweed, and Mediterranean sage, which are all Idaho noxious weeds, can be dispersed by grazing cattle within and adjacent to EOs 68 and 69. Since EO 66 is located within a livestock enclosure, the risk of livestock-associated dispersal of noxious weeds into EO 66 is expected to be discountable. Since livestock may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites and the habitat surrounding EOs 68 and 69 is likely. Therefore, adverse effects to slickspot peppergrass habitat are reasonably likely to occur in the area surrounding EOs 68 and 69 based on the presence of nearby diffuse knapweed and Scotch thistle, coupled with the potential for these weeds to be spread through livestock use. Mediterranean sage is also located within the allotment and could be spread into EOs by livestock movements. Chemical treatment of Scotch thistle and Mediterranean sage in the Black Canyon Shaw Allotment #20135 has occurred annually throughout the allotment by the Bureau and cooperators in accordance with the conservation measures in the CCA (State of Idaho et al. 2006) and may serve to reduce but not eliminate localized adverse effects associated with potential livestock-related spread of noxious weeds near EOs 68, and 69. Therefore, effects on habitat in the area surrounding EOs 68 and 69 associated with localized livestock trampling and dispersal of weed propagules are reasonably likely to occur. Because of the relatively small size of EOs 68 and 69, localized effects are expected to be amplified on the occasional year when a winter thaw allows livestock trampling damage to occur. However, livestock-related effects are likely to occur at a reduced level due to the implementation of conservation measures in the Black Canyon Shaw Allotment #20135, including changing the season of livestock use in the pastures where EOs 68 and 69 are located to fall/winter use only.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are located on non-Federal lands located within the boundaries of the Black Canyon Shaw Allotment #20135. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer

overlapping with non-Federal lands within the boundaries of the allotment include 16 ac of State land and 194 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67--68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains EOs 66 (9 ac) and 68 (6 ac), which are C-ranked, and have been categorized as having a medium conservation value for the slickspot peppergrass rangewide. In addition, D-ranked EO 69 (3 ac) is located within the allotment. Conservation measures implemented within the Black Canyon Shaw Allotment #20135 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years), and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include livestock exclusion from C-ranked EO 66, seasonal use restrictions that limit grazing to winter in EOs 68 and 69 when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the species. For these reasons, this action is compatible with maintaining a medium slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.4. Bowns Creek Allotment #00830

Description of the Action Area

The Bowns Creek Allotment #00830 is located in T1S, R4E, Sec. 11, 13, 14, and 24; grazing in this allotment is restricted to cattle only; and the allotment consists of a single pasture aggregating approximately 683 ac of Federal and private land. This allotment contains 510 ac of Bureau-administered slickspot peppergrass occupied habitat, including part of EO 30 in CCA MA 8 and additional slickspot peppergrass occupied habitat within the 0.5 mi pollinator buffer associated with EO 15. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The grazing permit allocates 134 spring and 136 fall AUMs. Current grazing management consists of spring grazing from April 16 to June 15 and fall grazing from October 16 to December 15. Livestock are managed in a spring/fall grazing rotation in alternate years (i.e., fall use in even years and spring use in odd years). This permitted action expires on February 28, 2014.

The Assessment indicates that the action area used in this analysis includes slickspot peppergrass occupied habitat for EOs 15 and 30 inclusive of the slickspots, surrounding matrices, and 0.5-mi EO buffer within the project area, which are all located within CCA MA 8.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 in the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Bowns Creek Allotment #00830 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Bowns Creek Allotment #00830 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Bowns Creek Allotment #00830 that are relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to the Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

Multiple range improvement projects have been implemented over the years, including fencing, vegetative restoration, and improvement of water resources. The latest of these projects occurred in 1983. Current records indicate that no stock watering facilities exist within the Bowns Creek Allotment #00830. No surface water exists on the public lands in the Bowns Creek Allotment #00830, and thus, all livestock water and salt/supplements must be hauled in by truck to portable water troughs or are available on adjacent private lands. This allotment contains 5.0 mi of fences; 4.0 mi occur in occupied habitat in the allotment. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-62 through IV-64).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Bowns Creek Allotment #00830 contains a portion of EO 30: EO 30 is located in the Snake River Plain physiographic region. The INHP has classified EO 30 as B-ranked. Slightly less than 5 percent of EO 30 (about 33 ac) is located within the Bowns Creek Allotment #00830. Because no HIP transects are currently located within the allotment, no allotment-specific HIP data are available to evaluate potential effects, such as livestock trampling or noxious and

invasive weeds within slickspots. Data from HIP transects located in adjacent allotments were reviewed for general trend and environmental baseline parameters in the vicinity but may not be applicable to this allotment due to variations in grazing management between different livestock permits.

Slickspot peppergrass occupied habitat within the 0.5 acre pollinator buffers for two EOs (EO 30 and EO 15) is located partially within the boundaries of the Bowns Creek Allotment #00830. The 510 ac of Bureau-administered occupied habitat, as well as the surrounding habitat in this allotment, consists of Wyoming big sagebrush with large pockets of exotic annuals and small isolated pockets of perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 60 percent of the occupied habitat in the allotment contains native shrub habitat.
- Approximately 40 percent of the occupied habitat in the allotment is dominated by exotic annuals with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Bowns Creek Allotment #00830 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The slickspot peppergrass occupied habitat associated with EOs 15 and 30 has burned several times in the past, including burns in the 1950s, 1980s, 1990s, and 2000s. Despite the burn history, a quality stand of Wyoming big sagebrush still exists interspersed with pockets of exotic annuals in this allotment. The allotment is bordered on the southwest by Interstate 84 (I-84). The area immediately outside of the allotment west of I-84, including EO 15 and a portion of its associated 0.5 mi pollinator buffer occupied habitat, is dominated almost entirely by exotic annuals (cheatgrass) as a result of the fire frequency.

In 2001, rush skeletonweed was observed approximately 1.5 mi southeast of the Bowns Creek Allotment #00830 in the vicinity of EO 30. In 2004, approximately 0.1 ac of rush skeletonweed was observed and chemically treated on the edge of occupied habitat associated with EO 15. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). Rush skeletonweed has continued to spread throughout the Snake River Plain over the last few years, and the likelihood that it will occupy the Bowns Creek Allotment #00830 in the future is high.

Some level of fire rehabilitation has taken place in the area as evidenced by the presence of crested wheatgrass (*Agropyron cristatum*) seedlings approximately 0.5 mi southeast of the allotment. The extent and intensity of these seeding efforts is not currently known.

The Bowns Creek Allotment #00830 supports spring and fall/winter grazing on a rotational basis. Spring grazing occurs only in the odd calendar years and fall grazing occurs during the

even calendar years. The conservation measures currently in place serve to minimize potential negative effects to slickspot peppergrass and its habitat from livestock grazing activities. However, the potential for direct effects through livestock grazing on slickspot peppergrass plants and trampling damage to slickspot microsites still exists. The Assessment states that sagebrush areas in the vicinity of EOs 15 and 30 are devoid of most native understory grasses and forbs, probably due to past heavy livestock use since the mid-1800s. Following this heavy use, the area never recovered (see HIP photos, Colket 2009, pp. 295–298).

A residential subdivision (Soles Rest) exists approximately 2.0 mi southeast of the allotment, and another area is being subdivided just to the west of the allotment. Increasing development places additional demands on public lands, especially from a recreational perspective. The demand for easily accessible recreation areas in general and OHV use areas in particular will continue to increase as the population increases. Increased human presence in the area also increases the likelihood of fire and the resulting loss of native vegetation and the inherent nonnative plant invasion that follows. These factors are likely to result in further degradation of slickspot peppergrass occupied habitat in the allotment.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. According to vegetation maps generated by ground-truthed satellite imagery, approximately 60 percent of the slickspot peppergrass occupied habitat in this allotment contains native shrub habitat and the remaining 40 percent is dominated by exotic annuals with minimal or no native shrub component. Slickspot peppergrass habitat in EOs 15 and 30 is considered moderate due to high quality for shrub cover but low quality for native understory grass and forb diversity.

The Bowns Creek Allotment #00830 does not contain any HIP transects. Data from HIP transects located in adjacent allotments were reviewed for general trend and environmental baseline parameters in the vicinity but may not be applicable to this allotment due to variations in grazing management between different livestock permits. HIP transect 15 (EO 15) actually occurs within the Sunnyside Spring/Fall Allotment #00825 and is within 0.1 mi of the Bowns Creek Allotment #00830. However EO 15 occurs on the opposite side of I-84 from the Bowns Creek Allotment #00830 in an area that has burned extensively in the past and has been reseeded with nonnative species. The Assessment indicated that HIP transect data for EO 15 are not representative of that portion of slickspot peppergrass occupied habitat associated with the Bowns Creek Allotment #00830 and is not appropriate for use in this effects analysis. Similarly, HIP transect 30B (EO 30) is located approximately 2.5 mi from that portion of EO 30 in the Bowns Creek Allotment #00830 in the Ditto Creek Allotment #00818 and is also not appropriate for use in this effects analysis. Therefore, no HIP data are available for use in the effects analysis for this allotment.

Effects of the Action

EO 15 is located in an adjacent allotment so livestock-related impacts to this EO would be limited to potential effects on slickspot peppergrass insect pollinators, primarily by impacts to native forbs in the 0.5 mi occupied habitat pollinator buffer. Because conservation measures implemented in the Bowns Creek Allotment #00830 allow for spring grazing in EO 30 every other year, rather than annually, the risk of livestock trampling effects in EO 30 is reduced.

However, it is anticipated that localized effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occur every other year when this allotment is grazed from April 16 through June 15. During this period, plants, including the slickspot peppergrass, are actively growing and soils are at a higher risk of being wet in southern Idaho. Conservation measures to avoid placement of supplements and water to draw livestock away from EOs would further reduce the risk of localized adverse effects from trampling. Diversity and cover of the remaining small pockets of native grasses and forbs may also be further reduced during the alternate years when spring grazing occurs.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. As livestock may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites, habitat surrounding EO 30, and occupied habitat for both EO 30 and EO 15 is likely. Although livestock use in this area is documented as moderate according to the permitted stocking rate, effects are reasonably likely to occur based on the presence of rush skeletonweed and the potential for these weeds to spread through livestock use. Chemical treatment in 2004 of approximately 0.1 ac of rush skeletonweed in the Bowns Creek Allotment #00830 on the edge of occupied habitat associated with EO 15 may have served to reduce but not eliminate localized adverse effects associated with potential livestock-related spread of noxious weeds in the allotment. Therefore, effects to slickspot peppergrass and its habitat associated with localized livestock trampling and dispersal of weed propagules are reasonably likely to occur. However, livestock-related effects would occur at a reduced level due to the implementation of conservation measures in the Bowns Creek Allotment #00830, including changing the season of livestock use every other year to fall/winter use only.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are located on non-Federal lands located within the boundaries of the Bowns Creek Allotment #00830. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 114 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 5 percent of B-ranked EO 30 (about 33 ac), and has been categorized as having a high conservation value for the slickspot peppergrass

rangewide. Conservation measures implemented within the Bowns Creek Allotment #00830 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years); the allotment contains slightly less than 5 percent of EO 30 (about 33 acres), limiting the extent of adverse effects on this B-ranked EO; and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include seasonal use restrictions that limit grazing to fall/winter every other year in EO 30 when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the species. For these reasons, this action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.5. Cornell Allotment #00820

Description of the Action Area

The Cornell Allotment #00820 is located in T1N/R4E/5E and T1S/R4E/5E; permit is grazed by cattle only; and consists of six pastures totaling approximately 16,053 ac of Federal, State, and private land. This allotment contains 1,062 ac of Bureau-managed slickspot peppergrass occupied habitat, including EOs 30 and 31 in CCA MA 8A and occupied habitat within the 0.5 mi pollinator buffer associated with EO 15. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

Two of the six pastures (Thompson Ranch and Middle Cornell Pastures) are designated Fenced Federal Range (FFR) since they consist primarily of State and private lands with a minimal amount of federal land. As such, these two pastures may be used at the discretion of the permittee, providing that the period of use and AUMs are not exceeded and that use is not detrimental to the public lands. The current grazing permit allocates 691 spring AUMs, 338 fall/winter AUMs, and 12 year-round AUMs. Current grazing management consists of 31 AUMs from March 1 to March 31, 660 AUMs from April 1 to June 15, 263 AUMs from November 1 to December 15, 75 AUMs from December 15 to February 28, and 12 AUMs from March 1 to February 28. With annual Bureau approval, the permittee may vary livestock numbers in the various pastures as long as the period of use, total number of AUMs, and utilization objectives are not exceeded. The occupied habitat areas associated with EOs 30, 31, and 15 are located in the Lower Cornell Pasture and are

grazed by cattle from April 1 to June 15 annually (580 AUMs). This permitted action expires on February 28, 2017.

The Assessment indicates that the action area used in this analysis includes occupied habitat for EOs 15, 30, and 31 inclusive of the slickspots, surrounding matrices, and 0.5-mi EO pollinator buffer within the project area, which are all located within CCA MA 8A.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Cornell Allotment #00820 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Cornell Allotment #00820 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Cornell Allotment #00820 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/ supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

The only currently known range improvements in this allotment are pasture and boundary fences. The nearest known water facility to the Cornell Allotment #00820 is the Powerline Trough located in the Ditto Creek Allotment #00818, approximately 1.0 mi to the east of occupied habitat associated with EO 31. This allotment contains 64.2 mi of fence; approximately 6.0 mi occur in occupied habitat. For additional details on this allotment, see the Assessment (Bureau 2009, pp. IV-70 through IV-73).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

All 71 ac of EO 31 and less than 1 percent of EO 30 (about 1 ac) are located in the Cornell Allotment #00820. EO 31 has exhibited plant numbers ranging from 5 to 458 individual plants over 5 years of HIP monitoring (Colket 2009, p. 31). Slickspot peppergrass plant numbers appear to be increasing over time in EO 31 over the 5 years of HIP monitoring, with highest plant numbers in the HIP transect observed in 2007 and the lowest numbers being observed in 2004. Plant numbers in 2008 were also relatively high (388 plants) in relation to plant numbers observed from 2004—2005 (5—59 plants) (Colket 2009, p.31). The INHP has classified EO 31 as C-ranked. The HIP transect for EO 30 is located in the adjacent Ditto Creek Allotment #00818 so plant abundance data associated with EO 30 are not available for the Cornell Allotment #00820. The INHP has classified EO 30 as B-ranked.

The occupied and surrounding habitat in this Allotment consists predominantly of Wyoming big sagebrush, with large inclusions of exotic annuals and perennial bunch grasses. In addition to EOs 30 and 31, occupied habitat within the 0.5 mile pollinator buffer around EOs 15, 30, and 31 also occurs in the Allotment. The 1,062 acres of Bureau-administered slickspot peppergrass-occupied habitat, as well as the surrounding habitat in this Allotment, consists of Wyoming big sagebrush with large pockets of exotic annuals and small isolated pockets of perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 15 percent of occupied habitat in the allotment contains good quality native shrub habitat.
- Approximately 85 percent of occupied habitat in the allotment is dominated by exotic annuals with minimal or no native shrub component.

Based on the above information, there is a low potential for enhancing the status of the slickspot peppergrass within the allotment in areas outside of known EOs.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to slickspot peppergrass identified in the Assessment for the Cornell Allotment #00820 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The occupied habitat associated with EOs 30 and 31 burned extensively in the 1950s and again in the 1980s. However, good stands of Wyoming big sagebrush still exist throughout the allotment, although they are interspersed with large areas of invasive nonnative annual plants, primarily cheatgrass.

In 2004, approximately 0.1 ac of rush skeletonweed was located and treated on the southwestern edge of the allotment. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). Rush skeletonweed has continued to spread throughout the Snake River Plain during the past few years and the likelihood that it will spread throughout the Cornell Allotment #00820 in the future is high.

While the Cornell Allotment #00820 supports spring and fall/winter grazing, the Lower Cornell Pasture, which contains all occupied habitat in the allotment, is grazed only in the spring. The CCA conservation measures currently in place minimize some potential negative effects to slickspot peppergrass and its habitat caused by livestock use. However, the potential for direct effects to slickspot peppergrass plants and slickspot microhabitats through livestock trampling damage still exists.

A residential subdivision (Soles Rest) exists approximately 2.0 mi southeast of the allotment and another area is being subdivided just to the west of the allotment. Increasing development places additional demands on public lands, especially from a recreational perspective. The demand for easily accessible recreation areas in general and OHV use areas in particular will continue to increase as the population increases. Increased human presence in the area also increases the likelihood of fire and the resulting loss of native vegetation and subsequent exotic plant invasion

that follows. These factors will place additional demands on slickspot peppergrass and its habitat and may lead to further degradation of habitat across the species' range.

HIP monitoring data show levels of invasive nonnative annual plant cover in EO 31 ranging from 1 to about 7 percent within slickspots. HIP monitoring data show levels of livestock feces cover in EO 31 within slickspots are less than 1 percent over 5 years of HIP monitoring. HIP monitoring data also show levels of total livestock hoof print cover and penetrating livestock hoof print cover in EO 31 range from 0 to about 6 percent within slickspots. The penetrating trampling trigger has never been documented as being tripped over the 5 years of HIP monitoring at EO 31.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment categorizes the habitat in EO 31 as low quality due to low shrub cover and depleted native understory diversity. The Assessment states that a large area of the allotment burned extensively in the 1950s and again in the 1980s. However, substantial stands of Wyoming big sagebrush still exist throughout the allotment, although they are interspersed with large areas of exotic annuals. In 2004, approximately 0.1 ac of rush skeletonweed was located and treated on the southwestern edge of the allotment. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). Rush skeletonweed has continued to spread throughout the Snake River Plain during the past few years and the likelihood that it will spread throughout the Cornell Allotment #00820 in the future is high.

HIP monitoring data indicate that biological soil crust cover is moderate (between 20 and 50 percent cover in 3 of 5 years of HIP monitoring) within slickspots in EO 31. The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). Since much of the allotment is dominated by exotic annuals, including cheatgrass, it is anticipated that crust biological soil cover is lower throughout the allotment than within EO 31. Occupied habitat areas and surrounding areas within this allotment have low levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass; therefore, biological soil crust cover is expected to be low throughout the allotment.

HIP monitoring data indicate that percent native forb cover is low (less than 1 percent in the 2 years of available HIP monitoring data) in EO 31. The vegetation in this allotment is fragmented due to past wildfires, with isolated pockets of intact shrub communities and low native understory (grasses and forbs) diversity. The slickspot peppergrass occupied habitat and surrounding habitat in this allotment consists predominantly of invasive nonnative plants, such as cheatgrass, with interspersed areas of Wyoming big sagebrush. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

Effects of the Action

EOs 15 and 30 (except for about 1 ac of EO 30) are located in adjacent allotments, so impacts to these EOs would be limited to effects on slickspot peppergrass insect pollinators, primarily by impacts to native forbs in the 0.5 mi occupied habitat pollinator buffers. However, spring grazing occurs annually in EO 31 between April 1 and June 15 (see Bureau 2009, p. IV-72, Table) when the risk of adverse impacts to slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging would be higher. Livestock trampling in spring and early summer in the vicinity of EO 31 has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering as well as native forbs, native grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Livestock use in spring may also result in trampling impacts to slickspot soils, which are more likely to be wet in spring, and subsequently result in impacts to the seed bank. HIP data have documented total livestock hoof print cover in slickspots at or below 6 percent over 5 years of monitoring, and the penetrating trampling trigger has never been tripped; therefore, it is likely that future trampling impacts will remain localized and at lower levels. Continuation of annual spring grazing during the active growing period for native plants is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. As livestock may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites; habitat surrounding EO 31; and occupied habitat in the 0.5 mi pollinator buffer for EOs 15, 30, and 31 as well as in EOs 30 and 31 is likely. Effects are reasonably likely to occur based on the presence of rush skeletonweed and the potential for these weeds to spread through livestock use. Therefore, localized livestock herbivory and trampling effects to slickspot peppergrass in EO 31, in about 1 ac of EO 30, and in the 0.5 mi occupied habitat pollinator buffers for EOs 15, 30, and 31, are reasonably likely to occur, although effects within the Cornell Allotment #00820 would occur at a reduced level due to the implementation of conservation measures, including avoiding trailing livestock through EOs when soils are wet.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

Approximately half of EO 31 (about 33 ac) is located on private land within the boundaries of the Cornell Allotment #00820. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 508 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions

considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains less than 5 percent (about 1 ac) of B-ranked EO 30, and all of C-ranked EO 31 (71 ac). Due to the limited acreage of EO 30 located within the action area, EOs within the allotment have been categorized as having a medium to high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Cornell Allotment #00820 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because HIP monitoring data have documented relatively low levels of livestock hoof print cover within slickspots and penetrating trampling triggers have never been tripped in this allotment over the past 5 years, and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include delay of livestock turn out when soils are saturated, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment using conservation measures to avoid adverse impacts, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium to high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (7 more years).

5.2.1.2.6. Ditto Creek Allotment #00818

Description of the Action Area

The Ditto Creek Allotment #00818 is located in T1N/R5E/6E, T1S/R4E/5E/6E, and T2S/R5E/6E; permits cattle grazing only; and is divided into nine pastures. Approximately 41 percent of the allotment consists of small tracts of Federal land scattered amongst State and private land. This allotment contains 1,713 ac of Bureau-administered slickspot peppergrass occupied habitat, including EOs 20 and 30 in CCA MA 8A. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit allocates 790 spring AUMs and 1,405 fall/winter AUMs. Current grazing management consists of 362 AUMs of grazing from March 1 to March 31 and 428 AUMs from April 1 to May 31. Fall grazing is authorized from September 1 to February 28. The

grazing permit provides the operator with management flexibility to adjust livestock numbers within the permitted use dates and stagger turnouts or removal, which increases opportunities for pasture management, as long as total permitted AUMs are not exceeded. This flexibility also provides for better timing of use during critical growing periods. This permitted action expires on August 21, 2014.

EO 20 and its 0.5 mi EO pollinator buffer are located in Pasture 6 and are grazed annually from March 1 to May 31 and/or September 1 to February 28. EO 30 and its 0.5 mi EO pollinator buffer are located in Pastures 5, 5A, and 6 and are grazed annually from March 1 to May 31 and/or September 1 to February 28.

Between 2007 and 2008, the livestock permittee constructed approximately 0.5 mile of fence in T. 1 S., R. 5 E., Section 20 - W1/2NW1/4 on private lands. This fence effectively enclosed the majority of slickspots associated with EO 30 into a new 680 ac pasture (5A), and maintained approximately 118 acres of the slickspot peppergrass occupied habitat pollinator buffer for EO 30 within pasture 5. Pasture 5A is delineated from Pasture 6 by an east-west fence along the northern boundaries of sections 19 and 20 of T. 1 S., R. 5 E. Both pastures 5A and 6 contain portions of EO 30 and its 0.5 mi pollinator buffer. Pasture 6 also contains EO 20 and its 0.5 mi pollinator buffer.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Ditto Creek Allotment #00818 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Ditto Creek Allotment #00818 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Ditto Creek Allotment #00818 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/ supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

Several range improvement projects have been implemented over the years, including fencing and water resources improvements. Existing range improvements in the Ditto Creek Allotment #00818 were recently documented using GPS. These developments occur on Bureau, State, and private land and include 2 wells, 4 springs, 6 stock ponds or reservoirs, 10 troughs, and approximately 20 mi of water pipelines. The Assessment states that the abundance of water developments in the Ditto Creek Allotment #00818 allows the permittee to more easily manage livestock distribution through water manipulation to minimize impacts to slickspot peppergrass habitat. The permittee also locates supplements strategically to minimize livestock

congregations. This allotment contains over 100 mi of fence, most of which is associated with private lands; about 9 mi of fence are located in occupied habitat.

The Ditto Creek Allotment #00818 has been impacted to various degrees by wildfires that have swept through this area during the past 50 years. Plant communities impacted by fire have been altered extensively. One EO (EO 20) is located wholly within the boundaries of the Ditto Creek Allotment #00818. In addition, the majority of EO 30 is located within the allotment. Occupied habitat associated with EOs 20 and 30 also occurs in the allotment. Occupied habitat also contains 2 water sites and 12 mi of fence. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-82 through IV-86).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Ditto Creek Allotment #00818 contains all 0.21 ac of EO 20. In addition, the Ditto Creek Allotment #00818 contains 95 percent of EO 30 (approximately 641 ac). EOs 20 and 30 are located in the Snake River Plain physiographic region. EO 20 has exhibited plant numbers ranging from 61 to 337 individual plants over 5 years of HIP monitoring, while EO 30 has documented 1–6 plants over the same time period (Colket 2009, p. 31). No obvious trends in are apparent in plant numbers at the HIP transects for EOs 20 and 30 over these 5 years of monitoring. Variations in slickspot peppergrass plant numbers at EOs 20 and 30 are likely due to environmental factors such as spring precipitation levels. The highest plant numbers in HIP transects for EO 20 were observed in 2005, with lowest numbers being observed in 2006. Plant numbers documented at the HIP transect in EO 30 are extremely low, with the highest plant numbers observed in 2005 (6 plants), and the lowest plant numbers observed in 2004 (1 plant) (Colket 2009, p.31). The INHP has classified EO 20 as C-ranked and EO 30 as B-ranked.

Slickspot peppergrass occupied habitat 0.5 mi pollinator buffers for two EOs (EOs 20 and 30) is located partially within the boundaries of the Ditto Creek Allotment #00818. The 1,713 ac of Bureau-managed occupied and surrounding habitat in this allotment consists of a mixture of Wyoming big sagebrush and invasive nonnative annual plants with inclusions of green rabbitbrush (*Ericameria teretifolia*), crested wheatgrass seedings, and perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 40 percent of occupied habitat in the allotment contains native shrub habitat.
- Approximately 60 percent of occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to slickspot peppergrass identified in the Assessment for the Ditto Creek Allotment #00818 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and

pesticide use, and livestock use. The occupied habitat associated with EOs 20 and 30 has experienced repeated fires during the last six decades. The area burned in the 1950s, 1980s, 1990s, and 2000s. However, the area still has large pockets of Wyoming big sagebrush interspersed with exotic annuals. The presence of crested wheatgrass seedings on the western edge of the allotment in the vicinity of EO 30 provides evidence of past fire rehabilitation efforts, which apparently met with limited success.

HIP monitoring data indicate levels of invasive nonnative annual plants in slickspots within EOs 20 and 30 ranging from 0.8 to 29 percent cover. Rush skeletonweed infestations located in occupied habitat associated with EOs 20 and 30 were observed in 2001 and 2004. Some of these were chemically treated and others were not. The total infestation was less than 10 ac. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). Rush skeletonweed has continued to spread throughout the Snake River Plain during the last few years, and the likelihood that it will spread throughout areas of the Ditto Creek Allotment #00818 in the future is high.

The Ditto Creek Allotment #00818 supports spring and fall/winter grazing. The conservation measures currently in place minimize potential negative effects of livestock grazing on the slickspot peppergrass and its habitat. However, the potential for adverse effects on individual slickspot peppergrass plants and trampling damage to slickspot microsites still exists.

A residential subdivision (Soles Rest) exists on the southwest edge of the Ditto Creek Allotment #00818, and another area is being subdivided just to the west of the allotment. Increasing development places additional off-site demands on nearby public lands, especially from a recreational perspective. The demand for easily accessible recreation areas in general and OHV use in particular will continue to increase as the population increases. Increased human presence in the area also increases the likelihood of fire and the resulting loss of native vegetation and subsequent spread of noxious and invasive plants. These factors are likely to further degrade the condition of the slickspot peppergrass and its habitat in the action area.

HIP monitoring data show levels of invasive nonnative plant cover in EO 20 ranging from about 1–6 percent within slickspots, with about 1–29 percent cover in EO 30 slickspots. Levels of livestock feces cover for EOs 20 and 30 within slickspots were documented as less than 2 percent cover over 5 years of HIP monitoring. For EO 20, HIP monitoring data show levels of total livestock hoof print cover ranging from 0.3 to about 7 percent within slickspots in every year that data were collected. Penetrating trampling cover in EO 20 was documented between less than 1 and about 3 percent cover in every year that data were collected. For EO 30, HIP monitoring data show levels of total livestock print cover as between 1 and about 11 percent cover, with penetrating livestock hoof print cover in EO 30 ranging from 0 to about 6 percent cover within slickspots. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at EOs 20 and 30.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment categorizes the habitat in EO 20 and 30 as moderate quality due to high shrub cover but low native understory diversity. As only about 40 percent of the entire allotment contains

shrub cover, the Assessment ranks shrub cover within the entire allotment as low to moderate quality.

HIP monitoring data indicate that biological soil crust cover is moderate within slickspots (between 20 and 50 percent cover in 2 of 5 years of HIP monitoring in EO 20 and 4 of 5 years in EO 30). The level of biological soil crust cover within slickspots documented by HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As much of the allotment is dominated by exotic annuals, including cheatgrass, it is anticipated that biological soil crust cover is lower throughout the allotment than within EOs 20 and 30. Slickspot peppergrass occupied habitat areas and surrounding areas within this allotment have low levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass and medusahead; therefore, biological soil crust cover is expected to be low throughout the allotment.

HIP monitoring data indicate that percent native forb cover is low in EOs 20 and 30 (0.1 to 1.4 percent cover in the 2 years of available HIP monitoring data). The vegetation in this allotment is fragmented due to past wildfires coupled with low native grass and forb understory diversity. The quality of the habitat in EOs 20 and 30 is rated as low quality due to low shrub cover combined with low native understory diversity. Thus, the allotment contains low quality habitat for slickspot peppergrass due to past fires; lack of native forb cover and diversity; low shrub cover; and high cover of cheatgrass, medusahead, and noxious weeds.

Effects of the Action

Spring grazing may occur annually in EOs 20 and 30 between March 1 and May 31 (see Bureau 2009, p. IV-82, Table) when the potential for impacts to slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging would be higher. Livestock trampling in spring and early summer in the vicinity of EOs 20 and 30 has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering, as well as native forbs, native grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Livestock use in spring may also result in trampling impacts to slickspot soils, which are more likely to be wet in spring, and subsequently result in impacts to the seed bank. Continuation of annual spring grazing during the active growing period for native plants is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. As livestock may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites, habitat surrounding EOs 20 and 30, and occupied habitat for EOs 20 and 30 is likely. The

allotment contains low quality habitat for slickspot peppergrass due to past fires; lack of native forb cover and diversity; low shrub cover; and high cover of cheatgrass, medusahead, and noxious weeds. Effects are also reasonably likely to occur based on the presence of rush skeletonweed and the potential for these weeds to spread through livestock use. Therefore, localized livestock herbivory and trampling effects to slickspot peppergrass in EOs 20 and 30 and the surrounding areas, as well as to occupied habitat for EOs 20 and 30, are reasonably likely to occur, although effects within the Ditto Creek Allotment #00818 would occur at a reduced level due to the implementation of conservation measures, including avoiding trailing livestock through EOs when soils are wet.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

A portion of EO 30 is located on private lands within the boundaries of the Ditto Creek Allotment #00818. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 860 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Some trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains approximately 95 percent (about 641 ac) of B-ranked EO 30, and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. C-ranked EO 20 (0.2 ac) is also located within the allotment. Conservation measures implemented within the Ditto Creek Allotment #00818 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of the action is relatively short (4 more years), HIP monitoring data have documented relatively low levels of livestock hoof print cover within slickspots and penetrating trampling triggers have never been tripped in this allotment over the past 5 years, and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include delay of livestock turn out when soils are saturated, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment using conservation measures to avoid adverse impacts, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.7. Hammett #2 Allotment #01034

Description of the Action Area

The Hammett #2 Allotment #01034 is located approximately 4 mi north of Hammett, Idaho, in T4S/R9E and T5S/R8E/9E. Hammett Hill Road runs north–south through the center of the allotment. Created in 1963, the Hammett #2 Allotment #01034 consists of one pasture totaling approximately 1,785 ac of public and private lands. All 1,635 ac of public land are occupied slickspot peppergrass habitat and include part of EO 8 in CCA MA 10. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit allocates 251 fall/winter AUMs (cattle). In 2000, the grazing management was changed from spring to fall/winter use. The original season of use for the allotment was April 10 to June 30; however, in 2000, due to potential impacts to known slickspot peppergrass populations, the season of use was changed to fall/winter (November 1–December 31), which avoids critical growth periods of perennial species and slickspot peppergrass. In addition to the permittee's cattle, approximately three to five sheep bands trail across the allotment during the first part of May or June and the again at the end of October. The annually authorized trailing permit requires as a term and condition that sheep be kept within 40 ft to the east and 150 ft to the west of the centerline of the Hammett Hill Road, which keeps sheep use out of the known slickspot peppergrass populations adjacent to the road. This permitted action expires on August 31, 2014.

The permittee has been unable to utilize his full preference for the past several years due to the combination of extended drought, the shift in the existing plant community to less desirable annual exotics, and the impacts of the continued sheep trailing.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Hammett #2 Allotment #01034 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Hammett #2 Allotment #01034 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Hammett #2 Allotment #01034 relevant to the conservation of the slickspot peppergrass are as follows:

- Construction, reconstruction, maintenance, or other ground-disturbing activities (including range improvement maintenance) that could affect previously undisturbed ground or involve heavy machinery require advance approval from the authorized officer.

- Permittee will not place salt or water tanks on known slickspot peppergrass locations on Federal land.
- Livestock turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

The only range improvements that have been constructed in this allotment are boundary fences. No surface water exists in the Hammett #2 Allotment #01034; all livestock water, and salt/supplements must be hauled in by truck to temporary water troughs or are available on adjacent private lands outside of the allotment. This allotment contains 8.0 mi of fence, all of which occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-104 through IV-106).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Hammett #2 Allotment #01034 contains 90 percent of EO 8 (approximately 915 ac), and is within the Snake River Plain physiographic region. Two HIP monitoring transects, transects 8A and 8B, are located within the allotment. Transect 8A of EO 8 has exhibited plant numbers ranging from 433 to 2,035 individual plants over 5 years of HIP monitoring, while transect 8B has documented 34 to 126 plants over the same time period (Colket 2009, p. 32). While slickspot peppergrass plant numbers appear to be increasing in HIP transect 008A, no obvious trends in are apparent in plant numbers at the HIP transect 008B for EO 8 over these 5 years of monitoring. Plant numbers at HIP transect 008A have shown a steady increase from 2004 (433 plants) to 2008 (2035 plants). Variations in slickspot peppergrass plant numbers at HIP transect 008B are likely due to environmental factors such as spring precipitation levels. For HIP transect 008B, the highest plant numbers were observed in 2005 with similar numbers observed in 2007 and 2008 (102 and 104 plants, respectively). The lowest plant numbers at HIP transect 008B were observed in 2006 (34 plants) (Colket 2009, p.32). The INHP has classified EO 8 as B-ranked.

Occupied habitat for EO 8 is located partially within the boundaries of the Hammett #2 Allotment #01034. The 1,635 ac of Bureau-administered occupied and surrounding habitat in this allotment are dominated by Wyoming big sagebrush with one large pocket of exotic annuals in the southwest corner of the allotment and isolated pockets of perennial bunchgrasses and shadscale (*Atriplex confertifolia*) throughout.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 75 percent of the occupied habitat in the allotment contains native shrub habitat.

- Approximately 25 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a moderate to high potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Hammett #2 Allotment #01034 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. In 1956, the entire allotment was plowed and seeded to crested wheatgrass in an effort to reduce the density of sagebrush. In 1971, the Cold Springs Fire burned approximately 100 ac along the southern boundary of the allotment. More than half of the occupied habitat associated with EO 8 burned in the 1980s. Smaller segments of occupied habitat burned in the 1970s and 2000s. In 1983, the Bennett Road Fire burned the portion of the allotment west of Bennett Road. Smaller segments of occupied habitat have also burned in the 2000s, with the most recent fire occurring in 2005 (North Ham Fire). Despite the burn history, a large percentage of the occupied habitat still has good stands of Wyoming big sagebrush, especially in the northwestern and eastern segments of the allotment. The western half of the allotment has been heavily impacted by fire and is subject to heavy infestations of Russian thistle.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 8 in transects 8A and 8B ranging from 1 to about 32 percent cover. In 2004, approximately 0.1 ac of rush skeletonweed was observed about one mi west of the southern end of the allotment. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). Diffuse knapweed was chemically treated in the roadside ROW in 2006 in accordance with guidelines stipulated in the CCA. The treatment area was less than 0.5 ac. However, rush skeletonweed has continued to spread throughout the Snake River Plain over the last few years, and there is a high likelihood that it may spread into the Hammett #2 Allotment #01034.

Extensive fire rehabilitation efforts have been undertaken in the past with limited success in reestablishing a native or ecological equivalent shrub/grass/forb community. Rehabilitation efforts for the North Ham Fire began in spring 2006 and continued into 2007 and included chemical-fallow treatments to reduce cheatgrass competition prior to seeding.

The Hammett #2 Allotment #01034 supports fall/winter cattle grazing. The conservation measures currently in place minimize potential negative effects to the slickspot peppergrass and its habitat from livestock use. However, a low risk of trampling damage to slickspot microsites still exists for the allotment.

Levels of livestock feces cover within slickspots for EO 8 in transect 8A and 8B were documented as less than 1 percent cover over 5 years of HIP monitoring. For transect 8A, HIP monitoring data show levels of both total livestock hoof print cover and penetrating trampling cover within slickspots of less than 1 percent over 5 years of HIP monitoring. HIP monitoring data show levels of total livestock print cover as between 0 and about 7 percent, with penetrating livestock hoof print cover in transect 8B ranging from 0 to about 3 percent cover within

slickspots. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at EO 8.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 75 percent of occupied habitat in the allotment contains native shrub habitat, 10 percent is private agricultural land, and 15 percent is dominated by invasive nonnative annual plants with minimal or no native shrub component. In contrast, approximately 10 percent of acreage in the allotment contains native shrub habitat and approximately 90 percent is dominated by invasive nonnative annual plants with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover is moderate within slickspots (between 10 and 20 percent cover in 4 of 5 years of HIP monitoring in transect 8A in EO 8). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As much of the allotment is dominated by exotic annuals, including cheatgrass, it is anticipated that biological soil crust cover is lower throughout the allotment than within EO 8. Occupied habitat areas and surrounding areas within this allotment have low levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass; therefore, biological soil crust cover is expected to be low throughout the allotment.

HIP monitoring data indicate that percent native forb cover is low in EO 8 (0 to 1.5 percent cover in the 2 years of available HIP monitoring data in transects 8A and 8B). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The vegetation in this allotment is fragmented due to past wildfires coupled with very low native grass and forb understory diversity. The quality of the habitat in EO 8 is rated as moderate quality for the slickspot peppergrass. The allotment as a whole contains low quality habitat for slickspot peppergrass due to past fires, lack of native forb cover and diversity, low shrub cover, and high cover of cheatgrass, medusahead, and noxious weeds.

Effects of the Action

The Hammett #2 Allotment #01034 is annually grazed by livestock between November 1 and December 31 when the risk of impacts to slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging is low. Impacts to slickspot soils, the seed bank, and biological soil crusts from mechanical trampling damage would be minimal as soils in southern Idaho are typically frozen during this period and any above-ground biennial slickspot peppergrass plants present would be dormant. While spring and fall sheep trailing does continue to occur through the allotment, the terms and conditions of the annually authorized sheep trailing permit require that sheep be kept within 40 ft to the east and 150 ft to the west of the centerline of the Hammett Hill Road, which avoids direct trampling impacts to the known

slickspot peppergrass populations adjacent to this road. However, localized effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occasionally occur due to periodic thaws in winter when this pasture is grazed by cattle. For example, in February 2005, winter thaw resulted in some penetrating trampling at EO 68. Following this trampling event, individual slickspot peppergrass numbers were dramatically reduced at this site in 2005 and 2006.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Rush skeletonweed and diffuse knapweed, both Idaho noxious weeds, can be dispersed by grazing cattle or trailing sheep within and adjacent to EO 8. As livestock may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of invasive nonnative plants into slickspot microsites, habitat surrounding EO 8, and the 0.5 mi buffer habitat of EO 8 occupied habitat is likely. Due to the current limited shrub cover within the allotment, it is also anticipated that livestock use could result in some impacts to shrub cover, an important habitat component for slickspot peppergrass. Impacts to biological soil crust cover within the allotment due to spring sheep trailing, when soils are likely to be wet, are also expected in the 190-ft-wide swath through the allotment where sheep trail annually. Therefore, localized livestock trampling effects to slickspot peppergrass in EO 8, inclusive of occupied habitat, are reasonably likely to occur based on the presence of rush skeletonweed and diffuse knapweed and the potential for weeds to spread through livestock use. To a lesser extent, effects are also anticipated from livestock-related localized effects on shrub cover and biological soil crust cover. Effects within the Hammett #2 Allotment #01034 would occur at a substantially reduced level due to the implementation of conservation measures to minimize effects to slickspot peppergrass, including changing the season of cattle use from spring to fall, avoiding known slickspot peppergrass populations during spring and fall sheep trailing, and chemically treating noxious weeds.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are on non-Federal lands located within the boundaries of the Hammett #2 Allotment #01034. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 434 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Some trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains 90 percent of B-ranked EO 8 (about 915 ac), and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Hammett #2 Allotment #01034 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years), and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include seasonal use restrictions that limit grazing to fall/winter annually in EO 8 when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.8. Hammett #3 Allotment #01035

Description of the Action Area

The Hammett #3 Allotment #01035 is located north of I-84, above the rim rock, approximately 3 mi north of Hammett, Idaho, in T5S/R8E. The allotment consists of three pastures and a water gap totaling approximately 3,058 ac of public and private lands. Of the 1,867 ac of public land within the allotment, 770 ac are Bureau-administered occupied habitat. The allotment contains EO 63 and part of EO 8 in CCA MA 10. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The Hammett #3 Allotment #01035 was historically a cattle allotment; however, the current permit authorizes horse grazing. The permittee has been allowed to substitute cattle for horses since 1999 upon receipt of an authorized annual grazing application. Future use will be in compliance with the permit starting in 2010. This permitted action expires on August 31, 2014.

The current grazing permit allocates 59 spring AUMs and 112 fall/winter AUMs. Current grazing management consists of spring grazing from April 1 to April 30 and fall/winter grazing from August 1 to November 30. This allotment contains two predominantly public land pastures

(North and South Pastures) with a smaller public land parcel fenced in with a large block of private lands due to a 1995 land exchange.

The North Pasture was prescribed for spring use (April 1 to April 30) in old management plans to favor riparian habitat along Bennett Creek. However, the plans have not been strictly adhered to since the discovery of slickspot peppergrass in the North Pasture. The largest portion of the allotment is private land (on the east side) with an isolated 161 ac of Bureau land within the private land parcel, which is used primarily for fall/winter cattle grazing.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Hammett #3 Allotment #01035 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Hammett #3 Allotment #01035 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Hammett #3 Allotment #01035 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/ supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

The only range improvements that have been constructed in this allotment are boundary fences. Limited surface water exists in the Hammett #3 Allotment #01035; most livestock water, and salt/supplements must be hauled in by truck to temporary movable water troughs or are available on adjacent private land. Surface water is available seasonally in Bennett Creek. This allotment contains 10.0 mi of fence; 3.75 mi occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-116 through IV-118).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Hammett #3 Allotment #01035 contains 2 percent of EO 8 (approximately 20 ac) and all 0.5 ac of EO 63, both located within the Snake River Plain physiographic region. As the two HIP monitoring transects for EO 8 are located within the Hammett #2 Allotment #01034, no HIP monitoring data are available for EO 8 within the Hammett #3 Allotment #01035. However, HIP monitoring data are available in this allotment for EO 63, which has exhibited plant numbers ranging from 59 to a range of 226–275 individual plants over 5 years of HIP monitoring (Colket 2009, p. 32). No obvious trends in are apparent in plant numbers at the HIP transect for EO 63 over these 5 years of monitoring, and variations in plant numbers in some years are likely due to environmental factors such as spring precipitation levels. The highest plant numbers in this HIP

transect were observed in 2004 (226–275 plants), with similar numbers observed in 2007 and 2008 (247 and 223 plants, respectively). The lowest plant numbers were observed in 2006 (59 plants) (Colket 2009, p.32). The INHP has classified EO 8 as B-ranked and EO 63 as D-ranked.

Occupied habitat for EOs 8 and 63 is located partially within the boundaries of the Hammett #3 Allotment #01035. The 770 ac of Bureau-administered occupied habitat in this allotment consists predominantly of exotic annuals with pockets of Wyoming big sagebrush and perennial bunch grasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 15 percent of the occupied habitat in the allotment contains native shrub habitat.
- Approximately 10 percent of occupied habitat is private agricultural land.
- Approximately 75 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Hammett #3 Allotment #01035 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The entire area of occupied habitat associated with EOs 8 and 63 burned in 1980, and the majority of the 0.5-mi occupied habitat pollinator buffer for EOs 8 and 63 area burned again in 2005 (North Ham Fire). Smaller segments of the area also burned in the 1950s and 1990s. The North Ham Fire burned in close proximity to this portion of EO 8 in summer 2005; however, this 2005 fire did not damage the EO. As a consequence of this burn history, the area consists predominantly of invasive nonnative annual plants, primarily cheatgrass, with widely scattered pockets of Wyoming big sagebrush.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 63 ranging from 3 to about 8 percent cover. In 2004, approximately 0.1 ac of rush skeletonweed was located approximately 0.5 mi from occupied habitat associated with EO 8. Rush skeletonweed was mapped and chemically treated throughout the North Ham Fire rehabilitation efforts in 2006 and 2007 in accordance with guidelines stipulated in the CCA. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37–49). Rush skeletonweed has continued to spread throughout the Snake River Plain over the last few years, and the likelihood that it may spread into occupied habitat in the Hammett #3 Allotment #01035 is high.

Fire rehabilitation efforts have been undertaken within the allotment in the past with limited success. Rehabilitation efforts for the North Ham Fire began in spring 2006 and continued into 2007. These efforts include chemical-fallow treatments to reduce cheatgrass competition prior to seeding.

Hammett #3 Allotment #01035 supports both spring and fall cattle grazing. The current conservation measures help to reduce potential negative effects to slickspot peppergrass and its habitat. However, the potential for direct grazing of slickspot peppergrass plants and trampling damage to slickspots still exists.

Levels of livestock feces cover within slickspots for EO 63 were documented as less than 1 percent to about 2 percent over 5 years of HIP monitoring. EO 63 HIP monitoring data show levels of total livestock hoof print cover ranging from less than 1 percent to about 11 percent, with penetrating trampling cover documented as less than 1 percent to a little over 4 percent. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at EO 63.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 15 percent of occupied habitat in the allotment contains native shrub habitat, 10 percent is private agricultural land, and 75 percent is dominated by invasive nonnative annual plants with minimal or no native shrub component. Similarly, approximately 10 percent of acreage in the allotment contains native shrub habitat, and approximately 90 percent is dominated by invasive nonnative annual plants, primarily cheatgrass, with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover is low within slickspots (between 0 and 10 percent cover in 3 of 5 years of HIP monitoring in EO 63). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As 90 percent of the allotment is dominated by exotic annuals, including cheatgrass, it is anticipated that biological soil crust cover would be similarly low throughout the allotment as documented within EO 63. Occupied habitat areas and surrounding areas within this allotment have low levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass; therefore, biological soil crust cover is expected to be low throughout the allotment.

HIP monitoring data indicate that percent native forb cover is low in EO 63 (0 to 0.6 percent cover in the 2 years of available HIP monitoring data). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The vegetation in this allotment is fragmented due to past wildfires, with isolated pockets of intact shrub communities and very low native understory (grasses and forbs) diversity. Thus, the allotment contains low quality habitat for the slickspot peppergrass due to past fires, lack of native forb cover and diversity, low shrub cover, and high cover of cheatgrass coupled with the presence of noxious weeds.

Effects of the Action

The Hammett #3 Allotment #01035, which contains 2 percent of EO 8 (about 20 ac) and all of EO 63 (less than 1 ac), is annually grazed by livestock between April 1 and April 30 and August 1 to November 30. Livestock grazing when soils are wet increases the potential for penetrating

livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. However, based on 5 years of HIP monitoring data in EO 63, potential effects from spread of nonnative invasive plant cover within slickspots by livestock use are minimal as cover data for nonnative plants in slickspots has been static over the past 5 years. Current moderate to high slickspot peppergrass habitat quality ratings associated with levels of nonnative plant cover in slickspots are reasonably likely to continue. In addition, although noxious weeds occur within the allotment, livestock activities are expected to have minimal effects on the additional spread of weeds within this EO.

Because spring grazing (April 1 through April 30) occurs in the pasture containing EOs 8 and 63, livestock trampling effects to slickspot microsites and the seed bank in EOs 8 and 63 are reasonably likely to occur. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. To a lesser extent, effects are also anticipated from livestock-related localized effects on shrub cover as well as the recovery of the very few remaining native forbs and grasses within the allotment. Livestock grazing in the pastures containing EOs 8 and 63 occurs in April, which is when the potential for impacts to the remaining few forbs from grazing would be high as annual forbs and the remaining perennial forbs would be available for herbivory. Therefore, effects of livestock herbivory and trampling on slickspot soils and native forbs and grasses, which are important habitat parameters for slickspot peppergrass, are reasonably certain to occur. Effects have been reduced by the implementation of conservation measures in the allotment, including chemically treating noxious weeds and avoiding livestock trailing through EOs when soils are saturated. Based on HIP monitoring data, continuation of the ongoing action is not likely to appreciably reduce the abundance and distribution of the slickspot peppergrass within the allotment.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Hammett #3 Allotment #01035. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 417 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Some direct trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains about 2 percent of B-ranked

EO 8 (about 20 ac), and all of D-ranked EO 63 (less than 1 ac), and has been categorized as having a medium to high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Hammett #3 Allotment #01035 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years); the allotment contains only 2 percent of EO 8 (about 20 acres), limiting the extent of adverse effects on this B-ranked EO; and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium to high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.9. Hammett #4 Allotment #01036

Description of the Action Area

The Hammett #4 Allotment #01036 is northeast of Glenns Ferry, Idaho, and includes 15 mi of Bennett Mountain Road in southeastern Elmore County. The allotment is located in T2S, R9E, T3S, R9E/10E, T4S, R10E, and T5S, R9E/10E and consists of three pastures totaling approximately 16,498 ac of public and private lands. The allotment authorizes cattle grazing and sheep trailing. The allotment contains 1,412 ac of Bureau-administered occupied habitat, including portions of EO 26 in CCA MA 10. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

This long, linear allotment is aligned north to south and gains elevation as it extends to the north. Cattle start grazing in the southern portion of the allotment and move to areas north of Blair Trail Reservoir. Cattle continue to move north to higher elevation springs and seeps and access creek sites along Canyon Creek at the uppermost, northern end of the allotment. The permittees have not been able to harvest all their preference in the past few years because of drought, plant community shifts to less desirable species, invasion by annual exotic plants, and the impacts of sheep trailing activities. During the past five seasons, however, the permittees have not made much use of fall AUMs because of drought and lack of regrowth, as well as winter weather that has moved cows down out of the higher-elevation pastures earlier than usual.

The current grazing permit allocates 985 spring AUMs and 1,162 fall/winter AUMs. Current management includes spring grazing from April 10 to June 30 and fall grazing from October 15 to December 31, with approximately four bands of sheep trailing through the allotment in the first part of May and the end of October (sheep trailing is restricted to Pasture 1, where no currently known occupied habitat exists). This permitted action expires on August 31, 2014.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Hammett #4 Allotment #01036 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Hammett #4 Allotment #01036 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Hammett #4 Allotment #01036 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/ supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.
- Slickspot peppergrass conservation measures for EO 58 (now part of EO 26) in Hammett #4 Allotment #01036 Pasture 3 (West of Morrow Reservoir) will be authorized for fall/winter grazing (October 15 to December 31) only, and livestock will be herded away from the southern portion of the allotment where former EO 58 exists during periods when soils are saturated.

The only range improvements that have been constructed in this allotment are boundary fences, water developments, and one cattle guard. Salt/supplement must be hauled in by truck or is available on adjacent private lands. Cattle may water at the Morrow Reservoir (0.4 mi from occupied habitat) in the Lower South Pasture. Livestock water is also available in the Upper North Pasture at Blair Trail Reservoir (3.8 mi from occupied habitat) and along Canyon Creek (isolated sites) in springs and seeps. Water availability is still a limiting factor for livestock distribution in the South and North Pastures. This allotment contains 16.6 mi of fences; 7.3 mi occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-127 through IV-129).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Hammett #4 Allotment #01036 contains 40 percent of EO 26 (approximately 277 ac), which is located within the Snake River Plain physiographic region. HIP monitoring data available in the Hammett #4 Allotment #01036 for EO 26 have exhibited plant numbers ranging from 60 to 326 individual plants (transect 26) over 5 years of HIP monitoring (Colket 2009, p. 32). HIP

transect 58 is located within the adjacent Hammett Individual Allotment #01054 inside a livestock exclosure fence that was constructed after a severe livestock trampling event occurred in January 1999 (Heslin 2002, in litt, pp. 3–5) so data from this HIP transect would not be applicable to this allotment. Plant numbers within HIP transect 026 over these 5 years of monitoring appear to be declining. The highest plant numbers in this HIP transect were observed in 2005 (326 plants) with similar plant numbers observed in 2004 (245 plants). The lowest plant numbers were observed in 2008 (60 plants), with slightly higher plant numbers observed in 2006 and 2007 (96 and 95 plants, respectively) (Colket 2009, p.32). The INHP has classified EO 26 as B-ranked.

Occupied habitat for EO 26 is located partially within the boundaries of the Hammett #4 Allotment #01036. The 1,412 ac of Bureau-administered occupied habitat in this allotment consists predominantly of Wyoming big sagebrush with inclusions of exotic annuals.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 98 percent of occupied habitat in the allotment contains native shrub habitat.
- Approximately 2 percent of occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

The Assessment indicates that the Hammett #4 Allotment #01036 is in good condition, although some segments of the allotment are being invaded by exotic annuals. As a consequence, slickspot peppergrass may occur in other areas within the allotment, and, based on the above information, there is a high potential for enhancing habitat conditions for the slickspot peppergrass outside of designated EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Hammett #4 Allotment #01036 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Large portions of the surrounding area burned extensively starting in the 1970s. However, much of the slickspot peppergrass occupied habitat 0.5 mi pollinator buffer in this allotment associated with EO 26 (including former EO 58, which has been incorporated into EO 26) did not burn and is occupied by relatively intact stands of Wyoming big sagebrush with smaller inclusions of invasive nonnative annual plants (primarily cheatgrass).

In EO 26, HIP transect 26 occurs in the western segment of the Hammett #4 Allotment #01036. HIP transect 58, also part of EO 26, occurs within the adjacent Hammett Individual Allotment #01054, and is within 0.1 mi of the Hammett #4 Allotment #01036. Although the Assessment indicates that the vegetation data from transect 58 can be applied to the Hammett #4 Allotment #01036, these data were not used in the analysis of the Hammett #4 Allotment #01036 in this Opinion as transect 58 is located inside a livestock exclosure fence in an adjacent allotment and therefore would not be applicable to the ongoing action.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 26 ranging from 1 to about 20 percent cover. Between 1996 and 1999, approximately 2.5 ac of Scotch thistle were located and chemically treated within occupied habitat associated with EO 26. In 2005, a population of diffuse knapweed associated with former EO 58 (now incorporated into EO 26) was located and chemically treated in the southern portion the allotment. Diffuse knapweed treatments in the roadside ROW were continued in 2006, 2007, and 2008. All chemical treatments were in accordance with guidelines stipulated in the CCA.

A rangeland health assessment for the Hammett #4 Allotment #01036 was completed in 2009. This assessment found that populations of slickspot peppergrass were in relatively good condition; however, the native plant communities supporting these plants were not meeting standard 4 (Native Plant Communities) and standard 8 (Threatened and Endangered Species) because of fire and weed invasion. The evaluation report also identified that current livestock grazing management practices are suspected as a causal factor for not meeting the above standards. Important suspected causal agents for current livestock grazing management practices identified in the Bureau's assessment included annual spring/fall grazing and annual grazing during the critical growth period.

The Hammett #4 Allotment #01036 supports spring and fall/winter grazing. The conservation measures currently in place reduce potential adverse effects to slickspot peppergrass and its habitat from livestock use. However, the potential for trampling damage to slickspot peppergrass plants and slickspots still exists.

Levels of livestock feces cover within slickspots for EO 26 were documented as less than 1 percent to about 1 percent over 5 years of HIP monitoring. EO 26 HIP monitoring in transect 26 shows levels of total livestock hoof print cover ranging from 0 to about 13 percent, with penetrating trampling cover documented as 0 to about 7 percent. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at EO 26. However, drastically reduced numbers of slickspot peppergrass plants between 2002 and 2003 were observed at an insect pollinator study site in the allotment following a livestock trampling event that occurred in this portion of EO 26 prior to initiation of data collection in early May 2003 (Robertson 2003, pp. 2, 8, 15). It is unknown if this trampling event met the criteria for penetrating trampling or not, as it was not evaluated using HIP monitoring criteria. Since increased plant numbers were observed in the other four study sites between 2002 and 2003, the reduced numbers in the Hammett #4 Allotment #01036 study site were likely not related to other environmental factors such as precipitation levels. Following the observation of reduced plant numbers in early May, defoliation of remaining plants by insects was also observed at this study site in mid-May 2003. Slickspot peppergrass plant numbers in subsequent years at this site are unknown, as this site does not contain an HIP monitoring transect and was dropped from the pollinator study in 2004 due to the low slickspot peppergrass plant numbers observed in 2003 and 2004 (Robertson 2008, in litt., p. 1).

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 98 percent of occupied habitat in the allotment contains native shrub habitat, while 2 percent is dominated by invasive nonnative annual plants with minimal or no native shrub component. Similarly, approximately 95 percent of acreage in the allotment contains native shrub habitat, and approximately 5 percent is dominated by invasive nonnative annual plants, primarily cheatgrass, with minimal or no native shrub component.

HIP monitoring data show that biological soil crust cover within slickspots is moderate (between 10 and 20 percent cover in 3 of 5 years of HIP monitoring at transect 26). The Service did not consider the biological soil crust data for transect 58 of EO 26 for the Hammett #4 Allotment #01036 as this transect is located within a livestock enclosure fence in the adjacent Hammett Individual Allotment #01054. The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As 90 percent of the allotment is dominated by shrubs, it is anticipated that biological soil crust cover throughout the majority of the allotment would be similar to levels documented within EO 26. The few occupied habitat areas and surrounding areas within this allotment with low levels of shrub cover and high cheatgrass cover are expected to have low biological soil crust cover.

HIP monitoring data indicate that percent native forb cover is low in EO 26 (0.4 to about 3 percent cover in the 2 years of available HIP monitoring data for HIP transect 26). The Service did not consider the native forb cover data for transect 58 of EO 26 for the Hammett #4 Allotment #01036 as this transect is located within a livestock enclosure fence in the adjacent Hammett Individual Allotment #01054. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The overall quality of the habitat in EO 26 is rated as moderate for slickspot peppergrass due to high shrub cover combined with low native grass and forb diversity in the understory.

Effects of the Action

The Hammett #4 Allotment #01036, which contains a portion of EO 26, is annually grazed by livestock between April 10 and June 30 and October 15 to December 31. Pasture 3 (west of Morrow Reservoir), where a portion of EO 26 is located, is authorized for fall/winter cattle grazing (October 15 to December 31), and livestock are herded away from this portion of the allotment during periods when soils are saturated. As slickspot peppergrass plants would have already produced seeds by the time this area is grazed each year, direct impacts to individual plants are reduced. However, as annual cattle grazing occurs in another portion of EO 26 in the Hammett #4 Allotment #01036 between April 10 and June 30, direct effects from localized livestock trampling on individual actively growing and flowering slickspot peppergrass plants are likely to occur. Livestock grazing when soils are wet increases the potential for penetrating

livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Some penetrating trampling has been documented on HIP transect 26, although not to the degree where the trampling trigger has been tripped. However, reduced numbers of slickspot peppergrass plants in 2003 and 2004 were observed at an insect pollinator study site in the allotment following a livestock trampling event that occurred in this portion of EO 26 earlier in 2003.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Scotch thistle and diffuse knapweed, both Idaho noxious weeds, can be dispersed by grazing cattle within and adjacent to EO 26. As cattle may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites and the habitat surrounding EO 26 is likely. In addition, annual livestock grazing in a portion of EO 26 from April through June has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering, as well as native forbs, native grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Livestock use in spring may also result in trampling impacts to slickspot soils, which are more likely to be wet in spring, and subsequently to the seed bank. Continuation of annual spring grazing during the active growing period for native plants is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area. Therefore, effects from spring livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsites, biological soil crusts, and native forbs and grasses in a portion of EO 26 are reasonably certain to occur. Effects associated with livestock grazing have been reduced by the implementation of conservation measures in the allotment, including chemically treating noxious weeds and the authorizing fall/winter livestock grazing only in Pasture 3, where a portion of EO 26 is located.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Hammett #4 Allotment #01036. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 7 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Some direct trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains 40 percent of B-ranked EO 26 (about 277 ac), and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Hammett #4 Allotment #01036 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years); and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include seasonal use restrictions in a portion of EO 26 that limit grazing to fall/winter when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.10. Hammett Individual Allotment #01054

Description of the Action Area

The Hammett Individual Allotment #01054 is located immediately northwest of Glens Ferry, Idaho, in T5S/R9E/10E. The grazing permit allows cattle grazing only and consists of four pastures, which include both Federal and private lands totaling approximately 1,656 ac. I-84 separates the two northern pastures from the two southern pastures. This allotment contains 500 ac of Bureau-administered slickspot peppergrass occupied habitat, including a portion of EO 26 in CCA MA 10. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

As of a 1999 grazing decision, the Hammett Individual Allotment #01054 is managed in concert with the Plateau Allotment. An increase in permitted AUMs was granted contingent upon the permittee changing to dormant season grazing and constructing an enclosure to protect the existing slickspot peppergrass population. Since the enclosure was constructed in November 2000, grazing is permitted up to the capacity of the pasture as long as the total AUMs for both allotments does not exceed 689 AUMs, which includes 473 AUMs in the Plateau Allotment.

The current grazing permit allocates 216 winter AUMs from February 1 to February 28. However, use can occur any time between December 1 and February 28, provided the Bureau is notified in advance. Numbers and timing of use fluctuate depending upon annual vegetation production and weather conditions. This permitted action expires on August 31, 2014.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Hammett Individual Allotment #01054 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Hammett Individual Allotment #01054 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Hammett Individual Allotment #01054 relevant to the conservation of the slickspot peppergrass are as follows:

- **In Hammett Individual Allotment #01054:**
 - The increase in permitted use is also contingent upon constructing an enclosure around known slickspot peppergrass populations. During the interim period, water troughs, salt blocks, and feed supplements will continue to be placed a minimum of 0.5 mi from known slickspot peppergrass populations (if the enclosure is constructed) as long as total permitted use (689 AUMs) for the Plateau and Hammett Individual Allotment #01054 is not exceeded. *Note that the Assessment states the enclosure was constructed in November 2000 (Bureau 2009, p. IV-39).*
- **In both Plateau and Hammett Individual Allotments:**
 - Turnout is subject to Boise District range readiness criteria.
 - Permittee will not trail livestock through EOs within the management area when soils are saturated.
 - Permittee shall place salt/ supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

The only range improvements that have been constructed in this allotment are pasture boundary fences, emergency stabilization and rehabilitation fences, and the slickspot peppergrass livestock enclosure. No surface water exists in the Hammett Individual Allotment #01054; all livestock water and salt/supplements must be hauled in by truck to temporary water troughs. This allotment contains 5.7 mi of fences; 2.3 mi occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-139 through IV-142).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Hammett Individual Allotment #01054 contains 5 percent of EO 26 (approximately 35 ac), which is located within the Snake River Plain physiographic region. HIP monitoring data available in the Hammett Individual Allotment #01054 for EO 26 have exhibited plant numbers ranging from 66 to 194 (transect 58) over 5 years of HIP monitoring (Colket 2009, p. 32). No obvious trends in are apparent in plant numbers at the HIP transect 058 for EO 26 over these 5 years of monitoring. It is likely that the variations in plant numbers in some years are due to environmental factors such as spring precipitation levels. The highest plant numbers in this HIP transect were observed in 2007 (194 plants) with similar numbers observed in 2006 (176 plants). The lowest plant numbers were observed in 2005(66 plants) with similar numbers observed in 2008 (81 plants) (Colket 2009, p.32). The INHP has classified EO 26 as B-ranked.

Slickspot peppergrass occupied habitat for EO 26 is located partially within the boundaries of the Hammett Individual Allotment #01054. The 500 ac of Bureau-administered occupied habitat in this allotment consists of Wyoming big sagebrush with scattered pockets of exotic annuals and perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 75 percent of occupied habitat in the allotment contains native shrub habitat.
- Approximately 25 percent of occupied habitat in the allotment is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component.

The above figures are based on the most recent vegetation survey, which occurred prior to the Cold Fire that burned through the allotment in August 2006. It is highly likely that the shrub cover is much less now than at the time the vegetation survey was completed. Based on the above information, it is anticipated that there is a moderate to high potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Hammett Individual Allotment #01054 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Part of the occupied habitat associated with EO 26 burned in the 1970s and 1980s. The area burned again in late summer 2006 (Cold Fire). However, a large percentage of the occupied habitat still contains relatively intact stands of Wyoming big sagebrush. Fire rehabilitation efforts undertaken in the past and have had limited success in reestablishing a native or ecological equivalent shrub/grass/forb community.

HIP monitoring data at transect 58 shows levels of invasive nonnative plants in slickspots within EO 26 ranging from 7 to about 20 percent cover. In addition, approximately 2.5 ac of rush skeletonweed were located within 0.25 mi of occupied habitat in 2004. In 2005, approximately 1.0 ac of diffuse knapweed was located and treated within 0.25 mi of occupied habitat. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP

transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). Whitetop (*Cardaria draba*) and Russian knapweed were chemically treated in 2006, 2007, and 2008. The treatment area was less than 0.5 ac. Treatments were in accordance with guidelines stipulated in the CCA. Rush skeletonweed has continued to spread throughout the Snake River Plain over the last few years and the likelihood that it will spread throughout areas of the Hammett Individual Allotment #01054 in the future is high.

The Hammett Individual Allotment #01054 supports late winter grazing. The conservation measures currently in place help minimize potential negative effects to slickspot peppergrass and its habitat. However, the potential still exists for trampling damage to slickspot habitats outside of EO 26 and the enclosure pasture, especially during a “warm” winter when soils are not frozen.

Levels of livestock feces cover within slickspots for EO 26 were documented as 0 to about 2.5 percent over 5 years of HIP monitoring. EO 26 HIP monitoring in transect 58 shows levels of total livestock hoof print cover ranging from 0 to about 2.4 percent, with penetrating trampling cover ranging from 0 to about 2 percent. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at transect 58 of EO 26, but this HIP transect is located within a livestock enclosure fence. The highest levels of livestock feces cover (2.4 percent) and both total livestock hoof print cover (about 2.5 percent) and penetrating livestock hoof print cover (2 percent, 1.4 percent of which was greater than 2 in. deep) were documented on transect 58 in 2008 (Colket 2009, p. 58). Although not addressed in the Assessment, the Service assumes that some unauthorized livestock use occurred within the livestock enclosure during winter 2008. This portion of EO 26 (formerly EO 58) was fenced from livestock use in November 1999 in response to a severe livestock trampling event that occurred in January 1999 (Heslin in litt., 2002, p. 3—5). Although the area excludes livestock grazing, this site had high levels of livestock trampling (likely penetrating trampling) occur prior to construction of the enclosure fence. This past trampling event may still affect the slickspot peppergrass at this site due to long term impacts to slickspot soils or the seed bank. Habitat Integrity Index monitoring data (which were collected using a different methodology but in the same general area as HIP data for transect 058) showed slickspot peppergrass plant numbers decrease from 138 plants prior to this trampling event in 1998 to 0 plants in 1999 and 2000 and 38 plants in 2001 following the trampling event (no slickspot peppergrass monitoring was conducted in 2003) (Colket 2009, p. 32).

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 75 percent of occupied habitat in the allotment contains native shrub habitat, while 25 percent is dominated by invasive nonnative annual plants (cheatgrass) with minimal or no native shrub component. However, these figures are based on the most recent vegetation survey, which occurred prior to the Cold Fire that burned through the allotment in August 2006. It is highly likely that the shrub cover is much less now than at the time the vegetation survey was completed. Shrub cover for the allotment was not addressed in the Assessment.

HIP monitoring data indicate that biological crust cover is high within slickspots (greater than 20 percent cover over 5 years of HIP monitoring at transect 58). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As at least 25 percent of the occupied habitat in the allotment is dominated by low levels of shrub cover and high cheatgrass cover, these areas are expected to have low biological soil crust cover.

HIP monitoring data show that percent native forb cover is low in EO 26 (0 to 0.4 percent cover in the 2 years of available HIP monitoring data). The overall quality of the habitat for the slickspot peppergrass in this portion of EO 26 is rated as low to moderate due to low native grass and forb cover in the understory coupled with the presence of invasive annuals (cheatgrass) and noxious weeds. Sagebrush areas in the vicinity of EO 26 are devoid of most native grasses and forbs in the understory, probably due to past heavy livestock use since the mid-1800s. Following this heavy use, the area never recovered (see HIP photos, Colket 2009, pp. 295–298) and would not be expected to recover in the future without restoration efforts.

Effects of the Action

No direct effects to slickspot peppergrass plants or the seed bank would occur from authorized livestock use in that portion of EO 26 located in the Hammett Individual Allotment #01054 since this portion of the EO is located within a livestock exclosure. Livestock-related impacts to this portion of EO 26 would be limited to potential effects to slickspot peppergrass on occupied habitat located outside of the exclosure fence. The allotment is authorized to be grazed anytime between December 1 and February 28, although it is typically grazed between February 1 and February 28 when the risk of impacts to slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging is reduced. Impacts to slickspot soils, the seed bank, and biological soil crusts from mechanical trampling damage would be lower since soils in southern Idaho are typically frozen at this time. However, localized effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occasionally occur due to periodic thaws in winter when this pasture is grazed. Deep livestock hoof prints (greater than 2 in. deep) during winter were documented in the allotment in 1999 and in 2008. Therefore, effects to slickspot peppergrass associated with livestock use are reasonably likely to occur in the Hammett Individual Allotment #01054, although effects associated with authorized livestock use would be limited to the area located outside the existing livestock exclosure fence and outside of EO 26.

Grazing from December through February would also minimize adverse effects to native forbs since both annual and perennial forbs would have already completed growth and produced seeds prior to livestock turn out. In addition, rush skeletonweed, diffuse knapweed, Russian knapweed, and whitetop—all Idaho noxious weeds—can be dispersed by grazing cattle in the occupied habitat located outside of the livestock exclosure fence. Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during

saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. As the portion EO 26 in this allotment is located within a livestock enclosure, the risk of livestock associated dispersal of noxious weeds directly into EO 26 is expected to be minimal. However, as livestock may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of invasive nonnative plants, including noxious weeds, into the 0.5 mi occupied habitat pollinator buffer located outside of the livestock enclosure fence, particularly within the area burned in the 2007 Cold Fire, is likely. Therefore, localized effects are reasonably likely to occur in the area surrounding EO 26 outside of the livestock enclosure fence due to the presence of nearby noxious weeds, coupled with the potential for these weeds to spread through livestock use. Effects associated with livestock grazing have been significantly reduced by the implementation of conservation measures in the allotment, including constructing a livestock enclosure fence around the known population of slickspot peppergrass associated with EO 26, chemically treating noxious weeds, and authorizing winter livestock grazing only within the allotment.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Hammett Individual Allotment #01054. No occupied habitat associated with the 0.5 mi pollinator buffer occurs on non-Federal lands within the boundaries of the allotment. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Limited levels of trampling impacts and degradation of habitat conditions are likely to occur with continued implementation of this action. The action area contains 5 percent of B-ranked EO 26 (about 35 ac), and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Hammett Individual Allotment #01054 are likely to significantly reduce but not entirely eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include the exclusion of livestock grazing from that portion of EO 26 located within the allotment, limiting annual grazing to fall/winter in the 0.5 mi pollinator buffer for EO 26 when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.11. Indian Creek Fenced Federal Range Allotment #00878

Description of the Action Area

The Indian Creek FFR Allotment #00878 is located in T1N, R3E/4E and T1S, R3E/4E and occupies 6,263 ac: 1,336 ac of Bureau land; 1,850 ac of private land; and 3,077 ac of State land. This allotment contains 316 ac of Bureau-administered slickspot peppergrass occupied habitat, including EO 54 in CCA MA 8B. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit for the Indian Creek FFR Allotment #00878 allocates 120 AUMs of cattle grazing on public land from April 15 to May 14 annually. This permitted action expires on February 28, 2018.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Indian Creek FFR Allotment #00878. The only exception is Condition 5 in Table IV.D-1, which states that “changes to the scheduled use require prior approval” (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Indian Creek FFR Allotment #00878 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Indian Creek FFR Allotment #00878 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.
- Special conservation measures for CCA MA 8: Permittee will not trail livestock through EOs within the management area when soils are saturated.

The only range improvements in the Indian Creek FFR Allotment #00878 are boundary fences. No surface water exists on the public lands in the allotment; all livestock water and salt/supplements must be hauled in by truck to portable troughs or are available on adjacent private lands. This allotment contains 10.5 mi of fence; 0.1 mi occurs in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-150 through IV-152).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Indian Creek FFR Allotment #00878 contains all 2.1 ac of EO 54, which is located within the Snake River Plain physiographic region. HIP monitoring data available in the Indian Creek FFR Allotment #00878 for EO 54 (HIP transect 054) have documented no plants in the 4 years of available data (2005–2008) (Colket 2009, p. 31). The INHP has classified EO 54 as F-ranked.

Occupied habitat for EO 54 is located partially within the boundaries of the Indian Creek FFR Allotment #00878. The 316 ac of Bureau-administered occupied habitat in this allotment is dominated by exotic annuals with large pockets of Wyoming big sagebrush in the north and large pockets of Wyoming big sagebrush interspersed with bunchgrasses in the south.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 1 percent of occupied habitat in the allotment contains native shrub habitat.
- Approximately 99 percent of occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is an extremely low potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Indian Creek FFR Allotment #00878 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The eastern half of the allotment burned in the 1950s; the entire allotment burned in the 1980s; and more than half of the allotment, including the occupied habitat associated with EO 54, burned again in 2005 (South Black Fire). As a consequence of this fire history, a large segment of the allotment consists predominantly of invasive nonnative annual plants (primarily cheatgrass) with large pockets of Wyoming big sagebrush.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 54 ranging from 2.5 to about 10 percent cover. In addition, at least four noxious weed species have been located in the allotment within 1.5 mi of occupied habitat in the last 7 years: whitetop from 1996–2005; Canada thistle (*Cirsium arvense*) in 2004; Scotch thistle from 1996–1999; and field bindweed (*Convolvulus arvensis*) in 2004. The total area infected was less than 5.0 ac, and all of these infestations were chemically treated. However, given the disturbed condition of this allotment, the likelihood that noxious weeds will continue to occur or occur in other areas of the allotment in the future is high.

Past fire rehabilitation efforts have met with limited success. Fire rehabilitation efforts for the South Black Fire were initiated in spring 2006 and are ongoing.

The Indian Creek FFR Allotment #00878 supports spring grazing. The conservation measures currently in place help minimize potential negative effects to the slickspot peppergrass and its

habitat. However, trampling damage to individual slickspot peppergrass plants and slickspot habitats is likely to occur.

Levels of livestock feces cover within slickspots for EO 54 were documented as less than 1 percent cover over 4 years of HIP monitoring. EO 54 HIP monitoring shows levels of total livestock hoof print cover ranging from about 4 to 11 percent, with penetrating trampling cover documented as 2 to about 6.5 percent. The penetrating trampling trigger has never been tripped in the 4 years of HIP monitoring at EO 54.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 1 percent of occupied habitat in the allotment contains native shrub habitat, while 99 percent is dominated by invasive nonnative annual plants (cheatgrass) with minimal or no native shrub component. Approximately 40 percent of the acreage in the allotment contains native shrub habitat and 60 percent is dominated by exotic annuals with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover is low within slickspots (less than 10 percent cover over 4 years of HIP monitoring). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). Since 99 percent of the occupied habitat in the allotment is dominated by low levels of shrub cover and high cheatgrass cover, these areas are expected to have low biological soil crust cover.

HIP monitoring data indicate that native forb cover is low in EO 54 (0.3 percent cover in the 1 year of available HIP monitoring data). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The vegetation in this allotment is fragmented due to past wildfires, with isolated pockets of intact shrub communities and low native understory (grasses and forbs) diversity. The quality of the habitat for the slickspot peppergrass in EO 54 is rated as low due to low shrub cover combined with low native understory diversity and presence of noxious and invasive weeds.

Effects of the Action

The Indian Creek FFR Allotment #00878, which contains EO 54, is annually grazed by livestock from April 15 to May 14. While livestock are not herded through EO 54 during periods when soils are saturated, direct effects from localized livestock trampling on individual slickspot peppergrass plants, the seed bank, and slickspot microsites are likely to occur. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Some penetrating trampling has been documented at EO 54, although not to the degree where the trampling trigger has been tripped.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Whitetop, Canada thistle, Scotch thistle, and field bindweed—all Idaho noxious weeds—can be dispersed by grazing cattle within and adjacent to EO 54. As cattle may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites and habitat surrounding EO 54 is likely. In addition, annual livestock grazing in EO 54 from April through May has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering, as well as native forbs, native grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Livestock use in spring may also result in trampling impacts to slickspot soils, which are more likely to be wet in spring, and subsequently to the seed bank. Due to the current limited shrub cover within the allotment, it is also anticipated that livestock use could result in some impacts to shrub cover, an important habitat component for slickspot peppergrass. Continuation of annual spring grazing during the active growing period for native plants is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area. Therefore, effects from spring livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsites, biological soil crusts, and native forbs and grasses are reasonably certain to occur. Effects associated with livestock grazing have been reduced by the implementation of conservation measures in the allotment, including chemically treating noxious weeds and avoiding trailing livestock through EO 54 when soils are saturated.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Indian Creek FFR Allotment #00878. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 382 ac of State land and 29 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains F-ranked EO 54, and has been categorized as having a low conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Indian Creek FFR Allotment #00878 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely

affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a low slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (8 more years).

5.2.1.2.12. Lower Alkali Allotment #01127

Description of the Action Area

The Lower Alkali Allotment #01127 is located in T5S, R9E approximately 3 mi north of Glens Ferry, Idaho. Bennett Road parallels the northern boundary of the allotment and I-84 parallels the southern boundary. The allotment permits cattle grazing only and consists of three pastures totaling approximately 2,203 ac of public and private lands. This allotment contains 557 ac of Bureau-administered slickspot peppergrass occupied habitat, including part of EO 26 in CCA MA 10. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit for the Lower Alkali Allotment #01127 allocates 301 spring AUMs. Current grazing management consists of annual spring grazing from April 10 to June 9. This permitted action expires on August 31, 2014.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Lower Alkali Allotment #01127 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Lower Alkali Allotment #01127 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Lower Alkali Allotment #01127 relevant to the conservation of the slickspot peppergrass are as follows:

- Construction, reconstruction, maintenance, or other ground disturbing activities (including range improvement maintenance) that could affect previously undisturbed ground or involve heavy machinery require advance approval from the authorized officer.

- Permittee will not place salt or water tanks on known slickspot peppergrass locations on Federal land.
- Livestock turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

Range improvements that have been constructed in the Lower Alkali Allotment #01127 include fences and vegetative rehabilitation projects. Surface water exists in an irrigation canal in the northeast portion of the allotment but nowhere else; all livestock water and salt/supplement must be hauled in by truck to portable troughs or are available on adjacent private lands. Water must be hauled to the northeast portion of the allotment in some years due to lack of surface flow in the canal. The only permanent range improvements that have been constructed in this allotment are boundary fences. Following a 2001 wildfire, a temporary north–south fence was constructed in the southern part of the allotment to facilitate fire rehabilitation efforts. In effect, this fence construction has created a temporary third pasture for livestock management purposes until it is removed following the rehabilitation effort. This allotment contains 8.6 mi of fence; 5.0 mi occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-161 through IV-163).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Lower Alkali Allotment #01127 contains about 5 percent of EO 26 (approximately 35 ac), which is located within the Snake River Plain physiographic region. No HIP monitoring data are available in the Lower Alkali Allotment #01127 for EO 26. The INHP has classified EO 26 as B-ranked.

Slickspot peppergrass occupied habitat for EO 26 is located partially within the boundaries of the Lower Alkali Allotment #01127. The 557 ac of Bureau-administered occupied habitat in this allotment consists of Wyoming big sagebrush with inclusions of invasive nonnative annual plants (predominantly cheatgrass), perennial bunch grasses, and crested wheatgrass seedings.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 30 percent of occupied habitat in the allotment contains native shrubs.
- Approximately 70 percent of occupied habitat in the allotment is dominated by exotic annuals and remnant crested wheatgrass seedings with minimal or no native shrub component.

These figures are based on vegetation surveys done prior to the Cold Fire, which burned through the northern half of the area in August 2006. As a consequence of this fire, acres occupied by

native shrubs may actually be less than shown above. Based on the above information, there is likely a low potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Lower Alkali Allotment #01127 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The entire area of slickspot peppergrass occupied habitat associated with EO 26 in this allotment burned in the 1970s; segments of occupied habitat burned again in the 1980s and 2000s; and the northern half of the allotment burned again in August 2006. Until the most recent burn, the occupied habitat in this allotment consisted predominantly of Wyoming big sagebrush with pockets of invasive nonnative annual plants (predominantly cheatgrass) and bunchgrasses.

In 2004, a 1.0-ac infestation of rush skeletonweed was located approximately 1.25 mi east of the allotment and was not treated at that time. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37—49). Rush skeletonweed has continued to spread throughout the Snake River Plain over the last few years and the likelihood that it will spread throughout areas of the Lower Alkali Allotment #01127 in the future is high. In 2005, an infestation (1–5 ac) of diffuse knapweed was located and treated on the northern edge of the allotment in occupied habitat associated with EO 26. Diffuse knapweed was chemically treated in the roadside ROW in 2006 in accordance with guidelines stipulated in the CCA. In 2007, Russian knapweed was detected along the King Hill Main Canal ROW and rush skeletonweed was detected throughout the allotment.

Fire rehabilitation efforts have been undertaken in the past as evidenced by the presence of numerous crested wheatgrass seedings, especially in the center of the allotment.

The Lower Alkali Allotment #01127 supports spring grazing only. The conservation measures currently in place help minimize potential negative effects to the slickspot peppergrass and its habitat. However, the potential for livestock trampling damage to individual slickspot peppergrass plants and slickspots still exists.

No HIP monitoring data are available for livestock feces cover, total livestock hoof print cover, penetrating livestock hoof print cover, and biological soil crust cover for EO 26 within the Lower Alkali Allotment #01127.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 30 percent of slickspot peppergrass occupied habitat in EO 26 contains native shrub habitat, while 70 percent is dominated by invasive nonnative annual plants (cheatgrass) with minimal or no native shrub component. Approximately 40 percent of the acreage in the allotment contains native shrub habitat, and 60 percent is dominated by invasive nonnative annual plants (cheatgrass) with minimal or no native shrub component.

Limited HIP monitoring data from photographs indicate that percent native forb cover is low to nonexistent in EO 26 (Colket 2009, pp. 150–153). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. Sagebrush areas in the vicinity of EO 26 are devoid of most native grasses and forbs in the understory, probably due to past heavy livestock use since the mid-1800s and numerous fires over the last several decades. The area never recovered from this past use and more recent fires (see HIP photos, Colket 2009, pp. 150–153). The vegetation in the Lower Alkali Allotment #01127 is fragmented due to past wildfires, with isolated pockets of intact shrub communities and low native understory (grasses and forbs) diversity. The quality of the habitat for the slickspot peppergrass in this portion of EO 26 is rated as low due to low shrub cover combined with low native understory diversity and presence of noxious and invasive weeds.

Effects of the Action

The Lower Alkali Allotment #01127 is annually grazed by livestock from April 10 through June 9. While livestock are not herded through EO 26 during periods when soils are saturated, direct effects from localized livestock trampling on individual slickspot peppergrass plants, the seed bank, and slickspot microsites are likely to occur. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Rush skeletonweed, diffuse knapweed, and Russian knapweed—all Idaho noxious weeds—can be dispersed by grazing cattle within and adjacent to EO 26. As cattle may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites and habitat surrounding EO 26 is likely.

In addition, livestock grazing in EO 26 annually from April through early June has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering, as well as native forbs, native grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Livestock use in spring may also result in trampling impacts to slickspot soils, which are more likely to be wet in spring, and subsequently to the seed bank. Continuation of annual spring grazing during the active growing period for native plants is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area. Therefore, effects from spring livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsites, biological soil crusts, and native forbs and grasses are reasonably certain to occur. Effects associated with livestock grazing have been reduced by implementing conservation measures in the allotment, including chemically treating noxious weeds and avoiding trailing livestock through EO 26 when soils are saturated.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Lower Alkali Allotment #01127, and no non-Federal lands located within the boundary of the allotment overlap the 0.5 mi occupied habitat pollinator buffer for EO 26. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 5 percent of B-ranked EO 26 (about 35 ac), and has been categorized as having a medium to high conservation value for the slickspot peppergrass rangewide due to the limited EO acreage in the allotment coupled with the degraded habitat condition in the allotment. Conservation measures implemented within the Lower Alkali Allotment #01127 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years); and the allotment only contains 5 percent of EO 26 (about 35 acres), limiting the extent of adverse effects of this action on the conservation value of this B-ranked EO. In addition, implementation of conservation measures is also expected to reduce potential adverse effects to the slickspot peppergrass from livestock grazing. These conservation measures include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium to high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.13. McPherson Individual Allotment #00196

Description of the Action Area

The McPherson Individual Allotment #00196 is located in T5N, R1W and consists of 239 ac of Bureau land and 119 ac of private land. This allotment contains 234 ac of Bureau-administered occupied slickspot peppergrass habitat, including EO 76 in CCA MA 2C. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit for the McPherson Individual Allotment #00196 allocates 34 AUMs for cattle. Current grazing management consists of annual spring grazing from April 11 to May 31. This permitted action expires on February 28, 2012.

EO 76 in the McPherson Individual Allotment #00196 was not located until spring 2005, after the CCA had been signed and after affected grazing permits had been modified in 2004. Thus, the grazing permit for this allotment has not been modified to incorporate the conservation measures outlined in the CCA for CCA MA 2. The terms and conditions listed in section IV.D.1.1.2.1.1 on Table IV.D-1 of the Assessment are not applied to this allotment (Bureau 2009, p. IV-20; see Table 6 on pages 57—58 of this Opinion). No additional terms and conditions to the McPherson Individual Allotment #00196 for the conservation of slickspot peppergrass are currently incorporated into this permit. However, as stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the McPherson Individual Allotment #00196 (Bureau 2009, p. IV-21).

Range improvements that have been constructed in the McPherson Individual Allotment #00196 are limited to boundary fences. No surface water or watering sites exist in the allotment, so water is trucked to portable water troughs. This allotment contains 2.5 mi of livestock management fence; 2.2 mi occur in occupied habitat. In addition, an approximately 0.25-mi-long drift fence was recently constructed at the north end of Hartley Road in the northeastern portion of the allotment to reduce OHV impacts to EO 76. The EO has also been signed in accordance with the CCA. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-170 through IV-172).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The McPherson Individual Allotment #00196 contains a portion of EO 76 (about 2 ac, not including the recently discovered extensions to this EO located in the adjacent Black Canyon Allotment #00310), which is located within the Boise Foothills physiographic region and was first discovered in spring 2005. Additional slickspot peppergrass populations were discovered in the McPherson Individual Allotment #00196 during surveys in 2007 and 2008, expanding the size of EO 76 within this allotment. EO 76 has exhibited plant numbers ranging from 2,014 to 4,893 individual plants over 4 years of HIP monitoring (Colket 2009, p. 31). No obvious trends in are apparent in plant numbers at the HIP transect for EO 76 over the 4 years of HIP monitoring. Variations in slickspot peppergrass plant numbers in some years are likely due to environmental factors such as spring precipitation levels. The highest plant numbers in this HIP transect were observed in 2006 (6,111 plants), with the lowest plant numbers observed in 2005 (2,014 plants) (Colket 2009, p.31). The INHP has classified EO 76 as B-ranked.

Slickspot peppergrass occupied habitat for EO 76 is located partially within the boundaries of the McPherson Individual Allotment #00196. The 234 ac of Bureau-administered occupied habitat in this allotment consists predominantly of invasive nonnative annual plants (e.g., cheatgrass), while the northern portion of the allotment is dominated by Wyoming big sagebrush with scattered pockets of bitterbrush (*Purshia tridentata*) and perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 50 percent of occupied habitat in the allotment contains native shrub habitat.
- Approximately 50 percent of occupied habitat in the allotment is dominated by exotic annuals with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the McPherson Individual Allotment #00196 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. A large percentage of the occupied habitat associated with EO 76 burned in 1990, including the area occupied by the EO. As a consequence, most of the lower-elevation areas in the central portion of the allotment, including the EO, are dominated by cheatgrass with pockets of sagebrush with an intact but reduced native forb understory.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 76 ranging from 1 to about 9 percent cover. In 2004, an infestation (1–5 ac) of Russian knapweed was located and treated approximately 0.3 mi north of the occupied habitat associated with EO 76. No noxious weeds have been detected within the allotment. The Assessment categorizes current habitat condition as low to moderate quality due to the presence of invasive weeds near EO 76 and a reduced incidence of native understory plants in the remaining sagebrush stands near EO 76.

The McPherson Individual Allotment #00196 supports spring grazing only. Conservation measures to minimize potential negative effects to slickspot peppergrass and its habitat are limited for this allotment. Thus, trampling damage to individual slickspot peppergrass plants and to slickspot habitats is likely to occur.

Levels of livestock feces cover within slickspots for EO 76 were documented as less than 1 percent over 4 years of HIP monitoring. HIP monitoring data for EO 76 show levels of total livestock print cover as between about 2 and 12 percent, with penetrating livestock hoof print cover ranging from less than 1 percent to about 3 percent within slickspots. The penetrating trampling trigger has never been tripped in the 4 years of HIP monitoring at EO 76.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite

imagery and HIP monitoring photos, approximately 50 percent of slickspot peppergrass occupied habitat in the allotment contains native shrub habitat and 50 percent is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover is high within slickspots (over 45 percent in 3 of the 4 years of HIP monitoring data available). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high biological soil crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As much of the allotment is dominated by cheatgrass, it is anticipated that biological soil crust cover is lower throughout the allotment than within EO 76. Half of the occupied habitat area within this allotment exhibits low levels of shrub cover and high cover of cheatgrass; therefore, biological soil crust cover is expected to be low throughout the allotment.

HIP monitoring data indicate that percent native forb cover is moderate (about 6 percent cover in the 1 year of available HIP monitoring data) in the portion of EO 76 located in this allotment. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The vegetation in this allotment is fragmented due to past wildfires coupled with very low native grass and forb understory diversity. The allotment condition overall is low to moderate quality for slickspot peppergrass due to past fires, lack of forbs, the extent of cheatgrass cover, and presence of other invasive plant species.

Effects of the Action

The McPherson Individual Allotment #00196 is annually grazed by livestock from April 11 through May 31. While the low numbers of cattle AUMs permitted in this allotment may serve to reduce potential impacts (34 AUMs annually), direct effects from localized livestock trampling on individual slickspot peppergrass plants, the seed bank, and slickspot microsites are likely to occur. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. HIP monitoring has documented cattle hoof print cover, including low levels of penetrating trampling, within EO 76.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Russian knapweed can be dispersed by grazing cattle within and adjacent to EO 76. As cattle may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites and habitat surrounding EO 76 is likely. In addition, annual livestock grazing in EO 76 from mid-April through May also has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering, as well as native forbs, native

grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Livestock use in spring may also result in trampling impacts to wet slickspot soils and subsequently to the seed bank. Continuation of annual spring grazing during the active growing period for native plants is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area. Therefore, effects from spring livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsites, biological soil crusts, and native forbs and grasses are reasonably certain to occur. These effects may be reduced by the low stocking rate within this allotment coupled with implementation of CA conservation measures, including no trailing of livestock through EOs when soils are saturated, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the McPherson Individual Allotment #00196. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 118 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Some trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains a portion of B-ranked EO 76 (greater than 2 ac), and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the McPherson Individual Allotment #00196 from the CA are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the stocking rate within this allotment is relatively low, and the remaining term of this action is relatively short (2 more years). CA conservation measures are also expected to reduce adverse effects to the slickspot peppergrass associated with livestock trampling. These conservation measures include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a high slickspot

peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (2 more years).

5.2.1.2.14. Melba Seeding Allotment #00868

Description of the Action Area

The Melba Seeding Allotment #00868 is located in T1N, R1W, T1S, R1W/2W and T2S, R1W and consists of 3,026 ac of Bureau and private lands. This allotment contains 790 ac of Bureau-administered occupied slickspot peppergrass habitat, including EO 18 in CCA MA 6. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit authorizes use by cattle only and consists of two pastures (Melba Seeding and Snake River Pastures). Only the 993-ac Melba Seeding Pasture contains slickspot peppergrass habitat. Since the Snake River Pasture supports no occupied slickspot peppergrass habitat, the following discussion will focus only on the Melba Seeding Pasture, which lies on the uplands north of the canyon and within a portion of CCA MA 6. In compliance with 2003 CCA requirement, a decision was issued in 2008 to incorporate conservation measures applicable to CCA MA 6 in the grazing permit for the Melba Seeding Allotment #00868. These measures included a requirement for dormant season grazing only in the Melba Seeding Pasture and a requirement that water and salt and supplements be placed at least 0.5 mi from existing EOs. Annual grazing in the Melba Seeding Pasture is now authorized from November 1 to February 15. This permitted action expires on September 30, 2019.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Melba Seeding Allotment #00868 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Melba Seeding Allotment #00868 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Melba Seeding Allotment #00868 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will supplement Federal and State agency surveys and monitoring by surveying the allotments or use areas for slickspots and slickspot peppergrass plants, including existing occurrences, during their normal course of business. Permittees will report survey information to the Conservation Data Center for the purposes of aiding monitoring efforts and contributing to the CA adaptive management strategy.

- Grazing within the Kuna MA will be limited to September 15 to February 15.
- Permittees operating within the Kuna MA will use only existing roads and tracks for vehicle travel.
- Permittee shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots, respectively. Supplements will be placed at least 0.5 mi, preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.
- Permittee will herd livestock away from priority EOs if the soils become moist or are *likely* to become saturated and will relocate livestock to one of three alternative sites (two of the alternative sites are fenced) away from existing priority EOs if soils become saturated and penetrating trampling is likely to occur.
- Permittee will not trail livestock through EOs when soils are saturated. Permittee will herd livestock away from priority EOs if soils become moist, and will relocate livestock if soils become saturated and penetrating trampling is likely to occur.

The only range improvements that have been constructed in the Melba Seeding Allotment #00868 are boundary fences and emergency stabilization and rehabilitation fences. No surface water exists in the Melba Seeding Pasture; livestock water and salt/supplements must be hauled in by truck to portable troughs. The Melba Seeding Pasture contains approximately 5.5 mi of pasture fence. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-180 through IV-183).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Melba Seeding Allotment #00868 contains 25 percent of EO 18 (approximately 229 ac) and is within the Snake River Plain physiographic region. HIP monitoring transect 18B is located within the allotment. Transect 18B of EO 18 exhibited plant numbers ranging from 298 to 1,585 individual plants over 5 years of HIP monitoring (Colket 2009, p. 31). Plant numbers at HIP transect 18B appear to have increased over the last 5 years of monitoring, although some variations in plant numbers have occurred that are likely due to environmental factors such as spring precipitation levels. The highest plant numbers in this HIP transect were observed in 2008 (1,585 plants), with the lowest plant numbers observed in 2006 (298 plants) (Colket 2009, p.31). The INHP has classified EO 18 as C-ranked.

Slickspot peppergrass occupied habitat for EO 18 is located partially within the boundaries of the Melba Seeding Allotment #00868. The 790 ac of Bureau-administered occupied and surrounding habitat in this allotment is dominated by exotic annuals (e.g., cheatgrass) with large inclusions of Wyoming big sagebrush.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 20 percent of the occupied habitat in the allotment contains native shrub habitat.

- Approximately 80 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment, although some opportunities may exist within the Melba Seeding Pasture.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Melba Seeding Allotment #00868 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Portions of slickspot peppergrass occupied habitat associated with EO 18 have burned several times in the past, including fires in the 1950s, 1980s, and 1990s. As a consequence, the occupied habitat associated with this allotment consists predominantly of invasive nonnative annual plants (primarily cheatgrass) with pockets of Wyoming big sagebrush.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 18 (transect 18B) ranging from about 3 to 26 percent cover. Whitetop was observed in 2006 in occupied habitat near HIP transect 18B.

Fire rehabilitation efforts were attempted in the late 1980s and met with limited success. Remnants of crested wheatgrass seedings remain from those rehabilitation efforts.

Based on annual grazing license applications and actual use reports from 1991–2000, historic livestock use has averaged 196 spring AUMs and 82 fall AUMs. Nonuse was taken in spring 1996 and fall 2000. The Melba Seeding Pasture currently supports only dormant season grazing. Most of the fall and winter precipitation occurs during this period, and as such, grazing could occur when soils are wet or moist. With dormant season grazing only, there is no potential for direct trampling of slickspot peppergrass plants, although the potential for trampling damage to slickspot microsites may still exist.

Levels of livestock feces cover within slickspots for EO 18 (transect 18B) were documented as less than 1 percent over 5 years of HIP monitoring. HIP monitoring data show levels of total livestock print cover between 0 and about 2 percent, with penetrating livestock hoof print cover in transect 18B ranging from 0 to 1.6 percent within slickspots. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at transect 18B in EO 18.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 20 percent of occupied habitat in the allotment contains native shrub habitat and 80 percent is dominated by invasive nonnative annual plants with minimal or no native shrub component. In contrast, most of the adjacent habitat in the allotment is composed of native shrub habitat with a small amount dominated by exotic annuals with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover within slickspots is between about 26 and 55 percent over 5 years of HIP monitoring in transect 18B. The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil

crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). Since much of the allotment is dominated by exotic annuals, including cheatgrass, it is anticipated that biological soil crust cover is lower throughout the allotment than within EO 18. Occupied habitat areas and surrounding areas within this allotment have lower levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass; therefore, biological soil crust cover is expected to be lower in the cheatgrass-dominated areas of the allotment. Site quality within EO 18 has ranged from fair to poor, and the area supports a high density of cheatgrass. Portions of the EO have been impacted by fire rehabilitation activities (Colket et al. 2006, p. 119).

HIP monitoring data indicate that percent native forb cover is low in EO 18 (less than 1 percent cover in the 2 years of available HIP monitoring data in transect 18B). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The vegetation in this allotment is fragmented due to past wildfires coupled with low native grass and forb understory diversity. The quality of the habitat for the slickspot peppergrass in EO 18 is rated as moderate since it supports a large plant population but exhibits degraded site conditions. The overall allotment habitat quality for the slickspot peppergrass is rated as low due to the lack of native forbs in the understory and the presence of invasive nonnative annual plants. In 1996, this area burned in a mosaic pattern.

Effects of the Action

The Melba Seeding Allotment #00868 is annually grazed by livestock between November 1 and February 15 when the risk of adverse impacts to slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging is low. Impacts to slickspot soils, the seed bank, and biological soil crusts from mechanical trampling damage would be lower as soils in southern Idaho are typically frozen during this time period and any above-ground biennial slickspot peppergrass plants present would be dormant. However, localized effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occasionally occur due to periodic thaws in winter when this pasture is grazed by cattle. For example, in February 2005, winter thaw resulted in some penetrating trampling at EO 68. Following this trampling event, individual slickspot peppergrass numbers were dramatically reduced at this site in 2005 and 2006. However, HIP monitoring has documented extremely low levels of hoof prints within slickspots over the past 5 years in the Melba Seeding Allotment #00868.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Whitetop, an Idaho noxious weed, can be dispersed by grazing cattle within and adjacent to EO 18. As livestock may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of invasive nonnative plants into slickspot microsites, habitat surrounding EO 18, and the 0.5-mi buffer habitat of EO 18 occupied habitat is likely.

Therefore, localized livestock-related effects to slickspot peppergrass in EO 18, inclusive of occupied habitat, are reasonably likely to occur based on the presence of whitetop in the area and the potential for weeds to spread through livestock use. However, effects within the Melba Seeding Allotment #00868 are expected to occur at a substantially reduced level due to the implementation of conservation measures to minimize livestock-related effects to slickspot peppergrass, including changing the season of cattle use in the Melba Seeding Pasture from spring to fall/winter and requiring that salt and supplements are placed at least 0.5 mi from existing EOs.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Melba Seeding Allotment #00868. No occupied habitat associated with the 0.5 mi pollinator buffer occurs on non-Federal lands within the boundaries of the allotment. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Limited trampling impacts and localized degradation of habitat conditions may occasionally occur with continued implementation of this action. The action area contains 25 percent of C-ranked EO 18 (about 229 ac), and has been categorized as having a medium conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Melba Seeding Allotment #00868 are likely to significantly reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include seasonal use restrictions that limit grazing to fall/winter in EO 18 when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. In addition, HIP monitoring has shown extremely low levels of hoof print cover within slickspots in this allotment. For these reasons, the action is compatible with maintaining a medium slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (9 more years).

5.2.1.2.15. Mountain Home Subunit Allotment #00813

Description of the Action Area

The Mountain Home Subunit Allotment #00813 is located in T1S, R8E; T2S, R6E/7E/8E; T3S, 6E/7E/8E; and T4S, R7E/8E. The allotment is divided into 19 pastures and consists of a mixture of Federal, State, and private lands totaling approximately 100,589 ac. This allotment contains 2,910 ac of Bureau-administered slickspot peppergrass occupied habitat, including EOs 29, 51,

and 62 in CCA MA 9. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The Mountain Home Subunit Allotment #00813 is grazed in common by 9 permittees, each having differing turnout and removal dates. The grazing permits allocate a total of 9,298 AUMs for spring and fall/winter use. Current grazing management consists of 6,046 AUMs of spring grazing from April 1 to June 30, although most permittees are off the allotment by June 15. A total of 3,252 fall AUMs are allocated from November 1 to December 31. The expiration date of the permitted action varies between February 28, 2009, and September 30, 2019, depending upon the individual permittee.

Livestock numbers fluctuate depending on annual precipitation and resulting vegetative production. Grazing permits provide for flexibility to annually adjust livestock numbers for a shorter period of use within the permitted use dates, staggered turnouts or removal, and increased opportunity for pasture management. This flexibility provides for better timing of use during critical growth periods. Some management agreements have been implemented, which separate permittees into defined management areas and pastures.

The allotment consists of 19 pastures of varying size. Some large areas within the allotment have degraded to the point where they now support only undesirable nonnative invasive annual plants (i.e., bur buttercup). These areas are rarely or never used for livestock grazing and may remain as such unless a large-scale rehabilitation project is implemented to restore the affected areas. On average, over the past several years the total AUMs allocated to the Mountain Home Subunit Allotment #00813 have not been available on a sustainable basis. Permittees have voluntarily used fewer than their allocated AUMs, and other AUMs have been placed in nonuse status for conservation purposes during the past 5–10 years.

Slickspot peppergrass occupied habitat is located in Pastures 6, 7, and 16 in the allotment. Slickspot peppergrass occupied habitat associated with EO 29 in Pasture 16 is grazed from April 1 to May 31 (321 AUMs) and November 1 to November 30 (41 AUMs) annually. Occupied habitat associated with EOs 29, 51, and 62 in Pastures 6 and 7 is permitted to be grazed from April 1 to June 30 (2,944 AUMs) and November 1 to December 31 (1,077 AUMs), although the permittee voluntarily grazes only one pasture once in a given year – either spring or fall but not both.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57–58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Mountain Home Subunit Allotment #00813 (Bureau 2009, p. IV-20). One exception is Management Guideline 4, listed in Table IV.D-2, which does not apply to this allotment and is substituted with the following direction:

- If soils are likely to become saturated, permittee will also relocate livestock away from the vicinity of existing EOs by moving livestock to one of three alternative sites (two of the alternative sites are fenced).

As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Mountain Home Subunit Allotment #00813 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Mountain Home Subunit Allotment #00813 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs when soils are saturated.
- Permittee shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots, respectively. Supplements will be placed at least 0.5 mi, preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

Numerous range improvements, such as boundary fences, pasture and fire rehabilitation fences, and water developments, are located on public land in the Mountain Home Subunit Allotment #00813. Surface water is limited on the allotment, and most livestock water and salt/supplements must be hauled in by truck to portable water troughs. Some well and pipeline systems, developed springs, and reservoirs are available for livestock use to facilitate livestock distribution. The closest of these is approximately 1.25 mi east of the edge of occupied habitat associated with EO 62 and includes a reservoir located at T04S, R08E, Sec. 08: NW¼; two stock watering troughs (not in use) at T04S, R08E, Sec. 06: NW¼; and one stock watering trough (not in use) at T04S, R08E, Sec. 08: NW¼. All of these improvements are located on public land. In addition, this allotment contains 154 mi of fence in this Allotment; 5.1 mi are in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-192 through IV-197).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Mountain Home Subunit Allotment #00813 contains all of EO 29 (approximately 103 ac), EO 51 (about 0.3 ac), and EO 62 (about 0.7 ac). The allotment is located within the Snake River Plain physiographic region. EO 29 exhibited plant numbers ranging from 161–360 plants in 2004 to 465 individual plants over 5 years of HIP monitoring (Colket 2009, p. 32). Transect 51A in EO 51 exhibited plant numbers ranging from 2 to 860 individual plants over 5 years of HIP monitoring, with numbers in transect 51B ranging from 4 to 60 plants (Colket 2009, p. 32). EO 62 exhibited plant numbers ranging from 0 to 297 individual plants over 4 years of HIP monitoring (Colket 2009, p. 32). Plant numbers appear to be slowly increasing at EO 29, with highest plant numbers being observed in 2008 (465 plants). In contrast, plant numbers appear to be decreasing at HIP transect 51B for EO 51 and at EO 62. The highest plant numbers in HIP transect 51B were observed in 2005 (60 plants), and all other years had 25 or less plants, with the lowest plant numbers observed in 2007 (4 plants). The highest plant numbers in HIP transect 62

in 4 years of HIP monitoring were observed in 2005 (297 plants), and all other years had less than 20 plants, with the lowest plant numbers observed in 2007 (0 plants). No obvious trends in are apparent in plant numbers at the HIP transect 51A for EO 51 over the 5 years of monitoring, and it is likely that these variations in plant numbers in some years are due to environmental factors such as spring precipitation levels. The highest plant numbers in HIP transect 51A were observed in 2005 (860 plants), with the lowest plant numbers observed in 2007 (2 plants). Plant numbers rebounded in 2008 (315 plants), although not to the high numbers observed in 2005 (Colket 2009, p.32). The INHP has classified EOs 29 and 62 as C-ranked and EO 51 as BC-ranked, which is intermediate between the B- and C-ranked EOs.

Slickspot peppergrass occupied habitat for EOs 29, 51, and 62 is located partially within the boundaries of the Mountain Home Subunit Allotment #00813. The 2,910 ac of Bureau-administered occupied and surrounding habitat in this allotment consists predominantly of Wyoming big sagebrush with large inclusions of exotic annuals (e.g., cheatgrass) and smaller inclusions of green rabbitbrush and perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 60 percent of the occupied habitat in the allotment contains native shrub habitat.
- Approximately 40 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Mountain Home Subunit Allotment #00813 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. At least some segment of the Mountain Home Subunit Allotment #00813 has burned in every decade for the last 50 years. The occupied habitat associated with EOs 29, 51, and 62 was most heavily impacted by wildfire in the 1950s and 1980s. Despite the fire history, large areas of Wyoming big sagebrush still occur within the occupied habitat associated with these EOs. However, most of these areas are interspersed with pockets of exotic annuals. Some level of fire rehabilitation has taken place in various portions of the allotment.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EOs 29, 51, and 62 ranging from less than 1 to about 29 percent cover (EO 29 = 4–29 percent; transect 51A of EO 51 = 1–4 percent; transect 51B of EO 51 = 1–2 percent; and EO 62 = 2–7 percent). In 2001, an infestation (1–5 ac) of Scotch thistle was observed in occupied habitat associated with EO 51. An infestation (1 ac) of diffuse knapweed was observed approximately 1.5 mi west of EO 51 in 2002. Additionally, an infestation of rush skeletonweed (0.1–1.0 ac) was observed approximately 3.0 mi north of EO 51 in 2002. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37–49). Rush skeletonweed has continued to

spread throughout the Snake River Plain over the last few years and the likelihood that it will spread throughout areas of the Mountain Home Subunit Allotment #00813 in the future is high.

The Mountain Home Subunit Allotment #00813 supports spring and fall/winter grazing. The conservation measures currently in place help minimize potential negative effects to slickspot peppergrass and its habitat. In addition, the permittee who uses Pastures 6 and 7 voluntarily grazes only one pasture once in a given year – either spring or fall but not both, further reducing the risk of trampling damage to individual slickspot peppergrass plants and slickspot microsites during periods of saturated soils or when plants are flowering. However, trampling damage to individual slickspot peppergrass plants and slickspot microsites is likely to occur.

Levels of livestock feces cover within slickspots for EOs 29, 51, and 62 were documented as less than 1 percent over 5 years of HIP monitoring. HIP monitoring data for EOs 29, 51, and 62 show levels of total livestock print cover as between 0 and about 6 percent, with the majority of years having no hoof prints observed within slickspots. Penetrating livestock hoof print cover for EOs 29, 51, and 62 was documented as ranging from 0 to 5.7 percent within slickspots. Only one transect in one year (transect 51B in 2005) had penetrating hoof print cover greater than 2 percent, and the majority of years had 0 percent penetrating hoof print cover. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at EOs 29, 51, and 62.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 60 percent of occupied habitat in the allotment contains native shrub habitat and 40 percent is dominated by invasive nonnative annual plants with minimal or no native shrub component. In contrast, approximately 25 percent of the acreage in the allotment contains native shrub habitat, and approximately 75 percent is dominated by exotic annuals with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover within slickspots is between about 17 and 64 percent over 5 years of HIP monitoring in EOs 29, 51, and 62. The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As much of the allotment is dominated by exotic annuals, including cheatgrass, it is anticipated that biological soil crust cover is lower throughout the allotment than within EOs 29, 51, and 62. Occupied habitat areas and surrounding areas within this allotment have lower levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass; therefore, biological soil crust cover is expected to be low in the cheatgrass-dominated areas of the allotment.

HIP monitoring data indicate that percent native forb cover is low in EOs 29, 51, and 62 (0.1 percent to about 5 percent in the 2 years of available HIP monitoring data, with half of the years having less than 1 percent cover). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. EO quality within the Mountain Home Subunit Allotment #00813 is

moderate to high, although overall habitat quality for the slickspot peppergrass in the allotment is low to moderate due to low shrub cover, low native understory diversity, and the presence of invasive and noxious weeds. The allotment is dominated by cheatgrass with pockets of sagebrush and is highly fragmented due to past wildfires.

Effects of the Action

The Mountain Home Subunit Allotment #00813 is permitted for annual grazing by cattle from April 1 through June 30 in the areas containing EOs 29, 51, and 62. However, in Pastures 6 and 7 where EOs 51 and 62 are located (along with a portion of the 0.5 ac pollinator buffer for EO 29), the permittee voluntarily grazes only one pasture once in a given year – either spring or fall but not both. In addition, livestock are not herded through EOs during periods when soils are saturated. Although these conservation measures would reduce potential livestock-related impacts to the slickspot peppergrass in this allotment, direct effects from localized livestock trampling on individual slickspot peppergrass plants, the seed bank, and slickspot microsites may occur. Livestock grazing that occurs annually in EO 29 and in alternate years in either EO 51 or in EO 62 from April through June has the potential to trample individual annual and biennial slickspot peppergrass plants that are actively growing and flowering and may also impact biological soil crusts through trampling. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. As very low levels of livestock hoof prints have been documented in slickspots within the allotment, direct effects related to livestock trampling to individual slickspot peppergrass plants, the seed bank, slickspot microsites, or biological soil crusts are expected to be minimal, although some localized adverse effects may still occur.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Diffuse knapweed, rush skeletonweed, and Scotch thistle—all Idaho noxious weeds—have been documented near EO 51 and can be dispersed by grazing cattle within and adjacent to EOs in the allotment. As cattle may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites and habitat surrounding EOs is likely. In addition, annual livestock grazing in EOs 29, 51, and 62 from April through June has the potential to impact native forbs, which are an important habitat component for slickspot peppergrass. Continual spring grazing during the critical growth period for native grasses and forbs affects plant vigor and overall health. Over time, without rest or deferment scheduled into the grazing management rotations, range condition can decline. Continuation of annual spring grazing during the active growing period for native plants in EO 29 (Pasture 12) is expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area. Therefore, localized effects from spring livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsites, and native forbs are reasonably certain to occur. Effects associated with livestock

grazing have been reduced by implementing conservation measures in the allotment, including alternating spring livestock use between Pastures 6 and 7, placing salt and supplements at least 0.5 mi from EOs, and avoiding trailing livestock through EOs when soils are saturated.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Mountain Home Subunit Allotment #00813. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 14 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67--68 under Black Canyon Allotment #00176.*

Overview of Effects

Limited trampling impacts and continued localized degradation of habitat conditions are expected to occur with continued implementation of this action. The action area contains BC-ranked EO 51 (less than 1 ac), and C-ranked EOs 29 and 62 (103 ac and 1 ac, respectively); and has a medium to high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Mountain Home Subunit Allotment #00813 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because HIP monitoring has documented very low levels of livestock hoof prints within slickspots in this allotment, indicating livestock use in the vicinity of EOs is relatively low; and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include alternating spring grazing use between Pastures 6 and 7 (reducing potential impacts to EOs 51 and 62), no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium to high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (up to 9 more years depending on the individual permittee).

5.2.1.2.16. Reverse Allotment #00873

Description of the Action Area

The Reverse Allotment #00873 is located on the north side of the Snake River, approximately 11 mi southeast of Mountain Home, Idaho, and approximately 8 mi northwest of Hammett, Idaho. The allotment is located in T5S, R7E/8E and T6S, R7E and consists of approximately

11,236 ac of public and private land divided into nine pastures. Out of the 10,556 ac of public land in the Reverse Allotment #00873, 712 ac are slickspot peppergrass occupied habitat, which contains EO 61 and EO 10, both outside of any currently delineated slickspot peppergrass management areas. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit allocates 905 spring AUMs and 1,092 fall/winter AUMs. Current grazing management consists of spring grazing from March 1 to May 31 and fall/winter grazing from November 1 to February 28. A 2008 grazing decision implemented a shorter spring grazing season and a modified deferred rotation grazing system for the three perennial pastures in the allotment (Pastures 7, 8, and 9). Pastures 3, 5, 6, 7, and 8 contain areas that have been seeded following wildfires. This permitted action expires on February 28, 2018.

Authorized seasons of use in annual pastures (Pastures 1–6) are spring (March 1–May 31) and fall/winter (November 1–February 28). Individual annual pastures will be grazed during only 2 of the 3 months of the spring season. The 1 month rest or deferment will occur in a different 30-day period during any 2 consecutive spring grazing seasons. The permittee may defer use of any annual pasture to the dormant season in any year. Actual pasture rotations will be developed and agreed to prior to turnout.

Slickspot peppergrass occupied habitat for EO 61 is located in Pastures 3 and 7. Pasture 9 includes slickspot peppergrass occupied habitat for EO 10.

The Assessment does not indicate that the terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57–58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Reverse Allotment #00873 (Bureau 2009, p. IV-20). However, as stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Reverse Allotment #00873 (Bureau 2009, p. IV-21).

Terms and conditions for the Reverse Allotment #00873 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to the Boise District range readiness criteria.
- Permittee shall place salt/supplements at least 0.5 mi from slickspots and playas identified to support or have supported slickspot and Davis peppergrass (*Lepidium davisii*), respectively, to minimize trampling. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

- If monitoring shows that livestock management practices are not adequately protecting slickspot peppergrass populations and habitats, measures will be taken, including fence construction, to restrict livestock access to affected areas.
- Permittee will supplement Federal and State agency surveys and monitoring by surveying their allotments or use areas for slickspots and slickspot peppergrass plants, including existing occurrences, during their normal course of business. Permittee will report survey information to the IDCDC to aid monitoring efforts and contribute to the CA adaptive management strategy.

Range improvements in this allotment include a corral, cattle guards, gates, and boundary fences. If overall livestock management does not effectively restrict livestock effects in slickspot peppergrass populations and habitats, a fence will be constructed in Sec. 11, T 5S, R 7E to exclude livestock from identified slickspot peppergrass habitat in Pastures 7 and 9. The fence location and area excluded from grazing will be based on the needs of the affected slickspot peppergrass EO and habitat.

Other than Pasture 4, which borders the Snake River, no surface water exists on the public lands in the Reverse Allotment #00873. Therefore, livestock water and salt/supplements must be hauled in by truck to portable troughs or are sometimes available on adjacent private land. This allotment contains approximately 16 mi of fence; 5 mi occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-207 through IV-211).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Reverse Allotment #00873 contains all of EO 10 (0.2 ac) and EO 61 (about 15 ac), both located in the Snake River Plain physiographic region. EO 10 is located within Pasture 9, while EO 61 is located within Pasture 7 of the Reverse Allotment #00873 (Bureau 2009, see Allotment map in the Assessment). EO 10 was documented as containing 0 plants over 5 years of HIP monitoring, while EO 61 exhibited plant numbers ranging from 72 to 625 individual plants over 5 years of HIP monitoring (Colket 2009, p. 32). Plant numbers at the HIP transect for EO 61 over the 5 years of monitoring showed a steady decline from 2004—2007, but subsequently increased in 2008 (268 plants). The highest plant numbers in this HIP transect were observed in 2004 (625 plants), with the lowest plant numbers observed in 2007 (71 plants) (Colket 2009, p.32). The INHP has classified EO 61 as C-ranked and EO 10 as D-ranked.

The slickspot peppergrass occupied habitat 0.5 mi pollinator buffer for EOs 10 (Pasture 9) and 61 (Pastures 3 and 7) is located within the boundaries of the Reverse Allotment #00873. The 712 ac of Bureau-administered occupied habitat, as well as the surrounding habitat in this allotment, is dominated by exotic annuals (e.g., cheatgrass) with scattered pockets of Wyoming big sagebrush and a few isolated pockets of perennial bunchgrasses and crested wheatgrass seedings.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 40 percent of occupied habitat in the allotment contains native shrub habitat.
- Approximately 42 percent of occupied habitat in the allotment is private agricultural land.
- Approximately 18 percent of occupied habitat in the allotment is dominated by exotic annuals with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Reverse Allotment #00873 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. At least some segment of the Reverse Allotment #00873 has burned in every decade for the last 50 years. The heaviest damage to occupied habitat occurred in the 1950s, 1970s, and 1980s. Despite the fire history, the majority of occupied habitat on Bureau lands in this allotment consists of pockets of Wyoming big sagebrush interspersed with stands of exotic annuals. Because of the uncertainty of spring precipitation, fire rehabilitation efforts undertaken in the past have met with limited success, as evidenced by the current condition of crested wheatgrass seedings.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 10 ranging from about 19 to 54 percent cover, with about 2 to 10 percent cover of invasive nonnative plants documented in EO 61. Rush skeletonweed, diffuse knapweed, perennial pepperweed, and Scotch and Canada thistle have been detected in the allotment. Chemical treatments have occurred on diffuse knapweed, Scotch thistle, and perennial pepperweed in accordance with guidelines stipulated in the CCA. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37–49). Rush skeletonweed has continued to spread throughout the Snake River Plain over the last few years and the likelihood that it will spread throughout the allotment is high.

The Reverse Allotment #00873 supports spring and fall/winter grazing. The 2003 CCA contains LEPA Consideration Zone-wide conservation measures specific to livestock grazing that are applicable to the Reverse Allotment#00873 to help minimize potential negative effects to slickspot peppergrass and its habitat. However, trampling damage to individual slickspot peppergrass plants and slickspot microsites is likely to occur.

Levels of livestock feces cover within slickspots for EOs 10 and 61 were documented as less than 1 percent cover over 5 years of HIP monitoring. EO 10 HIP monitoring documented levels of total livestock hoof print cover ranging from 0 to 1 percent, with penetrating trampling cover documented as 0 to 0.1 percent cover. EO 61 HIP monitoring documented levels of total livestock hoof print cover ranging from 0 to 9.6 percent, with penetrating trampling cover documented as 0 to 4.4 percent. The penetrating trampling trigger has never been tripped in the 5 years of HIP monitoring at EOs 10 and 61.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite

imagery and HIP monitoring photos, approximately 40 percent of slickspot peppergrass occupied habitat in the allotment contains native shrub habitat, 42 percent is private agricultural land, and 18 percent is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover is low to high within slickspots (about 3 to 24 percent cover in EO 10 and about 11 to 57 percent cover in EO 61 over 5 years of HIP monitoring). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As at least 42 percent of the slickspot peppergrass occupied habitat in the allotment is dominated by low levels of shrub cover and high cheatgrass cover, these areas are expected to have low biological soil crust cover.

HIP monitoring data indicate that percent native forb cover is low in EOs 10 and 61 (0.1 percent cover and 1.3 percent cover in the 1 year of available HIP monitoring data). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The overall quality of the habitat for the slickspot peppergrass in the allotment is categorized as low due to the low shrub cover, presence of noxious and invasive weeds, proximity to heavily disturbed agricultural lands, and reduced incidence of native understory plants in remnant sagebrush stands.

Effects of the Action

Because conservation measures implemented in the Reverse Allotment #00873 allow for spring grazing in EOs 10 and 61 every other year rather than annually, the risk of adverse impacts associated with livestock trampling in these EOs is reduced. However, it is anticipated that localized effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occur every other year when the pastures containing EOs 10 and 61 are grazed over a 2-month period between March 1 and May 31. During this time, plants, including the slickspot peppergrass, are actively growing and soils are at a higher risk of being wet in southern Idaho. Diversity and cover of the remaining small pockets of native grasses and forbs may also be further reduced during the alternate years when spring grazing occurs, although alternate years with fall/winter grazing would allow for improved native grass and forb vigor and seed set.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Localized introduction of other invasive nonnative plants into slickspot microsites, habitat surrounding EOs 10 and 61, and occupied habitat for both EOs is likely through the ongoing action. Effects are reasonably likely to occur based on the presence of rush skeletonweed, diffuse knapweed, perennial pepperweed, and Scotch and Canada thistle and the potential for these weeds to spread through livestock use. Chemical treatment of these weeds using CCA conservation measures may have served to reduce but not eliminate localized adverse effects

associated with potential livestock-related spread of noxious weeds in the allotment. Therefore, effects to the slickspot peppergrass and its habitat associated with localized livestock trampling and dispersal of weed propagules are reasonably likely to occur. However, livestock-related effects would occur at a reduced level due to the implementation of conservation measures in the Reverse Allotment #00873, including changing the season of livestock use in pastures containing EOs to fall/winter use every other year.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Reverse Allotment #00873. No occupied habitat associated with the 0.5 mi pollinator buffer occurs on non-Federal lands within the boundaries of the allotment. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and localized degradation of habitat conditions are expected to occur every other year with continued implementation of this action. The action area contains C-ranked EO 61 (less than 1 ac) and D-ranked EO 10 (less than 1 ac); and has been categorized as having a medium conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Reverse Allotment #00873 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include seasonal use restrictions that limit grazing to fall/winter every other year in EOs 61 and 10 when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (8 more years).

5.2.1.2.17. Southeast Alkali Seeding Allotment #01129

Description of the Action Area

The Southeast Alkali Seeding Allotment #01129 is located approximately 4 mi northwest of Glens Ferry, Idaho, in T5S, R9E. This allotment consists of only one pasture containing approximately 898 ac of Federal land. This allotment contains 840 ac of Bureau-administered slickspot peppergrass occupied habitat, including part of EO 26 in CCA MA 10. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The Southeast Alkali Seeding Allotment #01129 grazing permit allocates 114 spring cattle AUMs and 121 fall cattle AUMs, which equates to about 3.8 ac/AUM. Current management consists of annual spring grazing from April 1 to June 30 and annual fall/winter grazing from October 15 to December 31. This permitted action expires on August 31, 2014.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Southeast Alkali Seeding Allotment #01129 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Southeast Alkali Seeding Allotment #01129 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Southeast Alkali Seeding Allotment #01129 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/ supplements to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

The only range improvements that have been constructed in this allotment are boundary fences. Limited surface water exists in the Southeast Alkali Seeding Allotment #01129; most livestock water and salt/supplements must be hauled in by truck to portable troughs or are available on adjacent private land. Surface water may be available seasonally in Alkali Creek. This allotment contains 4.8 mi of fence; 3.9 mi occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-300 through IV-302).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Southeast Alkali Seeding Allotment #01129 contains 2 percent of EO 26 (approximately 14 ac), which is located within the Snake River Plain physiographic region. No HIP transects are located within this allotment, therefore no HIP monitoring data specific to this allotment are available for this analysis. The INHP has classified EO 26 as B-ranked.

The slickspot peppergrass occupied habitat 0.5 mi pollinator buffer for EO 26 is located partially within the boundaries of the Southeast Alkali Seeding Allotment #01129. The 840 ac of Bureau-administered occupied habitat in this allotment is dominated by exotic annuals (e.g., cheatgrass) with pockets of Wyoming big sagebrush and perennial bunch grasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 15 percent of the occupied habitat in the allotment contains native shrub habitat.
- Approximately 85 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Southeast Alkali Seeding Allotment #01129 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Fires burned through the area in the 1970s and 1980s, and as a consequence, the majority of the allotment is dominated by exotic annuals interspersed with pockets of Wyoming big sagebrush. Past fire rehabilitation efforts have met with limited success in reestablishing a native or ecological equivalent shrub/grass/forb community.

Two noxious weed species have been documented on the edge of the slickspot peppergrass occupied habitat 0.5 mi pollinator buffer in this allotment: Scotch thistle (documented in 1996–1999) and diffuse knapweed (documented in 2005). Both infestations have been chemically treated.

The Southeast Alkali Seeding Allotment #01129 supports spring and fall/winter grazing. The conservation measures currently in place help minimize potential negative effects to slickspot peppergrass and its habitat. However, trampling damage to individual slickspot peppergrass plants and slickspot microsites from permitted livestock use is likely to occur.

This allotment is currently allocated at less than 4 ac/AUM when all AUMs are activated. During 1999, 2001, and 2002, the permittee took nonuse and did not graze the allotment. In other years, not all of the 235 AUMs are activated and partial nonuse is taken during these years. Given that the allotment currently supports mostly exotic annuals interspersed with pockets of sagebrush, depending on the year and the level of production from cheatgrass, the full level of grazing (activation of all AUMs allocated) may not be possible during low cheatgrass production years and will have negative impacts on existing slickspot peppergrass and its habitat.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 15 percent of slickspot peppergrass occupied habitat in the allotment contains native shrub habitat, and 85 percent is dominated by invasive

nonnative annual plants with minimal or no native shrub component. Similarly, most of the allotment is dominated by invasive nonnative annual plants, primarily cheatgrass, with minimal or no native shrub component.

Effects of the Action

The Southeast Alkali Seeding Allotment #01129 is annually grazed by livestock between April 1 and June 30 and October 15 to December 31. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. Although no HIP data are available for the allotment, based on HIP monitoring data from other allotments analyzed within this Opinion, it is anticipated that livestock trampling effects to individual slickspot peppergrass plants, slickspot microsites, and the seed bank are reasonably likely to occur due to annual spring grazing in the area containing a portion of EO 26 (about 14 ac). In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Spring livestock grazing in occupied habitat for EO 26 also occurs when the potential for impacts to actively growing and flowering annual and perennial native forbs from livestock herbivory would be highest. Annual spring grazing is expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Localized introduction of other invasive nonnative plants into slickspot microsites and the habitat surrounding EO 26 through continuation of the ongoing action is likely. Due to the current limited shrub cover within the allotment, it is also anticipated that livestock use could result in some impacts to shrub cover, an important habitat component for slickspot peppergrass. Effects are reasonably likely to occur based on the presence of diffuse knapweed and Scotch thistle in the allotment, coupled with the potential for these weeds to spread through livestock use. Chemical treatment of these weeds using CCA conservation measures may have served to reduce but not eliminate localized adverse effects associated with potential livestock-related spread of noxious weeds in the allotment. The frequency and intensity of livestock-related adverse effects on the slickspot peppergrass are unknown as no monitoring transects are located within this allotment; however, based HIP monitoring data from adjacent allotments, it is likely that some level of livestock-related adverse effects occur each year during annual spring grazing. Therefore, effects of livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs are reasonably certain to occur. To a lesser extent, livestock-related effects may also occur to shrub cover. Effects have been reduced by implementing conservation measures in the allotment, including chemically treating noxious weeds and avoiding livestock trailing through EOs when soils are saturated.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Southeast Alkali Seeding Allotment #01129. No occupied habitat associated with the 0.5 mi pollinator buffer occurs on non-Federal lands within the boundaries of the allotment. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 2 percent of B-ranked EO 26 (about 14 ac); based on degraded condition of habitat within the allotment coupled with the small acreage of EO 26 located in the action area, the allotment has been categorized as having a medium to high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Southeast Alkali Seeding Allotment #01129 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years); the allotment contains only 2 percent of EO 26 (about 14 ac), limiting the extent of adverse effects on this B-ranked EO. In addition, slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium to high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.18. SW Alkali Seeding Allotment #01030

Description of the Action Area

The SW Alkali Seeding Allotment #01030 is located in T4S, R9E, Sec. 33 and T5S, R9E, Secs. 4, 5, and 9 and consists of 1,131 ac: 1,066 ac of Bureau land and 65 ac of private land. This allotment contains 854 ac of slickspot peppergrass occupied habitat, including part of EO 26 in CCA MA 10. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current grazing permit for the SW Alkali Seeding Allotment #01030 allocates 170 spring AUMs on public land. The allotment is comprised of a single pasture. Current grazing

management consists of annual spring grazing from March 25 to May 31. This permitted action expires on August 31, 2014.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the SW Alkali Seeding Allotment #01030 (Bureau 2009, p. IV-20). As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the SW Alkali Seeding Allotment #01030 (Bureau 2009, p. IV-21).

Additional terms and conditions for the SW Alkali Seeding Allotment #01030 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/supplements to minimize trampling of slickspot peppergrass and of slickspots, respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.

The only range improvements in the SW Alkali Seeding Allotment #01030 are fences. No surface water exists on the public lands in the allotment; all livestock water and salt/supplements must be hauled in by truck to portable troughs or are available on adjacent private lands. This allotment contains 6.4 mi of fence, all of which occur in occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-391 through IV-393).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The SW Alkali Seeding Allotment #01030 contains 52 percent of EO 26 (about 360 ac), which is located within the Snake River Plain physiographic region. No HIP monitoring transects are located within the allotment, so no allotment-specific data are available for the SW Alkali Seeding Allotment #01030. The INHP has classified EO 26 as B-ranked.

Occupied habitat for EO 26 is located partially within the boundaries of the SW Alkali Seeding Allotment #01030. The 854 ac of Bureau-administered occupied habitat in this allotment is dominated by exotic annuals with pockets of Wyoming big sagebrush, perennial bunchgrasses, and shadscale.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 5 percent of occupied habitat in the allotment contains native shrub habitat.

- Approximately 95 percent of occupied habitat in the allotment is dominated by exotic annuals with minimal or no native shrub component.

Based on the above information, there is a low potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the SW Alkali Seeding Allotment #01030 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Because no HIP transects are currently located in this allotment, no allotment-specific HIP data are available to evaluate potential effects from factors such as levels of livestock trampling or levels of exotic plants within slickspots. Data from HIP transects located in adjacent allotments were reviewed for general trend and environmental baseline parameters in the vicinity but may not be applicable to this allotment due to variations in grazing management between different livestock permits.

Slickspot peppergrass occupied habitat associated with EO 26 burned in the 1980s, and as a consequence, the majority of the allotment is dominated by exotic annuals interspersed with pockets of Wyoming big sagebrush and bunchgrasses. No infestations of noxious weeds are currently known within the allotment. However, at least one infestation of Scotch thistle was known to occupy an area 0.5 mi east of the allotment between 1996 and 1999. This site was chemically treated during those years.

The SW Alkali Seeding Allotment #01030 supports spring grazing only. The conservation measures currently in place help minimize potential negative effects to slickspot peppergrass and its habitat. No HIP livestock hoof print monitoring data exist for this allotment. However, given that the SW Alkali Seeding Allotment #01030 supports livestock grazing only in the spring, which is the period in southwest Idaho when soils are most likely to be wet, it seems likely that livestock trampling effects may occur on individual plants and slickspot microsites. Therefore, trampling damage to individual slickspot peppergrass plants and slickspot microsites is likely to occur.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 5 percent of slickspot peppergrass occupied habitat in the allotment contains native shrub habitat, and 95 percent is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component. The overall habitat quality in the allotment is categorized as low due to low shrub cover, low native understory diversity, presence of invasive weeds, and proximity to heavily disturbed agricultural lands.

Although not specifically addressed in the Assessment, the Service contends that biological soil crust cover in the SW Alkali Seeding Allotment #01030 is likely to be low. In areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As 95 percent of the occupied habitat in the allotment is dominated by low levels of shrub cover and high cheatgrass cover, these areas are expected to have low biological soil crust cover. The Assessment indicates that vegetation communities

within the allotment are limited in native forb cover in the understory. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

Effects of the Action

The SW Alkali Seeding Allotment #01030, which contains a portion of EO 26, is annually grazed by livestock from March 25 to May 31. While livestock are not herded through EO 26 during periods when soils are saturated, direct effects from localized livestock trampling on individual slickspot peppergrass plants, the seed bank, and slickspot microsites are likely to occur. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Scotch thistle, an Idaho noxious weed, can be dispersed by grazing cattle within and adjacent to EO 26. As cattle may spread nonnative plant propagules from previously grazed areas (in some cases outside of Idaho), introduction of other invasive nonnative plants into slickspot microsites and the habitat surrounding EO 26 is likely. In addition, annual livestock grazing in EO 26 from April through May has the potential to impact individual annual and biennial slickspot peppergrass plants that are actively growing and flowering, as well as native forbs, native grasses, and biological soil crusts, all important habitat components for slickspot peppergrass. Livestock use in spring may also result in trampling impacts to slickspot soils, which are more likely to be wet in spring, and subsequently to the seed bank. Due to the current limited shrub cover within the allotment, it is also anticipated that livestock use could result in some impacts to remaining shrub cover. Continuation of annual spring grazing during the active growing period for native plants is also expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area. Therefore, effects from spring livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsites, biological soil crusts, and native forbs and grasses are reasonably certain to occur. Effects associated with livestock grazing have been reduced by implementing conservation measures in the allotment, including chemically treating noxious weeds and avoiding trailing livestock through EO 26 when soils are saturated.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the SW Alkali Seeding Allotment #01030. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 3 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects

occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 52 percent of B-ranked EO 26 (about 360 ac); based on degraded condition of habitat within the allotment, the action area has been categorized as having a medium to high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the SW Alkali Seeding Allotment #01030 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years); and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium to high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.19. Spring Valley Allotment #00278

Description of the Action Area

The Spring Valley Allotment #00278 is located in T5N, R1W/1E/2E and T6N, R1E/2E/3E. The allotment totals 52,834 ac: 8,113 ac are Bureau land; 12 ac are USFS land; 41,919 ac are private land; and 2,790 ac are State land. Portions of EO 108 occur within the allotment. This allotment contains 886 ac of slickspot peppergrass occupied habitat associated with EO 76 and 1,082 ac of slickspot peppergrass occupied habitat associated with EO 108, both of which are located in CCA MA 2C. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The Spring Valley Allotment #00278 has two current grazing permits that allocate 696 cattle AUMs from April 1 to October 31 and 152 sheep AUMs from April 1 to May 28 on Bureau land.

An additional 155 AUMs are allocated on State land and 2,062 AUMs are associated with private land. This permitted action expires on February 28, 2013.

Sheep are only grazed in the Crumley Gulch Pasture, which contains no potential or occupied habitat. Thus, potential grazing-related effects to slickspot peppergrass or its habitat are restricted to the cattle permittee, who is allowed to graze in the allotment anytime between April 1 and October 31.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion) do not apply to the Spring Valley Allotment #00278 (Bureau 2009, p. IV-20). The 185 ac of occupied habitat in the Spring Valley Allotment #00278 are associated with EO 76 in the adjacent McPherson Individual Allotment #00196. In spring 2006, the slickspot peppergrass CCA was modified to include CCA MA 2C, which incorporated the recently discovered EO 76. To date, the grazing permit has not been modified to incorporate slickspot peppergrass conservation measures identified for CCA MA 2C. However, it is the Service's expectation that conservation measures in the CA are fully applicable to the allotment, and include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass.

In 2007 and 2008, inventories of potential habitat areas within the Little Gulch Pasture documented occupied slickspots. This occupied habitat was designated as new EO 108. Occupied habitat associated with EO 108 within the Spring Valley Allotment #00278 comprises 661 ac of Bureau-administered land. No HIP data is currently available for this EO.

The only range improvements that have been constructed in this allotment are boundary fences. Limited surface water exists in the Spring Valley Allotment #00278; most livestock water and salt/supplements must be hauled in by truck to portable troughs or are available on adjacent private land. This allotment contains 1.2 mi of fence in slickspot peppergrass occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-308 through IV-310).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Spring Valley Allotment #00278 contains EO 108 (current Bureau-administered acreage unknown), which is located within the Boise Foothills physiographic region. A portion of B-ranked EO 76 (acreage unknown) also occurs in the allotment. The INHP has classified EO 108 as BC-ranked. No HIP transects are located within this allotment, therefore no allotment-specific HIP monitoring data are available for this analysis.

The slickspot peppergrass occupied habitat 0.5 mi pollinator buffers for EO 76 and EO 108 are located partially within the boundaries of the Spring Valley Allotment #00278. The 846 ac of Bureau-administered occupied habitat in this allotment consists predominantly of a mixture of

Wyoming big sagebrush and exotic annuals, with smaller inclusions of bitterbrush and perennial bunchgrasses.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 75 percent of the occupied habitat in the allotment contains native shrub habitat.
- Approximately 25 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Spring Valley Allotment #00278 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. A portion of the slickspot peppergrass occupied habitat associated with EO 76 burned in the 1990s, and as a consequence, much of the occupied habitat in the immediate vicinity of the EO is dominated by invasive nonnative annual plants (e.g., cheatgrass) interspersed with pockets of Wyoming big sagebrush and rabbitbrush. Overall, however, approximately 75 percent of the occupied habitat in the Spring Valley Allotment #00278 still contains native shrubs.

No populations of noxious weeds are currently known in slickspot peppergrass occupied habitat associated with EO 76. However an infestation (1–5 ac) of Russian knapweed was located and chemically treated approximately 0.75 mi north of the EO in 2004.

The Spring Valley Allotment #00278 supports spring and early fall grazing. Slickspot peppergrass conservation measures in the CA applicable to the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. These conservation measures are expected to reduce but not eliminate annual trampling damage to individual slickspot peppergrass plants and slickspot microsites.

Many of the private lands adjacent to EO 76 and EO 108 have been or are currently being subdivided. The area is popular with horseback riders and is used for recreation, including off-road vehicles. Increasing development places additional off-site demands on adjacent or nearby public lands, especially from a recreational perspective. The demand for easily accessible recreation areas in general and OHV use areas in particular will continue to increase as the population increases. In addition to recreational use, the City of Eagle plans to build a water storage tank just east of the road on the eastern edge of EO 76. Increased human presence in the area also increases the likelihood of fire with an associated loss of native vegetation and subsequent exotic plant invasion. These factors will place additional demands on slickspot

peppergrass and its habitat and may lead to further degradation of slickspot peppergrass habitat across its range.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 75 percent of slickspot peppergrass occupied habitat in the allotment contains native shrub habitat, and 25 percent is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component. In contrast, 50 percent of the allotment contains native shrub habitat, and 50 percent is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component.

Effects of the Action

The Little Gulch Pasture of the Spring Valley Allotment #00278, which contains EO 108 and slickspot peppergrass occupied habitat for both EO 76 and EO 108, is annually grazed by cattle between April 1 and October 31. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. Although no HIP data are available for the allotment, based on HIP monitoring data from other allotments analyzed within this Opinion, it is anticipated that livestock trampling effects to individual slickspot peppergrass plants, slickspot microsites, and the seed bank are reasonably likely to occur due to annual spring grazing in the area containing EO 108. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Spring livestock grazing in occupied habitat for EO 108 also occurs when the potential for impacts to actively growing and flowering annual and perennial native forbs from livestock herbivory would be highest. Annual spring grazing is expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Localized introduction of other invasive nonnative plants into slickspot microsites and the habitat surrounding EO 108 is likely to occur through the ongoing action. Therefore, effects of livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs are reasonably certain to occur. However, adverse effects are likely to be reduced because the remaining term of the action is relatively short (3 more years) and CA conservation measures to reduce adverse impacts to the slickspot peppergrass will be implemented.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

A portion of BC-ranked EO 108 is located on private lands (about 0.5 ac) within the boundaries of the Spring Valley Allotment #00278. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 0 ac of State land and 744 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67--68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains BC-ranked EO 108 (about 4 ac), and a portion of B-ranked EO 76 (area unknown), and has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Although the Assessment indicates that no conservation measures are currently being implemented within the Spring Valley Allotment #00278 to reduce localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat, it is the Service's expectation that slickspot peppergrass conservation measures from the CA are being implemented in this allotment. However, current habitat conditions are likely to be maintained over the majority of the action area primarily because the remaining term of this action is relatively short (3 more years). In addition, slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (3 more years).

5.2.1.2.20. Squaw Creek Allotment #00886

Description of the Action Area

The Squaw Creek Allotment #00886 is located between the Union Pacific railroad tracks and Simco Road, approximately 8.5 mi northwest of Mountain Home, Idaho. The allotment is located in T2S, R5E, T3S, R4E/5E/6E and T4S, R4E/5E and consists of six pastures totaling approximately 17,570 ac of Federal, State, and private land. This allotment contains 470 ac of slickspot peppergrass occupied habitat, including EO 2 within CCA MA 9A and EO 21 within CCA MA 9B. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion

will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The current cattle grazing permit for the Squaw Creek Allotment #00886 allocates 2,001 AUMs from April 1 through June 30 and 971 fall/winter AUMs from November 1 through January 5, which equates to less than 6 ac/AUM. Annual determinations about where grazing should occur are primarily based on the permittee's spring and fall use needs, taking into account range readiness. If a pasture is grazed in the spring, it is not grazed again in the fall of the same calendar year. However, no set pasture rotation is in place, and several of the pastures are used at the same time each spring. Over the past several years, the permittee has utilized substantially fewer AUMs than authorized due to reduced forage production. The Squaw Creek Allotment #00886 contains slickspot peppergrass occupied habitat only within the Rock House East Pasture (EO 2) and the No Name Pasture (EO 21). This permitted action expires on August 31, 2014.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the current permit for the Squaw Creek Allotment #00886 (Bureau 2009, p. IV-20). The only exception is Condition 5 in Table IV.D-1, which states that "changes to the scheduled use require prior approval." As stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Squaw Creek Allotment #00886 (Bureau 2009, p. IV-21).

Additional terms and conditions for the Squaw Creek Allotment #00886 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will not trail livestock through EOs within the management area when soils are saturated.
- Permittee shall place salt/ supplements to minimize trampling of slickspot peppergrass and of slickspots respectively. Supplements will be placed at least 0.5 mi, and preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.
- Special conservation measure for slickspot peppergrass EO 21 in CCA MA 9: Grazing is prohibited in this EO.

The following guidelines were added to the Squaw Creek Allotment #00886 in lieu of Guideline 5 in Table IV.D-2 of the Assessment (Bureau 2009, p. IV-20):

- If soils are likely to become saturated, permittee will relocate livestock away from the vicinity of existing EOs by moving livestock to one of three alternative sites (two of the alternative sites are fenced).
- Special conservation measures for slickspot peppergrass EO 21 (Mountain Home CCA MA 9B): Private landowner will incorporate 160 ac of private land (T3S, R5E, Sec 17: NW¹/₄) within a currently fenced area to be maintained by the Bureau to prevent livestock

from grazing in the vicinity of this EO. This land will remain excluded from grazing until such time as the owner sells it.

Slickspot peppergrass occupied habitat associated with EO 2 in the Rock House East Pasture is permitted to be grazed from April 1 through June 30 and from November 1 through January 5 annually, although the permittee voluntarily grazes the pasture once in a given year – either spring or fall but not both. Therefore, spring grazing use may not occur every year in this pasture.

Range improvements that have been constructed in the Squaw Creek Allotment #00886 include gates; cattle guards; one water trough; and pasture boundary, emergency stabilization, and rehabilitation fences. The only surface water in the allotment is a stock watering site located in the Rockhouse West Pasture in T3S, R4E, Sec. 25: SE¼. This site is approximately 3.5 mi southwest of the nearest occupied habitat associated with EO 2 in CCA MA 9A. No other permanent surface water sites are located in the allotment; any additional livestock water and salt/supplements are hauled in by truck to portable troughs. This allotment contains 31.2 mi of fences; 6.2 mi occur in slickspot peppergrass occupied habitat. For additional details on the project description for the allotment see the Assessment (Bureau 2009, pp. IV-317 through IV-320).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Squaw Creek Allotment #00886 contains EO 2 (0.1 ac) and EO 21 (about 100 ac), both located within the Snake River Plain physiographic region. EO 2 has exhibited plant numbers ranging from 44 to 334 individual plants over the past 5 years of HIP monitoring, while EO 21 was documented as containing no plants on the HIP transect over the same period (Colket 2009, p. 32). Plant numbers in the HIP transect for EO 2 appear to have declined since 2004, although it is likely that variations in plant numbers in some years are due to environmental factors such as spring precipitation levels. The highest plant numbers in this HIP transect were observed in 2004 (334 plants), with similar plant numbers observed in 2005 (312 plants). The lowest plant numbers were observed in 2006 (44 plants), with numbers increasing to 158 plants on 2007 and subsequently decreasing to 98 plants in 2008 (Colket 2009, p.32). The INHP has classified both EO 2 and EO 21 as C-ranked.

The slickspot peppergrass occupied habitat 0.5 mi pollinator buffers for EO 2 and EO 21 are located partially within the boundaries of the Squaw Creek Allotment #00886. The 470 ac of Bureau-administered occupied habitat in this allotment is dominated by exotic annuals with pockets of Wyoming big sagebrush in the northern portion of the allotment and salt desert shrub associations shadscale in the southwestern portion of the allotment.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 65 percent (about 300 ac) of the occupied habitat in the allotment contains native shrub habitat.

- Approximately 35 percent of the occupied habitat in the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Squaw Creek Allotment #00886 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. At least some segment of the allotment has burned in every decade from the 1950s to the present. Slickspot peppergrass occupied habitat associated with EOs 2 and 21 burned in the 1950s, 1960s, 1980s, and 1990s, with the heaviest impacts occurring in the 1980s and 1990s. As a consequence, the majority of the allotment, including the slickspot peppergrass occupied habitat, is dominated by invasive nonnative annual plants (e.g., cheatgrass) interspersed with pockets of Wyoming big sagebrush. The only major exception is the eastern two-thirds of slickspot peppergrass occupied habitat associated with EO 21, which is predominantly Wyoming big sagebrush. Past fire rehabilitation efforts have met with limited success, as evidenced by the presence of remnant crested wheatgrass seedlings in the allotment.

HIP monitoring data show levels of invasive nonnative plants in slickspots within EO 2 ranging from about 4 to 26 percent cover, with about 1 to 5 percent cover of invasive nonnative plants documented in EO 21. An infestation (greater than 5 ac) of Scotch thistle was located in 2000 and was not treated at that time. The current extent of that infestation is unknown. Scotch thistle is prevalent in the Canyon Creek drainage throughout Bureau, private, and State lands. Chemical treatment was implemented in 2007 in accordance with guidelines stipulated in the CCA.

The Squaw Creek Allotment #00886 is permitted for both spring and fall/winter grazing, although the permittee voluntarily grazes the pasture once during each grazing year – either spring or fall but not both. The current conservation measures help minimize potential negative effects to slickspot peppergrass and its habitat; however, these positive effects may be neutralized by the fact that forage in the allotment consist mostly of invasive nonnative annual grasses (e.g., cheatgrass) and production levels vary from year to year. With the last several years of below average precipitation, forage production levels have declined. One of the conservation measures adopted in the CCA eliminated all grazing from EO 21 (where no slickspot peppergrass plants have been documented on the HIP transect over the past 5 years of HIP monitoring); however, the Rockhouse East Pasture where EO 2 is located is still grazed annually in either the spring or the fall. As a consequence, trampling damage to individual slickspot peppergrass plants and slickspot microsites is likely to occur in and around EO 2 during years when this pasture is grazed in spring.

Levels of livestock feces cover within slickspots for EOs 2 and 21 were documented as less than 1 percent over 5 years of HIP monitoring with the exception of EO 2 in 2007, when livestock feces cover was documented at 1.3 percent. EO 2 HIP monitoring documented levels of total livestock hoof print cover ranging from about 2 to 6 percent, with penetrating trampling cover documented as 0.1 to about 5 percent. EO 21 HIP monitoring documented levels of total livestock hoof print cover ranging from 0 to 0.1 percent, with penetrating trampling cover documented as 0 to 0.1 percent, indicating some unauthorized livestock use occurred within

EO 21. No penetrating trampling trigger has been tripped at EOs 2 or 21; livestock grazing is excluded from EO 21.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 65 percent of occupied habitat in the allotment contains native shrub habitat, and 35 percent is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component.

HIP monitoring data show that biological soil crust cover is moderate to high within slickspots (about 14–34 percent cover in EO 2 and about 42–72 percent cover in EO 21 over 5 years of HIP monitoring). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). As at least 35 percent of the slickspot peppergrass occupied habitat in the allotment is dominated by low levels of shrub cover and high cheatgrass cover, these areas are expected to have low biological soil crust cover.

HIP monitoring data indicate that percent native forb cover is low (about 1 percent in EO 2 and 0.1–2.3 percent in EO 21 in the 2 years of available HIP monitoring data). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The overall quality of the habitat in the allotment is categorized as low due to low shrub cover combined with low native forb understory diversity.

The slickspot peppergrass occupied habitat associated with EO 21 includes private, State, and Bureau land. A large gravel pit is located on the State land and has impacted and continues to impact EO 21. Several dirt roads occur throughout the area and are used to access the gravel pit and Federal lands to the west. This area receives a high level of off-road recreational use and is occasionally used as an illegal household refuse dumping ground.

Effects of the Action

Existing conservation measures do not allow livestock grazing within EO 21; therefore, no direct adverse effects from authorized livestock use are expected to occur within this EO. However, the Rockhouse East Pasture of the Squaw Creek Allotment #00886, which contains EO 2 and its 0.5 mi occupied habitat pollinator buffer, is permitted to be annually grazed by cattle between April 1 and June 30 and November 1 and January 5. However, the permittee voluntarily grazes the pasture once during each grazing year – either spring or fall but not both; therefore, EO 2 may not receive annual spring livestock use. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. Since HIP monitoring data have documented livestock hoof prints within slickspots containing the slickspot peppergrass, it is anticipated that livestock trampling effects to individual slickspot peppergrass plants, slickspot microsites, and the seed bank are reasonably likely to occur. In the spring

(March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Spring livestock grazing in the 0.5 mi pollinator buffer for EO 2 also occurs when the potential for impacts to actively growing and flowering annual and perennial native forbs from livestock herbivory would be highest. Spring grazing is expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Localized introduction of other invasive nonnative plants, including noxious weeds such as Scotch thistle, into slickspot microsites and the habitat surrounding EO 2 is likely to occur through the ongoing action. To a lesser extent, due to the concentration of shrub cover around EO 2 relative to the remainder of the allotment, effects are also anticipated from livestock-related localized damage to shrubs in the vicinity of EO 2. Therefore, effects of livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs are reasonably certain to occur. Existing conservation measures, including treating noxious weeds and excluding grazing from EO 21, have reduced but not eliminated the potential effects of ongoing livestock grazing activities on the slickspot peppergrass and its habitat.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Squaw Creek Allotment #00886. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 100 ac of State land and 293 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains C-ranked EOs 2 (about 0.1 ac) and 21 (100 ac); and has been categorized as having a medium conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Squaw Creek Allotment #00886 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 more years); and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include exclusion of livestock grazing from EO 21, no trailing of livestock through EOs when soils are

saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementation of compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (4 more years).

5.2.1.2.21. Sunnyside Spring/Fall Allotment #00825

Description of the Action Area

The Sunnyside Spring/Fall Allotment #00825 is a large common allotment that extends across the northwestern portion of the Sunnyside Watershed from Kuna east to I-84 and south to the division fence that separates this allotment from the Sunnyside Winter Allotment #00826. The allotment consists of approximately 139,340 ac within the Morley Nelson Snake River Birds of Prey NCA and several thousand acres to the north of the NCA. The Sunnyside Spring/Fall Allotment #00825 also incorporates the northern portion of the National Guard's OTA. The allotment contains approximately 275,035 ac, of which approximately 152,728 ac are on Bureau land. This common allotment is located in T1N, R1W/1E/2E/3E/4E; T2N, R1E/2E/3E; T3N, R1E/2E/3E; T1S, R1W/1E/2E/3E/4E; T2S, R1E/2E/3E/4E/5E; and T3S, R3E/4E/5E.

The allotment has five permittees, each of whom grazes their livestock in historical use areas that are understood and honored by the other permittees. This allotment contains EOs 22, 32, 48, and 49 in CCA MA 5; EOs 18, 19, 24, 25, 41, 42, 43, and 58 in CCA MA 6; EOs 27 (formerly EOs 27, 35, 59, 71, and 100), 53, and 67 in CCA MA 7; EOs 15 and 60 in CCA MA 8; EOs 72, 77, 103, and 104 in CCA MA 8B; and EOs 64 and 101 outside the boundaries of any currently established management area. This allotment contains 47,568 ac of slickspot peppergrass occupied habitat: 35,173 ac of Bureau land; 7,090 ac of private land; and 5,305 ac of State land. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The five current grazing permits authorize 1,015 AUMs of sheep grazing and 12,388 AUMs of cattle grazing in the Sunnyside Spring/Fall Allotment #00825. If all 13,587 adjudicated AUMs were activated, average use would be approximately 20 ac/AUM. The expiration date of the permitted action varies between February 28, 2015 and February 28, 2018, depending upon the individual permittee.

The sheep grazing is divided into 610 AUMs of spring grazing from April 1 to May 31 and 405 AUMs of fall/winter grazing from November 1 to January 31. The cattle grazing is divided into

7,705 AUMs of spring grazing from April 1 to June 30 and 4,683 AUMs of fall/winter grazing from October 16 to December 15.

The allotment includes 11 pastures. Most of these pastures are emergency fire rehabilitation areas that have been fenced off within the allotment and have become de facto pastures; however, these separate pastures have never been officially designated, and a specific number of AUMs has not been allocated to each of them.

Based on the conservation measures in the 2003 slickspot peppergrass CCA, livestock grazing is limited to the period from November 15 to February 15 in pastures or portions of pastures that are located in CCA MA 6. However, EOs 24 and 57 in the Kuna Butte Pasture of CCA MA 6 have only been grazed once since 1982. Although they are available for grazing, slickspot peppergrass occupied habitat associated with EOs 22 and 32 in CCA MA 5 has not been grazed for over 20 years. No pasture rotation system has been implemented. Based on decisions in the 2008 Snake River Birds of Prey NCA RMP, the 3,400-ac Kuna Butte area of the Common Pasture and the associated 340 AUMs will be deleted from the Sunnyside Spring/Fall Allotment #00825 but would be made available for grazing at the Bureau's sole discretion for the purpose of meeting specific NCA resource management objectives.

L. G. Davison & Sons (Permit #1090519) restrict their grazing to the area just south of the slickspot peppergrass occupied habitat associated with EO 48. The Assessment also states that Environmental Assessment #ID-111-2006-EA-1772 for the Sunnyside Spring/Fall Allotment #00825 rangeland health assessment includes a proposal to build a fence along South Cole Road within occupied habitat associated with EO 48 and incorporate this area into a separate grazing permit. As it now stands, the permittee can graze this area if he wishes, but the lack of a fence to prevent cattle from accessing South Cole Road serves as a deterrent. As a consequence, occupied habitat associated with EO 48 is not currently grazed and has not been grazed in recent years.

Donald Pape (Permit #1090531) restricts his grazing to the area south of EO 48 in T1N, R1E, Sec. 1 and 2 outside of any occupied habitat.

John Anchustegui (Permit #1091636) restricts his grazing to the occupied habitat associated with EOs 27, 28, 35, 41, 53, 59, 67, and 71 in the vicinity of the OTA.

Tom Nicholson (Permit #1091649) and TFI (Permit #1091678) (owned by Tom Nicholson) spread their AUMs across the entire Sunnyside Spring/Fall Allotment #00825, except for the areas grazed by L. G. Davison & Sons and Donald Pape.

The terms and conditions listed in Table IV.D-1 of the Assessment (see Table 6 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, are not applied to the current permit for the Sunnyside Spring/Fall Allotment #00825 (Bureau 2009, p. IV-20). Alternative terms and conditions are described below. Management guidelines listed in Table IV.D-2 of the Assessment (see Table 7 on page 58 of this Opinion) are applicable to this allotment (Bureau 2009, p. IV-20). In addition, as stated in the Assessment, applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Sunnyside Spring/Fall Allotment #00825 (Bureau 2009, p. IV-21).

Terms and conditions for all permits associated with the Sunnyside Spring/Fall Allotment #00825 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will supplement Federal and State agency surveys and monitoring by surveying their allotments or use areas for slickspots and slickspot peppergrass plants, including existing occurrences, during their normal course of business. Permittees will report survey information to the IDCDC to aid monitoring efforts and contribute to the CA adaptive management strategy.
- Grazing within the CCA MA 6 will be limited to October 15 through February 15.
- Permittees operating within CCA MA 6 will only use existing roads and tracks for vehicle travel.
- Permittee shall place salt/supplements to minimize trampling of slickspot peppergrass and of slickspots, respectively in CCA MA 6. Supplements will be placed at least 0.5 mi, preferably 0.75 mi if practicable, from EOs. Supplements that are attractants should be placed so that cattle will not trail through an EO to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the EO.
- Permittee will herd livestock away from priority EOs in CCA MA 6 if the soils become moist or are *likely* to become saturated and will relocate livestock to one of three alternative sites (two of the alternative sites are fenced) away from existing priority EOs if soils become saturated and penetrating trampling is likely to occur.
- Supplements and water sources will be placed 1.0 mi away from the vicinity of EOs 32 and 48 in CCA MA 5 and EOs 27 (also includes former EO 28) in CCA MA 7.
- Permittee will herd livestock away from the vicinity of EOs 32 and 48 within CCA MA 5. When soils are moist the permittee will move livestock to either fenced private land or land outside of MA 5 within the Sunnyside Spring/Fall Allotment #00825 to prevent penetrating trampling.
- Permittee will graze within EOs 27 (also includes former EO 28) in CCA MA 7 when soils are dry. If precipitation causes the soil to become wet and the 10-day forecast predicts more rain, livestock will be removed from the vicinity of these EOs.
- Permittee will not trail livestock through EOs in CCA MAs 5, 6, 7, and 8 when soils are saturated. Permittee will herd livestock away from priority EOs if soils become moist and will relocate livestock if soils become saturated and penetrating trampling is likely to occur.

Additional terms and conditions applicable only to the John Anchustegui, Jr., Permit #1091636 of the Sunnyside Spring/Fall Allotment #00825 relevant to the conservation of the slickspot peppergrass are as follows:

- Permittee will restrict sheep from bedding, trailing, and or watering within 0.5-mi of slickspot peppergrass EOs.

Range improvements in the Sunnyside Spring/Fall Allotment #00825 include gates, cattle guards, boundary fences, and numerous fire rehabilitation seedings. No surface water exists on the public lands in the Sunnyside Spring/Fall Allotment #00825; all livestock water and salt/supplements must be hauled in by truck to portable troughs or are available on adjacent private lands. This allotment contains 220.6 mi of fence; 62 mi occur in slickspot peppergrass

occupied habitat. In addition to these fences, a 60 ac livestock enclosure fence was constructed around EO 60 on Bureau-administered lands in fall of 2009. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-330 through IV-347).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Sunnyside Spring/Fall Allotment #00825 contains EOs within four CCA management areas in the Snake River Plain physiographic region. EO information is summarized below; for more detailed information, see the Assessment (Bureau 2009, pp. IV-348 through IV-350).

CCA MA 5 contains four EOs within the Sunnyside Spring/Fall Allotment #00825. All four EOs are located entirely within the allotment. Three EOs are categorized by INHP as C-ranked (EOs 22, 32, and 48, encompassing 126 ac, 619 ac, and 0.2 ac, respectively), and one (EO 49, encompassing 0.2 ac) is F-ranked. EO 32 has exhibited plant numbers ranging from 0 to 4 individual plants over the past 5 years of HIP monitoring, while EO 48 was documented containing 5 to 148 plants on the HIP transect over the same period (Colket 2009, p. 31). The HIP transect for EO 32 documented 4 plants in 2004, and 0 plants for the remaining 5 years of HIP monitoring. In contrast, plant numbers observed at the HIP transect for EO 48 steadily decreased from 2004—2006 (from 57—5 plants), and then increased over the next 2 years, with the highest plant numbers documented in 2008 (148 plants) (Colket 2009, p.31). No HIP data are available for EOs 22 and 49.

CCA MA 6 contains eight EOs within the Sunnyside Spring/Fall Allotment #00825. All EOs except one, EO 18, are located entirely within the allotment. Three EOs are categorized by INHP as C-ranked (EOs 18, 24, and 25, encompassing 641 ac, 71 ac, and 37 ac, respectively); three as D-ranked (EOs 19, 43, and 58, encompassing 678 ac, 0.1 ac, and 0.1 ac, respectively); and one as F-ranked (EO 42, encompassing 2 ac). While four of the seven HIP transects for CCA MA 6 (transect includes six EOs) within the allotment exhibit less than 100 plants in most years of monitoring, two HIP transects (018A, 025) have exhibited over 500 plants in at least 1 year of monitoring, and two transects (19B and 42) documented no plants in all 4--5 years of HIP monitoring. No obvious trends in are apparent in plant numbers at HIP transect 18A for EO 18 over these 5 years of monitoring. The highest plant numbers in this HIP transect were observed in 2004 (581—780 plants) and 2005 (653 plants). The lowest plant numbers at HIP transect 18A were observed in 2006 (33 plants); plant numbers subsequently increased in 2007 (336 plants) and 2008 (391 plants). Similarly, HIP transects 24 and 25 for EOs 24 and 25 showed plant numbers decreasing from 2004—2006 and subsequently increasing to 2008, although still to lower numbers than were observed in 2004 monitoring. In contrast, HIP transect 57 for EO 24 documented low slickspot peppergrass plant numbers from 2004—2007 (less than 35 plants), but plant numbers dramatically increased in 2008 (292 plants) (Colket 2009, p.31). No HIP data are available for EOs 41, 42, 43, and 58.

CCA MA 7, which is located in the IDARNG's OTA, contains three EOs within the Sunnyside Spring/Fall Allotment #00825. All EOs are located entirely within the allotment. Two EOs are categorized by INHP as B-ranked (EOs 27 and 67, encompassing 7,164 ac and 6 ac, respectively) and one is C-ranked (EO 53, encompassing 39 ac). While 8 of the 15 HIP transects for CCA MA 7 (transects include all three EOs) exhibit less than 100 plants in most years of

monitoring, 6 HIP transects (027A, 027C, 027D, 053B, 67, 071B) have exhibited over 500 plants in at least 1 year of monitoring. The OTA contains some of the highest quality remaining sagebrush-steppe habitat for slickspot peppergrass, and the OTA is home to one of the largest and most expansive EOs (EO 27) for the species (Sullivan and Nations 2009, p. 22). Two HIP monitoring transects on the OTA contained over 5,300 plants during 2008 HIP monitoring (Colket 2009, p. 31). One of these transects (027D) contained over 9,300 plants in 2008.

No obvious trends in are apparent in slickspot peppergrass plant numbers at the HIP transects 27A, 27C, 27D, 27E, 28A, 35A, 71A, and 71B for EO 27 and 53B for EO 53 over the 5 years of HIP monitoring. HIP transect 67 for EO 67 showed a dramatic increase in plant numbers, with numbers increasing from 101 plants documented in 2004 to 1,129 plants observed in 2008. In contrast, five HIP transects were documented with extremely low plant numbers, with four HIP transects (27B, 28B, 35B, and 59A) documented no plants in all years of HIP monitoring, and 1 HIP transect (41A) documented 0—1 plants in all 5 years of HIP monitoring. An overall trend in slickspot peppergrass numbers is not readily apparent when examining the 5 years of HIP monitoring data for the 15 HIP transects within the allotment. However, statistical analyses of OTA rough census data within MA 7 showed a significant decline in slickspot peppergrass abundance over the last 18 years (Sullivan and Nations 2009, pp. 38--39). Therefore, the ability to determine slickspot peppergrass population trends may require a longer data set than the 5 years of HIP monitoring data currently available, at least within this allotment.

CCA MA 8 contains six EOs within the Sunnyside Spring/Fall Allotment #00825. All EOs are located entirely within the allotment. Three EOs are categorized by INHP as C-ranked (EOs 72, 77, and 104, encompassing 64 ac, 1 ac, and 90 ac, respectively) and three as D-ranked (EOs 15, 60, and 103, encompassing 155 ac, 15 ac, and 0.1 ac, respectively). While the one of the five HIP transects for CCA MA 8 (transect includes four EOs) exhibits less than 100 plants in most years of monitoring, one HIP transect (072A) exhibited over 500 plants in at least 1 year of monitoring, and 1 HIP transect (60) contained 0—1 plant in all 5 years of HIP monitoring. Plant numbers in HIP transect 15 for EO 15 appear to be increasing over the 5 years of HIP monitoring. In HIP transect 15, numbers appear to slowly decline from 2004—2006 (49—20 plants), but subsequently increase in 2007 (108 plants) and 2008 (417 plants). In contrast, slickspot peppergrass plant numbers appear to have decreased in HIP transect 72A for EO 104, with numbers in 2004 ranging from 728--927 plants steadily decreasing from 2005—2007 (480—5 plants); plant numbers recovered somewhat at HIP transect 72A in 2008 (170 plants). No obvious trends in are apparent in plant numbers at the HIP transect 72B and 72C for EO 72 over the 5 years of monitoring, with variations in plant numbers in some years likely due to environmental factors such as spring precipitation levels. At HIP transect 72B, the highest plant numbers were observed in 2008 (488 plants), and the lowest plant numbers were observed in 2004 (98 plants), with plant numbers increasing or decreasing between 2005—2007 (Colket 2009, p.31). For HIP transect 72C, plant numbers were similar from 2004-2004 (218 and 195 plants, respectively), substantially declined to similar numbers in 2006--2007 (21 and 45 plants, respectively), and increased numbers in 2008 (115 plants), although not to the levels documented in 2004-2005 (Colket 2009, p. 31). No HIP data are available for EOs 77 and 103.

EO 64 (0.3 ac) and EO 101 (0.1 ac) in the Sunnyside Spring/Fall Allotment #00825 are not located within a designated CCA management area. Both of these EOs are located entirely

within the allotment. EO 64 is categorized by INHP as C-ranked and EO 101 as D-ranked. No HIP data are available for these EOs.

The 35,173 ac of Bureau-administered slickspot peppergrass occupied habitat in the Sunnyside Spring/Fall Allotment #00825 is dominated by Wyoming big sagebrush with large expanses of invasive nonnative annual plants (e.g., cheatgrass).

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

CCA MA 5

- Approximately 60 percent of the occupied habitat in this portion of the allotment contains native shrub habitat.
- Approximately 25 percent of the occupied habitat in this portion of the allotment is agricultural land.
- Approximately 15 percent of the occupied habitat in this portion of the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

CCA MA 6

- Approximately 20 percent of the occupied habitat in this portion of the allotment contains native shrub habitat.
- Approximately 80 percent of the occupied habitat in this portion of the allotment is dominated by invasive nonnative annual plants and wildrye/crested wheatgrass seedings with minimal or no native shrub component.

CCA MA 7

- Approximately 90 percent of the occupied habitat in this portion of the allotment contains native shrub habitat.
- Approximately 10 percent of the occupied habitat in this portion of the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

CCA MA 8

- Approximately 40–50 percent of the occupied habitat in this portion of the allotment contains native shrub habitat.
- Approximately 50–60 percent of the occupied habitat in this portion of the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

EOs outside of existing CCA MAs

- Approximately 2 percent of the occupied habitat in this portion of the allotment contains native shrub habitat.

- Approximately 98 percent of the occupied habitat in this portion of the allotment is dominated by invasive nonnative annual plants with minimal or no native shrub component.

Based on the above information, there is a low to moderate potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Sunnyside Spring/Fall Allotment #00825 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, livestock use, and military training. The majority of occupied habitat located within the Sunnyside Spring/Fall Allotment #00825 has been impacted by wildfire over the past 30–50 years, with the greatest fire related impacts occurring in CCA MA 6, where slickspot peppergrass occupied habitat is now dominated by large expanses of cheatgrass. The exception is within CCA MA 7, where most of the occupied habitat been relatively free of major fire events for the last 50 plus years; as a consequence, this area is dominated by relatively intact stands of Wyoming big sagebrush with scattered pockets of exotic annuals.

HIP monitoring data show levels of invasive nonnative plants in slickspots within 28 HIP transects in 12 EOs ranging from less than 1 to 66 percent cover, with about 60 percent of years exhibiting less than 10 percent cover of invasive nonnative plants documented in slickspots. Some areas within the allotment support large concentrations of noxious weeds, such as in CCA MAs 5 and 6, while noxious weeds are not documented in other areas, such as in CCA MAs 7 and 8B. Whitetop infestations have become rampant along Ten Mile Creek Road, which borders EO 32 on the south side. Chemical control has been implemented on whitetop, perennial pepperweed, tamarisk (*Tamarix* spp), and Scotch thistle throughout the allotment. Rush skeletonweed has also been observed throughout the allotment and is increasing. Rush skeletonweed has been documented at less than 1 percent cover within slickspots on HIP transects located in both the Boise Foothills and the Snake River Plain physiographic regions (Colket 2009, pp. 37–49). Other weeds documented in the allotment include Canada thistle and spotted knapweed (*Centaurea maculosa*). All chemical treatments for noxious weeds were in accordance with guidelines stipulated in the CCA. As disturbed and degraded habitat within the allotment is subjected to more disturbances, additional infestations of noxious weeds are likely to occur in slickspot peppergrass occupied habitat.

Extensive fire rehabilitation efforts undertaken in CCA MA 6 within the allotment have met with limited success, as evidenced by the presence of Siberian wheatgrass (*Agropyron fragile*) and Russian wildrye (*Psathyrostachys juncea*) seedings in many areas of slickspot peppergrass occupied habitat associated with EOs in this portion of the allotment. Evidence suggests that aerially seeded forage kochia (*Bassia prostrate*) competes with the slickspot peppergrass in EO 19 (HIP transect 19B) (Colket 2005, pp. 15–16; Colket 2009, pp. 16–17, 130–133).

Various conservation measures are in place to avoid or minimize effects to the slickspot peppergrass from livestock-related activities. Within CCA MA 5, EO 22 occurs on State and private land and is in an area that has not been grazed for a number of years. In addition, EO 48 is not grazed because of a lack of fencing to prevent cattle from wandering onto South Cole Road. Livestock grazing in CCA MA 6 is limited to the fall/winter season when soils are less

likely to be saturated. The conservation measures help to minimize potential negative effects to slickspot peppergrass and its habitat. While, the potential for trampling damage to slickspots still exists, the risk is lower than in management areas that have spring grazing.

EO 49 is the only EO currently subjected to grazing pressure in CCA MA 5. The conservation measures that are currently in place help minimize potential negative effects to slickspot peppergrass and its habitat. The HIP monitoring data for EO 49 indicate that no livestock trampling has occurred, at least for the past 2 years. The potential for trampling damage to individual slickspot peppergrass plants and to slickspot microsites still exists, although the risk is comparatively low for this EO. In contrast, the slickspot peppergrass occupied habitat in CCA MAs 7, 8A, and 8B, as well as occupied habitat associated with EOs 64 and 101, supports spring and fall/winter grazing. The conservation measures currently in place help minimize potential negative effects to slickspot peppergrass and its habitat. The HIP monitoring data show limited evidence of livestock print cover in slickspots. However, trampling damage to individual slickspot peppergrass plants and to slickspot microsites, is likely to occur.

Levels of livestock feces cover within slickspots in the Sunnyside Spring/Fall Allotment #00825 were typically documented as less than 1 percent over 5 years of HIP monitoring, with 2 years of livestock feces cover documented at 2.2 percent at two transects (transects 63 and 72B) and one year at 6.7 percent cover (transect 60). HIP monitoring documented levels of total livestock hoof print cover ranging from 0 to about 5 percent, with 4 years exhibiting total livestock hoof print cover of over 10 percent at HIP transect 60. Similarly, penetrating trampling cover in the allotment has been documented as 0 to about 5 percent, with 3 years exhibiting penetrating livestock hoof print cover between 12 and 16 percent, all at transect 60. HIP monitoring over 5 years generally shows low levels of overall livestock hoof print cover and penetrating livestock hoof print cover within slickspots in the allotment. One exception has been EO 60, which over 3 of the past 5 years (2004, 2006, and 2007) has had penetrating livestock hoof prints with greater than 10 percent cover within slickspots. The HIP transect for EO 60 has documented 0—1 plants over the past 5 years of HIP monitoring. However, in fall of 2009, an approximately 60 ac enclosure fence was constructed around that portion of EO 60 located on Bureau-administered lands in the allotment to avoid future livestock trampling impacts at this site. A portion of EO 60 on Federal lands that does not contain slickspot microsites is located outside of this enclosure fence. In addition, a past trampling event documented by the IDARNG in an area referred to as the “States study site” of EO 27 in 1996 was thought to be the cause of significantly reduced slickspot peppergrass numbers observed at this site in the years since this trampling event occurred (Meyer et al. 2005, pp. 21--22).

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 20–90 percent of occupied habitat in the CCA management areas in the allotment contains native shrub habitat, with most slickspot peppergrass occupied habitat ranging between 40 and 60 percent native shrub habitat. Slickspot peppergrass occupied habitat lacking native shrub cover in the allotment is dominated by invasive nonnative annual plants (e.g., cheatgrass) with minimal or no native shrub component.

HIP monitoring data indicate that biological soil crust cover is typically low to moderate within slickspots in the allotment (about 2 to 55 percent cover over 5 years of HIP monitoring), with 5 years exhibiting levels greater than 70 percent cover (transects 025, 032, 048, 057, and 068). The level of biological soil crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). Since areas within the allotment are dominated by low levels of shrub cover and high cheatgrass cover, these areas are expected to have low biological soil crust cover.

HIP monitoring data indicate that percent native forb cover is low (less than 1 percent to about 2 percent cover in the 2 years of available HIP monitoring data), with one area exhibiting almost 6 percent forb cover in 1 year (transect 27E). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The quality of the habitat in the allotment is rated as low due to low shrub cover combined with low native understory diversity and the presence of nonnative invasive plants (e.g., cheatgrass) and noxious weeds.

In CCA MA 5, a subdivision is planned on private lands to the north and immediately adjacent to EO 32 and would affect the portion of EO 32 located on the private land. Also, residential and recreational developments are proposed for private lands in and around the Kuna Butte area in MA 6 and just north of MA 8B in the Blacks Creek Reservoir area. Residential and commercial development places additional off-site demands on adjacent or nearby public lands, especially from a recreational perspective. The demand for easily accessible recreation areas in general and OHV use areas in particular will continue to increase as the population increases throughout the allotment. Recreational off-road vehicle activity has significantly increased in the allotment over the past decade, including on and around Kuna Butte in MAs 6 and 7. Increased human presence in the area also increases the likelihood of fire, with an associated loss of native vegetation and the subsequent exotic plant invasion that follows. These factors will place additional demands on the slickspot peppergrass and its habitat—in spite of the Bureau's conservation measures relative to OHVs, wildland fire, and invasive species—and may lead to further degradation of slickspot peppergrass habitat across its range.

Effects of the Action

Direct impact to the slickspot peppergrass through livestock use will be avoided by continued exclusion of livestock from EOs 24 and 58 in CCA MA 6 and the recent exclusion of livestock from EO 60 in CCA MA 8. Livestock use is limited in CCA MA 6 to October 15 through February 15 annually in EOs 18, 19, 25, 41, 42, and 43, which is expected to reduce adverse effects to the slickspot peppergrass and its habitat. However, other pastures within the Sunnyside Spring/Fall Allotment #00825, which contains multiple EOs and associated occupied habitat, are annually grazed by cattle and sheep between April 1 and June 30 and October 16 and February 28. Livestock grazing when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds, change the slickspot soil structure, and introduce invasive plants and noxious weeds. As HIP monitoring data have documented livestock hoof prints, including penetrating livestock hoof prints, within slickspots containing the

slickspot peppergrass, it is anticipated that livestock trampling effects to individual slickspot peppergrass plants, slickspot microsites, and the seed bank are reasonably likely to occur. In the spring (March through June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. However, 5 years of HIP monitoring generally show low levels of penetrating livestock trampling within slickspots in the allotment. The exception is EO 60, where the penetrating trampling trigger has been tripped in 3 of 5 years of HIP monitoring. EO 60 was recently fenced to exclude livestock and avoid adverse direct trampling impacts to the slickspot peppergrass. Spring livestock grazing of sheep and cattle in slickspot peppergrass occupied habitat for EOs also occurs when the potential for impacts from livestock herbivory to actively growing and flowering annual and perennial native forbs would be highest. Annual spring grazing is expected to limit the potential for recovery of remaining native forbs within the allotment, which may affect the abundance of slickspot peppergrass insect pollinators in the area.

Localized introduction or spread of other invasive nonnative plants—including noxious weeds such as rush skeletonweed, whitetop, Canada thistle, and spotted knapweed—into slickspot microsites and the habitat surrounding EOs is likely to occur through the ongoing action. As isolated pockets of shrubs remain within some portions of the allotment dominated by nonnative annual grass and noxious weeds, it is anticipated that shrub cover in some areas may also be locally affected by livestock-related mechanical damage. Due to the current limited shrub cover within some portions of the allotment, it is also anticipated that livestock use could result in some impacts to shrub cover, an important habitat component for slickspot peppergrass.

Overall, effects from livestock trampling appear to have been reduced in most of the allotment due to the implementation of conservation measures, such as moving water locations and restricting sheep distribution in relation to EO locations. However, conservation measures have not eliminated the potential for localized adverse effects to the slickspot peppergrass from livestock-related activities. Therefore, effects of livestock trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs as well as effects of livestock herbivory on native forbs are reasonably certain to occur. To a lesser extent, effects are also anticipated from livestock-related localized effects on shrub cover. Existing conservation measures, including the exclusion of livestock from EOs 24, 58, and 60, treatment of noxious weeds, and limiting livestock grazing to fall/winter in CCA MA 6, have reduced but not eliminated potential effects of ongoing livestock grazing activities on the slickspot peppergrass and its habitat.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

EOs located on non-Federal lands located within the boundaries of the Sunnyside Spring/Fall Allotment #00825 include C-ranked EO 22 which is located on State and private land; and C-ranked EO 32, which is located partially on private land. It is anticipated that this private land will be developed, resulting in the permanent loss of these lower conservation value EOs as there are currently no known slickspot peppergrass conservation measures associated with these EOs on non-Federal land. The slickspot peppergrass 0.5 mi occupied habitat pollinator buffer overlapping with non-Federal lands within the boundaries of the allotment include 5,305 ac of

State land and 7,090 ac of private land. However, because only 2 percent (322 ac) of the total EO acreage rangewide occurs on non-Federal lands (Table 4), the Service expects that any cumulative effects occurring within the term of the 27 ongoing livestock grazing actions considered herein are not likely to significantly alter habitat conditions for the slickspot peppergrass within the EOs affected by Bureau actions. *See also the Cumulative Effects discussion on pages 67--68 under Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains B-ranked EOs 27 (7,164 ac) and 67 (6 ac); C-ranked EOs 22 (126 ac), 32 (619 ac), 48 (0.2 ac), 70 percent of EO 18 (641 ac), 24 (71 ac), 25 (37 ac), 53 (39 ac), 72 (64 ac), 77 (1 ac), 104 (90 ac), and 64 (0.3 ac); D-ranked EOs 19 (678 ac), 43 (0.1 ac), 58 (0.1 ac), 15 (155 ac), 60 (15 ac), 103 (0.1 ac), and 101 (0.1 ac); and F-ranked EOs 49 (0.2 ac), 41 (214 ac), and 42 (2.1 ac). The allotment has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Sunnyside Spring/Fall Allotment #00825 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because the remaining term of this action is relatively short (4 to 8 more years, depending on the permittee); and slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include livestock exclusion from C-ranked EO 24 and D-ranked EO 58 in CCA MA 6 and D-ranked EO 60 in CCA MA 8, seasonal use restrictions that limit grazing to winter in EOs in EOs 18, 19, 25, 41, 42, and 43 in CA MA 6 when slickspot soils are less likely to be saturated and subject to physical disturbance, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. In addition, it is expected that livestock-related impacts in the allotment have been relatively low in recent years as HIP monitoring over the past 5 years generally shows low levels of overall livestock hoof print cover and penetrating livestock hoof print cover within slickspots in the allotment (except in D-ranked EO 60, which has recently been fenced to exclude livestock). For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (5 or 8 years depending on the individual permittee).

5.2.1.2.22. Sunnyside Winter Allotment #00826

Description of the Action Area

The Sunnyside Winter Allotment #00826 is located in T1S, R1W/1E; T2S, R1W/1E/2E; T3S, R1E/2E/3E/4E; and T4S, R2E/3E/4E in the Snake River Plain physiographic region. The allotment contains 140,321 ac, is divided into 6 pastures, and permits cattle and sheep grazing. This allotment contains 2,780 ac of slickspot peppergrass occupied habitat, including part of EOs

18 and 41 in CCA MA 6. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The four grazing permits allocate 4,865 sheep AUMs and 6,413 cattle AUMs in winter (December 16–February 28). If all 11,278 AUMs were utilized in a given year, use would average about 12 ac/AUM. The slickspot peppergrass occupied habitat associated with EO 18 in the Swan Falls West Pasture is grazed in common by all four permittees who use this winter allotment. This permitted action expires on February 28, 2018.

The terms and conditions listed in Table IV.D-1 and management guidelines listed in Table IV.D-2 of the Assessment (see Tables 6 and 7 on pages 57—58 of this Opinion), which were developed for slickspot peppergrass conservation, apply to the Sunnyside Winter Allotment #00826 permit (Bureau 2009, p. IV-20). The only exception is Condition 5, which states that “changes to the scheduled use require prior approval.” As stated in the Assessment (Bureau 2009, p. IV-21), applicable slickspot peppergrass conservation measures identified in the Agreement between the Bureau and the Service will be incorporated into affected decisions for grazing and other land uses, including the Sunnyside Winter Allotment #00826.

Additional terms and conditions for the Sunnyside Winter Allotment #00826 relevant to the conservation of the slickspot peppergrass are as follows:

- Turnout is subject to Boise District range readiness criteria.
- Permittee will supplement federal and state agency surveys and monitoring by surveying their allotments or use areas for slickspots and slickspot peppergrass plants, including existing occurrences, during their normal course of business. Permittees will report survey information to the Conservation Data Center for the purposes of aiding monitoring efforts and contributing to the CA adaptive management strategy.
- Grazing within the CCA MA 6 will be limited to the period from October 15 through February 15. The season of use for the portions of the Sunnyside Winter Allotment #00826 located outside CCA MA 6 will continue to be December 16 to February 28.
- Permittees operating within CCA MA 6 will use only existing roads and tracks for vehicle travel.
- Permittees shall place salt/supplement to minimize trampling of slickspot peppergrass and of slickspots, respectively. Supplements will be placed at least 0.5 mi, preferably 0.75 mi if practicable, from occurrences. Supplements that are attractants should be placed so that cattle will not trail through an element occurrence to the supplement or a water source. Attractants should be placed so that cattle are drawn away from the area of the element occurrence.
- CCA Management Area 6: Permittees operating within CCA MA 6 will herd livestock away from priority EOs if the soils become moist or are *likely* to become saturated, and

will relocate livestock if soils become saturated and penetrating trampling is likely to occur to one of three alternative sites (two of the alternative sites are fenced) away from existing priority EOs.

- Permittees operating within CCA MA 6 will not trail livestock through EOs when soils are saturated. Permittee will herd livestock away from priority EOs if soils become moist, and will relocate livestock if soils become saturated and penetrating trampling is likely to occur.
- Sheep will be restricted from bedding, trailing and or watering within 0.5 mi of EOs.
- Supplement placing shall be considered in the annual slickspot peppergrass tour with the Bureau range specialist, based on the experience in the previous year/grazing season. Supplements that are attractants will be placed so that cattle will not trail through an element occurrence to the supplement or a water source.

Range improvements in the Sunnyside Winter Allotment #00826 include portable stock watering troughs, boundary and pasture fences, gates, cattle guards, and fire rehabilitation seedings. The only water facility located within slickspot peppergrass occupied habitat in this allotment is a stock watering site associated with EO 18 (previously EO 19) located in Sec. 2: SW¹/₄, T1S, and R1E. An additional stock watering site in Sec. 15: NW¹/₄, T1S, R1W is located approximately 1.0 mi south of slickspot peppergrass occupied habitat associated with the southern-most portion of EO 18. The remaining 10 water facilities are all movable water tanks distributed throughout the allotment and are all located more than 1.0 mi from slickspot peppergrass occupied habitat. This allotment contains 52 mi of fences; 6.4 mi occur in slickspot peppergrass occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-371 through IV-382).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Sunnyside Winter Allotment #00826 contains 30 percent of EO 18 (approximately 275 ac) as well as slickspot peppergrass occupied habitat for EO 41; both are located within the Snake River Plain physiographic region. One HIP monitoring transect (transect 19A) is located within the allotment. This transect has exhibited plant numbers ranging from 0 to 2 individual plants over 5 years of HIP monitoring, with 2 plants observed in 2004, 0 plants observed from 2005--2007, and 1 plant observed in 2008 (Colket 2009, p. 31). No HIP monitoring data are available for EO 41. The INHP has classified EO 18 as C-ranked and EO 41 as F-ranked.

Slickspot peppergrass occupied habitat for EO 18 is located partially within the boundaries of the Sunnyside Winter Allotment #00826. The 2,780 ac of Bureau-administered occupied and surrounding habitat in this allotment consists of Wyoming big sagebrush with large inclusions of invasive nonnative annual plants (e.g., cheatgrass), Siberian wheatgrass, and Russian wildrye seedings.

Satellite data indicate the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within the 0.5 mi occupied habitat pollinator buffer in this allotment are as follows:

- Approximately 5 percent of the occupied habitat in the allotment contains native shrub habitat.

- Approximately 95 percent of the occupied habitat in the allotment is dominated by a mixture of invasive nonnative annual grasses and forbs and wildrye/wheatgrass seedings with minimal or no native shrub component.

Based on the above information, there is a very low potential for enhancing habitat conditions for the slickspot peppergrass outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Sunnyside Winter Allotment #00826 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Portions of the allotment have burned in every decade since the 1950s. The greatest impacts to slickspot peppergrass occupied habitat associated with EO 18 occurred in the 1950s and 1980s, and as a consequence, the majority of the slickspot peppergrass occupied habitat is dominated by exotic annuals interspersed with large pockets of wildrye/wheatgrass seedings and smaller pockets of Wyoming big sagebrush. Extensive fire rehabilitation efforts have been undertaken as evidenced by the Siberian wheatgrass and Russian wildrye seedings in the area.

HIP monitoring data show levels of invasive nonnative plants in slickspots within HIP transect 19A in EO 18 ranging from about 4 to 30 percent cover. At least two noxious weed infestations have been documented within 3.0 mi of the allotment: whitetop, 0.5 mi to the north (documented in 2006) and spotted knapweed, 3.0 mi to the east (documented in 1996–1999). The spotted knapweed site has been treated. Scotch thistle and tamarisk were chemically treated in 2007 in accordance with guidelines stipulated in the CCA.

The Sunnyside Winter Allotment #00826 supports winter grazing only. The conservation measures in place help minimize potential negative effects to slickspot peppergrass and its habitat. However, the potential for localized trampling damage to slickspot microsites during occasional winter thaws still exists.

Livestock feces cover within slickspots was documented as 0 to about 1 percent cover over 5 years of HIP monitoring in transect 19A in EO 18. HIP monitoring data show levels of total livestock print cover between 0 and 2 percent, with penetrating livestock hoof print cover ranging from 0 to 2 percent within slickspots. The penetrating trampling trigger has never been tripped during these past 5 years of HIP monitoring at this transect.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that, according to vegetation maps generated by ground-truthed satellite imagery and HIP monitoring photos, approximately 5 percent of occupied habitat in the allotment contains native shrub habitat, and 95 percent of occupied habitat in the allotment is dominated by a mixture of exotic annual grasses and wildrye/wheatgrass seedings with minimal or no native shrub component. The habitat in EO 18 is rated as low quality for the slickspot peppergrass due to low shrub cover combined with low native understory diversity within the allotment.

HIP monitoring data indicate the biological soil crust cover is between 20 and 58 percent within slickspots over 5 years of HIP monitoring in transect 19A in EO 18. The level of biological soil

crust cover within slickspots from HIP monitoring was used as a surrogate for biological soil crust cover in the area surrounding slickspots since areas with high crust cover in slickspots were assumed to also support similar levels of biological soil crust cover within the surrounding intact sagebrush-steppe habitat. However, in areas dominated by invasive nonnative annual plants (such as cheatgrass), biological soil crust cover is typically low (Belnap et al. 2001, p. 47). Since much of the allotment is dominated by cheatgrass and occupied habitat areas and surrounding areas within this allotment have low levels of shrub cover and high cover of nonnative invasive plants such as cheatgrass, biological soil crust cover is expected to be much lower throughout the allotment than cover levels observed within EO 18.

HIP monitoring data indicate that percent native forb cover is low in transect 19A in EO 18 (0 to 3.2 percent cover in the 2 years of available HIP monitoring data). Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass. The vegetation in this allotment is fragmented from past wildfires coupled with very low native grass and forb understory diversity. Slickspot peppergrass habitat in EO 18 is rated as moderate to high quality. Habitat quality for slickspot peppergrass in the allotment is low due to low shrub cover, low native understory diversity, and the presence of invasive and noxious weeds within slickspot peppergrass occupied habitat.

Effects of the Action

The Sunnyside Winter Allotment #00826 is annually grazed by livestock between December 16 and February 28 when the risk of impacts to slickspot peppergrass, slickspot microhabitats, and surrounding habitat from livestock trampling and foraging is low. Impacts to slickspot soils, the seed bank, and biological soil crusts from mechanical trampling damage would be minimal as soils in southern Idaho are typically frozen during this time period and any above-ground biennial slickspot peppergrass plants present would be dormant. However, localized effects to slickspot soils, the seed bed, and biological soil crust cover from livestock trampling may occasionally occur due to periodic winter thaws. For example, in February 2005, winter thaw resulted in some penetrating trampling at EO 68. Following this trampling event, individual slickspot peppergrass numbers were dramatically reduced at this site in 2005 and 2006.

Livestock grazing activities can contribute to the spread of invasive nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Whitetop, spotted knapweed, and Russian thistle—all Idaho noxious weeds—can be dispersed by grazing cattle or sheep within and adjacent to EO 18. Localized introduction of invasive nonnative plants into slickspot microsites, the habitat surrounding EO 18, and occupied habitat for EOs 18 and 41 is likely to occur through the ongoing action. Therefore, localized livestock trampling effects to slickspot peppergrass in EO 18 and occupied habitat for both EOs 18 and 41 are reasonably likely to occur based on the presence of whitetop, spotted knapweed, and Russian thistle and the potential for weeds to be spread through livestock use. Effects within the Sunnyside Winter Allotment #00826 would occur at a substantially reduced level by implementing conservation measures to minimize effects to slickspot peppergrass, including

continuation of annual winter season of use for grazing sheep and cattle; and implementing chemical treatments of noxious weeds.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No EOs are documented on non-Federal lands located within the boundaries of the Sunnyside Winter Allotment #00826. No occupied habitat associated with the 0.5 mi pollinator buffer occurs on non-Federal lands within the boundaries of the allotment. *See also the Cumulative Effects discussion on pages 67—68 under Black Canyon Allotment #00176.*

Overview of Effects

Limited trampling impacts and localized degradation of habitat conditions are expected to occur with continued implementation of this action during occasional years with winter thaws. The action area contains 30 percent of C-ranked EO 18 (about 275 ac); and has been categorized as having a medium conservation value for the slickspot peppergrass rangewide. Conservation measures implemented within the Sunnyside Winter Allotment #00826 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. However, current habitat conditions are likely to be maintained over the majority of the action area because slickspot peppergrass conservation measures will continue to be implemented. These conservation measures include seasonal use restrictions that limit annual grazing to fall/winter in EO 18 and in a portion of the 0.5 mi pollinator buffer around EO 41 when slickspot soils are less likely to be saturated and subject to physical disturbance and slickspot peppergrass plants and native forbs are dormant, no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. For these reasons, the action is compatible with maintaining a medium slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (8 more years).

5.3. Jarbidge Field Office Ongoing Actions

Ongoing actions in the Jarbidge FO of the Bureau's Twin Falls District occur in the Owyhee Plateau physiographic region of the slickspot peppergrass. Five livestock grazing allotments contain occupied slickspot peppergrass habitat within the Jarbidge FO area. These allotments range in size from 6,985 to 116,615 ac. In addition to the conservation measures set forth in the 2003 CCA and the 2006 CA, some of the livestock grazing actions in the Jarbidge FO are guided by legal decisions. Judge Williams' 2003 court order identified interim measures for implementation of these grazing actions until the Bureau completed processing of the associated livestock grazing permits. Judge Winnill's 2005 court order resulted in a Stipulated Settlement Agreement (SSA) between the Bureau, the Western Watersheds Project, and the livestock

grazing permittees that set forth terms and conditions for livestock grazing while the Jarbidge RMP is being revised. A 2009 court order by Judge Winmill upheld the 2003 order by Judge Williams and directed the Bureau to maintain or enhance existing and potential populations of sensitive species, including the slickspot peppergrass, within the Jarbidge FO RMP planning area.

In this Opinion, we analyzed the effects of ongoing grazing allotments within the Jarbidge FO area based on the livestock grazing stipulations within applicable court orders rather than the components of the original livestock grazing permits. Following completion of the Jarbidge RMP, current permits, including existing court-stipulated management, will be reviewed. Modified or additional management compliant with current agreements and opinions and indicated by long-term monitoring will be incorporated into renewed livestock grazing permits for the conservation of the slickspot peppergrass. Changes in grazing management within individual allotments addressed in this Opinion may require re-initiation of consultation if these changes may modify potential effects to the slickspot peppergrass as analyzed in this Opinion.

A summary of conditions associated with the Jarbidge FO grazing permits are provided in Tables 8 and 9 below.

Table 8. Bureau terms and conditions applied to grazing allotments in the Jarbidge Field Office (Bureau 2009, Table IV.E01 on pp. IV-402 through IV-404)

	Terms and Conditions	Inside Desert #00353	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050
1	An Annual Grazing Plan is required to be developed annually prior to the start of the grazing year between the BLM and the permittee with the following parameters outlined: livestock numbers, season of use, active AUMs, Management Guidelines and Pasture Specific Guidelines. The Annual Grazing Plan will be enforced under regulation 43 CFR 4100.	X	X			X
2	Protein blocks, salt blocks, and other authorized supplements used during the grazing period will be placed a minimum of ¼ mile from existing water sources. In seeded pastures, mineral placement will be at least ¼ mile from any sagebrush islands 10 acres or greater in size with 15 percent (or greater) sagebrush cover where it is possible.		X	X		
3	In accordance with 43 CFR 4130.3-2 (d), submission of an actual use report is required within 15 days after completion of annual grazing use. Billing for grazing use will occur after the fact in accordance with 43 CFR 4130.8-1(e). Where split seasons are involved an actual use report must be submitted after each grazing period.	X	X			X
4	Pursuant to 43 CFR 10.4(B), the permittee must notify the Bureau Field Manager, by telephone, with written confirmation, immediately upon the Discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony on federal land. Pursuant to 43 CFR 10.4 (C), the permittee must immediately stop any ongoing activities connected with such discovery and make a reasonable effort to protect the discovered remains or objects		X	X		

	Terms and Conditions	Inside Desert #00353	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050
6	This grazing permit is subject to a memorandum decision and order filed April 11, 2003, in Committee for the High Desert, et al. V. Edward Guerrero, et al., CV 02-521-S-MHW (“Guerrero”), until a “Final Decision” is issued and administrative appeal(s), if any, are complete, unless otherwise agreed or ordered by magistrate Judge Williams. See also Western Watershed Project v. K. Lynn Bennett, et al., CV 04-181-S-BLW (Memorandum Decision and order filed August 25, 2004 (wherein U.S. District Court Judge B. Lynn Winmill stated at pages 9-10 that “...this action does not concern Guerrero and will not conflict with ruling issued in that case. To ensure that no conflict occurs, the court will order the dismissal of any part of counts four and eight that might concern the four allotments named above. The Court’s intent is to have the parties litigate any question concerning the interim measures – including their duration – before magistrate Judge Williams. ...”).	X				X
7	Changes in scheduled use must be approved in advance.	X				X
8	Coordinate trailing with the Bureau prior to trailing. A trailing permit may be required prior to crossing public lands.	X		X	X	X
9	Grazing on public land riparian area will be managed to attain and maintain proper functioning condition.			X	X	
10	Livestock turnout is subject to District range readiness criteria.				X	
11	You must comply with maintenance requirements shown on your range improvement permits and cooperative agreements.				X	
12	Supplemental feeding is limited to salt, mineral, and/or protein supplements in block, granular, or liquid form. Such supplements must be placed at least ¼ mile from live water (spring and streams), troughs, wet or dry meadows, and aspen stands. If possible, supplement will be placed ¼ mile from sagebrush islands greater than 5 acres in size. In pastures dominated by native plant communities, supplements will be placed in areas used in previous years.			X	X	

Table 9. Bureau Management Guidelines Applied to Grazing Allotments in the Jarbidge Field Office (Bureau 2009, Table IV.E-2 on pp. IV-405 through IV-409)

	Management Guidelines ^a				
	Inside Desert #00353 ^b	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050
1a	No	Yes	No	No	No
<p>Utilization Targets. Upland utilization on native bunchgrass plant communities (pastures greater than 50 percent native by cover) would be limited to 30 percent utilization (changed from 40 percent to 30 percent in SSA as ordered by Judge Winnill) as measured at key areas. Livestock may be moved or relocated within a pasture when utilization targets have been met if more than one key area exists and utilization targets have not been met at all key areas. Utilization would be conducted based on the Height-Weight methodology described in Interagency Technical Reference 1734-3, <i>Utilization Studies and Residual Measurements</i>. For grazing use that occurs between March 1 and May 15 native pastures would be stocked to achieve 40 percent utilization (changed to 30 percent by the SSA). Utilization measurements would be conducted after May 15 (in accordance with TR 1734-3) to verify the pasture was stocked appropriately. Management adjustments to grazing would be made in subsequent years based on actual use and utilization data.</p>					
1b	Yes	No	No	No	Yes
<p>Utilization Targets. Upland utilization on native bunchgrass plant communities (pastures greater than 50 percent native by cover) will be limited to the light use category (up to 40 percent) of current growth. Seeded (nonnative species) pastures (pastures greater than 50 percent seeded non-native species and less than 15 percent sagebrush cover) would be limited to 50 percent utilization.</p>					

^a Guideline numbering is according to the 2005 SSA; however, site-specific interpretations of the management guidelines are indicated with an ‘a’ or ‘b’ as applicable. Additionally, all were given a short title (***bold, italic***) for ease of reference.

^b The permittee has adopted additional, optional management guidelines not contained in this table.

Management Guidelines^a		Inside Desert #00353^b	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050
2a	Woody Species. Livestock would be managed on native fields in order that no more than 50 percent frequency of nipping on current year leaders on available woody species occurs on key riparian and upland shrubs where woody species are susceptible to browsing damage and browsing is affecting normal growth form or age-class structure. Woody species of concern include willow (<i>Salix</i> spp.), rose (<i>Rosaceae</i> spp.), aspen (<i>Populus</i> spp), bitterbrush (<i>Purshia tridentate</i>), serviceberry (<i>Melanchier</i> spp.), chokecherry (<i>Prunus virginiana</i>), and big sagebrush (<i>Artemisia tridentate</i>), depending upon the site and other resource values.	Yes	No	No	No	Yes
2b	Seeded Pastures. Seeded pastures (pastures greater than 50 percent seeded non-native species) with less than 15 percent sagebrush cover would be limited to 50 percent utilization as measured in key areas. Livestock may be moved or relocated within a pasture when prescribed utilization levels have been achieved if more than one key area exists and utilization levels have not been achieved in all key areas. Grazing use may be authorized in annual grazing plans up to an average of 70 percent on Crested Wheatgrass in key areas on an occasional basis (once in 5 years) to reduce/prevent Crested Wheatgrass wolf plants. When 70 percent grazing use is authorized in key areas within a seeded pasture, use in the remaining seeded pastures would be at 50 percent or less; in the native pastures at 35 percent or less; and total grazing use would be limited to the permitted use in the allotment. Utilization would be calculated based on the Height-Weight Methodology described in Interagency TR 1734-3, <i>Utilization Studies and Residual Measurements</i> . For grazing use that occurs between March 1 and May 15, seeded pastures would be stocked to achieve no more than 50 percent utilization. Utilization measurements would be conducted after May 15 (in accordance with TR 1734-3) to verify the pasture was stocked appropriately. Management adjustments to grazing would be made in subsequent years based on actual use and utilization data.	No	No	No	No	No
3	Project Maintenance. Where assigned through cooperative maintenance agreements, project maintenance of structural livestock management facilities is required prior to livestock turn-out, as necessary to effectively manage livestock grazing and be in compliance with the RMP.	Yes	No	No	No	Yes

Management Guidelines ^a						
	Inside Desert #00353 ^b	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050	
4	Yes	No	No	No	Yes	<p>Supplements. Protein blocks, salt blocks and other supplements will be placed a minimum of one-quarter (3) mile from existing water sources and a minimum of one-half (2) mile from any large remnant native sagebrush plant communities (10 acres or larger) where practical.</p>
5	No	No	No	No	No	<p>Riparian Areas. Stream segments assessed as functioning at risk with no apparent trend or a downward trend or streams that are non-functional would be subject to a minimum six (6) in. median stubble height on key hydric plant species or species groups at the end of the growing season (Clary and Leiminger 2000). The stubble height would be measured along the greenline in key riparian areas dominated by herbaceous species or herbaceous mix with woody species. Key species would be determined on site. In riparian areas along streams not meeting Idaho Water Quality Standards for their beneficial use, and where the cause is a result of livestock management within the pasture as identified by an interdisciplinary team and monitoring, this management guidelines would apply. Utilization in riparian areas would be measured using the Residual Measuring Method. As described in <i>Utilization Studies and Residual Measurements Interagency Technical Reference</i> (USFS, 1996)</p>
6	No	No	No	No	No	<p>Fish-Bearing Streams. For known or suspected sensitive fish-bearing streams, livestock would be managed so stream bank alteration is minimized to allow improving trends toward or maintain PFC. If improving trends are not occurring, streambank alteration would be limited to 10 percent of the stream bank in designated key areas (Cowley 2002). In riparian areas along streams not meeting Idaho Water Quality Standards for their beneficial use where the cause is a result of livestock management within the pasture as identified by an interdisciplinary team and monitoring, this management guidelines would apply. Stream bank damage would be measured using the method presented in “Monitoring the Current Year Streambank Alteration, Ervin R. Cowley, Bureau of Land Management, Idaho State Office, March, 2002” as modified based on future research.</p>

		Inside Desert #00353 ^b	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050
8	Riparian Areas. In riparian areas dominated by woody species or a mix of woody and herbaceous species, livestock would be managed so that regeneration of woody species would be allowed to occur. If regeneration is not allowed to occur, woody species use would be limited to no more than 50 percent frequency of nipping (about 25 percent utilization) on current year leaders of key riparian shrubs accessible to livestock in key areas (Stickney 1966). Key species would be determined on site. Utilization of shrubs in riparian and upland areas would be measured using the Extensive Browse Method. Utilization methods are described in described in <i>Utilization Studies and Residual Measurements Interagency Technical Reference</i> (FS, 1996)	No	No	No	No	No
9	Uplands. In upland areas, livestock would be managed so that no more than 50 percent frequency of nipping would occur on current year leaders on upland shrubs in key areas (Stickney 1966). Key species would be determined on site. Utilization of shrubs in riparian and upland areas would be measured using the Extensive Browse Method. These utilization methods are described in <i>Utilization Studies and Residual Measurements Interagency Technical Reference</i> (FS 1996).	No	Yes	No	No	No
10	Big Game Winter Range. In critical big game winter range, livestock would be managed so that less than 50 percent of current year leaders are browsed (frequency of nipping) on key forage shrubs where woody species are susceptible to damage by browsing and where livestock utilization is affecting normal growth and/or age class structure (Stickney 1966). Key species would be determined on site. Utilization of shrubs in riparian and upland areas would be measured using the Extensive Browse Method. These utilization methods are described in <i>Utilization Studies and Residual Measurements Interagency Technical Reference</i> (FS, 1996).	No	No	No	No	No
11a	Rest or Deferment. Implement grazing management practices that provide periodic rest or deferment during critical growth stages to allow sufficient growth to achieve and maintain healthy, properly functioning conditions including good plant vigor and adequate plant cover appropriate to site potential.	No	No	No	No	No

		Management Guidelines^a				
		Inside Desert #00353^b	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050
11b	<i>Herding, Trailing, and Gathering.</i> Herding, trailing and gathering of livestock would not occur during periods when soils are saturated and slickspots are most vulnerable to trampling impacts. Probable periods with saturated soils include spring thaw (when the frost leaves the ground) and immediately following significant moisture events at anytime of the year. Periods of highest risk for significant moisture events to produce saturated soil conditions occur from spring thaw to June 1.	No	Yes	No	No	No
12a	<i>Grazing Restrictions.</i> In the Mosquito Lake, Mosquito Butte and East Well pastures, no grazing in occupied slickspot peppergrass pastures would occur February 1 to March 31, which is the most probable period for saturated soils.	No	Yes	No	No	No
12b	<i>Bighorn Sheep Range.</i> In bighorn sheep winter and lambing range, grazing of winter range or lambing range pastures during critical times would occur after coordination with the IDFG and the affected permittee. The critical winter range period is December 1 through March 15 and for lambing is from May 1 through June 15.	No	No	No	No	No
13a	<i>Big Game Winter Range.</i> In big game winter range, grazing of winter range during critical times would occur after coordination with the IDFG and the affected permittee has occurred. The critical period is from December 1 to March 15.	No	No	No	No	No
13b	<i>Spring-Deferred Grazing.</i> Spring-deferred rotation grazing management would be implemented with the specific intent of limiting livestock hoof impact during periods with wet soils (April 1 to June 1). Utilization levels for this period (April 1 to June 1) would be limited to 20 percent of annual production as measured at key areas. Pastures would be stocked to achieve 20 percent utilization. Approximately ½ of these pastures would be used in the spring and summer use period. Spring/summer grazed pastures would not be grazed in the fall or winter of the same grazing year and would also receive growing season rest during the following grazing year. Pastures grazed outside of the February 1 to June 1 restricted use period could receive up to 40 percent utilization on native range and up to 50 percent utilization on rangeland seeded with non-native wheatgrasses. Utilization would be measured at key areas.	No	Yes	No	No	No

Management Guidelines ^a		Inside Desert #00353 ^b	Juniper Butte #01119	Juniper Draw #01138	Juniper Ranch #01031	Poison Butte #01050
15	Knowledgeable and Reasonable Practices. Knowledgeable and reasonable practices other than those listed herein may be used to meet applicable land use objectives and applicable Rangeland Health Standards. These practices may be initiated subject to scientific literature; monitoring data collected over time; consultation, coordination and cooperation; and consistent with 43 CFR 4130.3 and 43 CFR Part 4100, subpart 4160 and NEPA.	No	Yes	No	No	No
16	Sage Grouse Range. In areas of sage grouse strongholds, grazing management would include shutting off troughs near sage grouse leks during nesting season; locating new troughs at least 0.25 miles away from large sagebrush stands where there is adequate area on non-sagebrush plant communities; placing any new salting (other approved supplement) areas at least 0.25 miles from leks; placing salting areas at least 0.25 miles from sage brush stands where there is adequate areas of non-sagebrush plant communities; and new fencing would be located at least 0.6 miles from leks. These management strategies and management guidelines 1, 9, and 11 would provide parameters for Adaptive Management to assure adequate nesting, brood rearing and winter habitat is available for sage grouse.	No	No	No	No	No
17	Knowledgeable and Reasonable Practices. Knowledgeable and reasonable practices other than those listed herein may be used to meet applicable Land Use Plan objectives and applicable Rangeland Health Standards within such pasture(s), subject to monitoring data collected over time; subject to consultation, coordination and cooperation; and; subject to 43 CFR 4130.3 and 43 CFR Part 4100, Subpart 4160.	No	Yes	No	No	No

Note: Yes = Applied as written. Add = Additional guidelines apply, or guidelines vary slightly from this description. No = Guideline is not applied.^c

^c Guidelines may not be applied to all pastures in the allotment. Refer to the allotment-specific descriptions to determine which guidelines are applied to individual pastures.

General parameters for season of grazing use in the Jarbidge FO are described in Table 10 below. Actual use dates and pasture rotation associated with plant phenology may vary from year to year based on climatic conditions. For instance, a warm spring may result in earlier flowering of key species. Conversely, a cool spring may result in later flowering.

Table 10. General prescriptions applied to grazing allotments in the Jarbidge Field Office

Number	Description
1	Winter Grazing (January 1 to March 31)—Plant dormancy
2	Spring Grazing (April 1 to June 1)—Critical growing season (boot stage to flowering)
3	Late Spring/ Early Summer Grazing (June 1 to July 15)—Flowering to seed set
4	Summer Grazing (July 16 to September 30)—Seed set to seed dispersal
5	Fall Grazing (October 1 to December 31)—Seed dispersal to dormancy
6	Rest from Livestock Grazing (March 1 to February 28/29 of the following year)—Improve and maintain plant vigor

Refer to the discussion in section **5.1.2 Overview of Effects Analyses Process** above on the methods used to make effects determinations for ongoing actions, including livestock grazing allotments. Project-specific descriptions and effects analyses for ongoing actions in the Jarbidge FO area follow.

5.3.1. Livestock Grazing Permits

5.3.1.1. Jarbidge Field Office Ongoing Livestock Grazing Allotment Descriptions and Effects Determinations

5.3.1.1.1. Inside Desert Allotment #00353

Description of the Action Area

The Inside Desert Allotment #00353 is located in T11S,12S,13S,14S,15S,16S,17S; R8E,9E,10E,11E, Boise Meridian, and T47N, R59E/60E, Mount Diablo Meridian. The allotment is approximately 116,615 ac, of which 103,567 ac are Bureau-administered land; 5,899 ac are State land; 7,145 ac are private land; and 5 ac are military land.

This allotment contains 27,360 ac of slickspot peppergrass occupied habitat: 25,988 ac on Bureau land and 1,373 ac on State land. Of the 40 fenced pastures in this allotment, 10 pastures contain occupied habitat for the slickspot peppergrass. A total of 8 EOs and 12 sub-EOs are located either wholly or partially within the boundaries of the Inside Desert Allotment #00353 action area, which contains all or portions of EOs 81, 82, 84, 93–96, and 16—including sub-EOs 702–706, 709, 712, 715, 716, 722, 725, and 726—in CCA MA 11. Sub-EOs are subsets of the large EO 16 metapopulation. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer. Acreages for overlapping pollinator buffers are counted only once.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass

occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

Grazing use within the Inside Desert Allotment #00353 is subject to a grazing permit, as conditioned by a Memorandum Decision and Order (Order) issued by U.S. Magistrate Judge Williams on April 11, 2003, in Committee for the High Desert, et. al. v. Edward Guerrero, et al., CV-02-521-S-MHW (U.S. District Court, District of Idaho), as well as another Order dated July 20, 2003. Judge Williams ordered that the Bureau's 2003 Annual Grazing Plan (AGP) be implemented as an interim grazing management plan until the Bureau could complete the permit renewal process and ordered the implementation of a number of interim grazing conditions, including some conditions relating to the slickspot peppergrass. No final decision has been issued to complete the permit renewal process for this allotment, and thus, the Order is still relevant. Under the Order, the permittee is authorized to graze 17,958 AUMs by cattle from March 1 to February 28 in a deferred rotation. The 2003 Order by Judge Williams providing interim measures to conserve the slickspot peppergrass was upheld in a Memorandum Decision and Order issued by U.S. District Court Chief Judge Winmill on February 26, 2009, in Western Watershed Project v. Tom Dyer, et al., CV-04-181-S-BLW (U.S. District Court, District of Idaho). This permit is scheduled to be renewed around 2014 (3 years following the signing of the Record of Decision for the Jarbidge RMP, as stipulated in the SSA).

An AGP is developed each year for this allotment by reviewing the monitoring data from previous years and making any needed changes to pasture use to maintain or improve conservation of the slickspot peppergrass (examples of such pasture use changes are provided in the Assessment [Bureau 2009, p. IV-417]). If monitoring indicates that changes are necessary to conserve the slickspot peppergrass, the Bureau will develop appropriate adaptive management. Adaptive management allows for modification of the AGP, and management can be modified to further avoid or minimize adverse livestock grazing-related impacts to the slickspot peppergrass. The deferred rotation system includes State and private land. The West Juniper Draw Pasture of the Juniper Draw Allotment #01138 is grazed with the South Clover Pasture of the Inside Desert Allotment #00353 due to the removal of the boundary fence as part of the Air Force training range withdrawal. The pastures are grazed as the South Clover Pasture according to the AGP for the Inside Desert Allotment #00353.

Under the deferred grazing rotation system, winter use tends to occur in the northern pastures of the allotment where the elevation is lower. For the purposes of conserving the slickspot peppergrass, winter livestock use during February and March does not occur in the West Well, Rocky Draw, Trough in the Draw, Juniper Lake, South Clover, and North Well Pastures. As weather warms in the spring, the majority of the livestock are moved south through the allotment, using approximately half of the available pastures. Pastures grazed in the growing season of one year typically receive growing-season rest the following year. Specifically for the purpose of conserving the slickspot peppergrass, the West Well, Rocky Draw, Trough in the Draw, Juniper Lake, South Clover, and North Well Pastures are alternately deferred during the spring grazing season every other year. The majority of cattle leave this allotment and are moved to summer range on USFS grazing allotments from July 2 to October 15, leaving only smaller

numbers of cattle and horses (about 40 horses) on this allotment during the summer and early fall. About mid-October, the livestock return to this allotment from the USFS grazing allotments and are rotated and moved north through fall-use pastures, returning to the northern winter pastures in this allotment to complete the yearly cycle. Season of use, grazing periods, and conservation measures are specified in the AGP. General parameters applied to grazing allotments are shown in the Assessment (Bureau 2009, p. IV-410, Table IV.E-3), and those dates apply to the Inside Desert Allotment #00353.

Under the Williams 2003 Order, six of the ten pastures containing occupied slickspot peppergrass habitat (Trough in the Draw [also known as Draw Below the Well], Juniper Lake, South Clover [also known as Clover Butte South], North Well, West Well, and Rocky Draw Pastures) are grazed as follows:

- Herding, trailing, and gathering of livestock would not occur in pastures containing occupied habitat during periods when soils are saturated and slickspots are most vulnerable to trampling impacts. Probable periods with saturated soils include spring thaw (when the frost leaves the ground) and periods immediately following significant moisture events.
- No grazing would occur in pastures with occupied habitat from February 1 to March 31, which is the most probable period for saturated soils.
- Spring-deferred rotation grazing management would be implemented with the specific intent to limit livestock hoof impacts during periods with wet soils (April 1–June 1) in pastures containing occupied habitat. These pastures are stocked at 20 percent of the forage production and monitored. Pastures used anytime in the spring (April 1–June 1) would not be used the following spring. Summer, fall, and winter use of these pastures could occur with up to 40 percent utilization on pastures dominated by native range and 50 percent utilization on pastures dominated by seeded nonnative perennials (e.g., crested wheatgrass). Pastures grazed in the spring would not be regrazed in the fall or winter of the same grazing year.

Under the Williams 2003 Order, all pastures, including pastures containing occupied habitat, are managed according to the following requirements in accordance with the 2003 AGP:

- Two-day trailing periods per pasture will be authorized as necessary. Overnight livestock stops will be permitted.
- Pastures will be grazed only one time during the grazing year. The grazing year is defined as March 1 to February 28.

Terms and conditions applicable to this allotment are as follows:

- The permit is subject to judicial orders.
- Changes in scheduled use must be approved in advance.
- Trail activities on public lands must be coordinated with the Bureau prior to trailing.

A full description of the terms and conditions is provided in the Assessment (Bureau 2009, p. IV-402, Table IV.E-1).

The grazing permit with deferred rotation grazing system also includes the implementation of adaptive management, whereby pasture use schedules are set in an AGP using specified

management guidelines. The management guidelines applicable to this allotment are described in the Assessment (Bureau 2009, pp. IV-403 through IV-409, Table IV.E-2).

Independent of the Williams Order, the permittee also voluntarily implemented additional actions within the allotment in spring of 2004. Two pastures containing slickspot peppergrass occupied habitat (Juniper Lake Holding Pasture and Draw Below the Well Enclosure) are voluntarily not grazed by the permittee to accommodate scientific and management experiments conducted in the pastures. In addition, the conservation measures included in the CCA and the CA are followed. The CCA established a number of conservation measures for this allotment (refer to State of Idaho et al. 2003, 2006, pp. 56–61). Many of these measures are part of the Williams Order. CA conservation measures applicable to the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass.

Prior to 2006, trailing authorizations through the Inside Desert Allotment #00353 were typically issued to outside permittees. In February 2006, the Jarbidge FO developed a policy regarding livestock trailing across allotments within the slickspot peppergrass CCA LEPA Consideration Zone (defined in the CCA as all areas that may or do contain the slickspot peppergrass). The policy no longer allows crossing permits to be issued to livestock operators other than those holding the grazing permit. The only trailing authorized within allotments in the CCA LEPA Consideration Zone is pasture-to-pasture movement of cattle by the permit holder. While not specified in the policy, the Jarbidge FO also extends this policy to all occupied slickspot peppergrass habitat outside the CCA LEPA Consideration Zone. Eliminating trailing in the Inside Desert Allotment #00353 contributes to the conservation of the slickspot peppergrass by preventing potential trampling impacts by livestock not controlled by the permittee.

Range improvements constructed within slickspot peppergrass occupied habitat in the Inside Desert Allotment #00353 include 22 water facilities, 32 mi of water pipeline, 1 corral located near the Three Creek Well, and 48 mi of allotment boundary and internal pasture fence. Livestock water is currently delivered to the Inside Desert Allotment #00353 through the Jim Bob and Pence Spring pipeline systems. These systems deliver water through underground pipelines and above-ground tanks and reservoirs to troughs throughout the allotment, which improve livestock and wildlife distribution and minimize livestock concentration in any one area. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-414 through IV-420).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Inside Desert Allotment #00353 contains a total of 8 EOs (16, 81, 83, 84, 93, 94, 95, and 96) and 12 sub-EOs (702, 703, 704, 705, 706, 709, 712, 715, 716, 722, 725, and 726) that are located either wholly or partially within the boundaries of the Inside Desert Allotment #00353 ongoing action area. All 12 sub-EOs are associated with the EO 16 metapopulation. Twelve HIP transects are monitored in pastures containing occupied habitat within the allotment. One additional HIP

transect (705) is located in the West Juniper Draw Pasture of the Juniper Draw Allotment #01138. This pasture is managed with the South Clover Pasture of the Inside Desert Allotment #00353; therefore, data associated with the HIP transect are indicative of livestock management effects in the Inside Desert Allotment #00353. Information for these EOs and the associated HIP transect data is summarized below. For more detailed information, see the Assessment (Bureau 2009, pp. IV-421 through IV-422).

Five EOs (81, 83, 84, 93, and 95) are located entirely within the Inside Desert Allotment #00353, while EOs 16, 94, and 96 are only partially located with the allotment. Three EOs are categorized by INHP as B-ranked (16 – about 18,991 ac, 84 – 2 ac, and 96 – about 24 ac); one is C-ranked (95 – 2 ac); one is D-ranked (93 – 5 ac); and three are F-ranked (81 – 0.5 ac, 83 – 0.5 ac, and 94 – about 1 ac), which denotes a failure to find slickspot peppergrass plants at that EO. Although the 12 sub-EOs represent sub-units of B-ranked EO 16, these sub-EOs have also been ranked by the INHP. All but four (702, 703, 704, and 722) of the 12 sub-EOs associated with EO 16 are located entirely within the allotment. Two sub-EOs are categorized by INHP as B-ranked (704 and 712); four are C-ranked (702, 715, 716, and 725); five are D-ranked (703, 705, 706, 709, and 726); and one is E-ranked (722), which represents an EO that is extant but lacks further INHP data.

No HIP data are available for EOs 81, 83, and 94 or sub-EOs 703, 705, 706, 709, 722, 725, and 726 (some EOs and sub-EOs contain more than one HIP transect). Only 1 of the 13 HIP transects representative of this allotment (transect 716 at sub-EO 716) exhibited greater than 500 plants over the past 5 years of HIP monitoring, ranging from 8 to 625 individual plants over the monitoring period (Colket 2009, p. 31). Eight of the HIP transects exhibited less than 100 plants in all or most years of monitoring over the same period. The number of plants at the remaining four transects fluctuated over the 5-year monitoring period but contained 100 or more plants during most years of monitoring.

Plant numbers at 8 of the 13 HIP transects relevant to this allotment (HIP transects 702, 703, 705, 709, 712, 714, 720, and 721) showed no obvious trends in over the 5 years of HIP monitoring, with variations in plant numbers in some years likely due to environmental factors such as spring precipitation levels. Two of these eight HIP transects (703 and 714) have very low numbers of slickspot peppergrass plants documented. Plant numbers at the remaining 5 HIP transects (710, 713, 715, 716, and 719) appear to be declining over the 5 years of HIP monitoring. Three of these 5 HIP transects (713, 716, and 719) were burned in the 2007 Murphy Complex Fire; 1 of the 5 HIP transects (715) is located within a livestock enclosure fence.

The upland vegetation in this allotment is dominated by crested wheatgrass and Wyoming big sagebrush communities with understories dominated by Sandberg bluegrass, crested wheatgrass, bluebunch wheatgrass, or Thurber's needlegrass. Vegetation data indicate that approximately 24 percent of occupied habitat on Bureau-administered lands in the Inside Desert Allotment #00353 contains native shrub communities with a native understory, and an additional 2 percent contains native shrub with a nonnative perennial grass understory. Approximately 58 percent of slickspot peppergrass occupied habitat on Bureau-administered lands in the allotment is dominated by nonnative perennial grasses with minimal or no native shrub component (less than 10 percent canopy coverage) due to wildfire. Native grass communities make up about 4 percent of the occupied habitat. There is a low occurrence of invasive nonnative annual plants in the allotment.

Approximately 14 percent of occupied habitat in the allotment burned in 2007. The landscape surrounding HIP transects 719 (EO 95), 720 (EO 96), and 721 (EO 96) completely burned in 2007, while the landscape surrounding HIP transects 713 (EO 704) and 716 (EO 716) partially burned. Loss of big sagebrush cover occurred at HIP transect 719 (EO 95). Based on the above information, there is a low to moderate potential for enhancing the distribution and abundance of the slickspot peppergrass in occupied habitat located outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Inside Desert Allotment #00353 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock. Portions of slickspot peppergrass occupied habitat associated with the EOs in this allotment have burned several times in the past, including fires in the 1970s, 1980s, 1990s, and the 2000s, with the most recent fire in 2007. The 2007 fire burned about 32 percent of all lands within the allotment, including approximately 14 percent of slickspot peppergrass occupied habitat (Bureau 2009, pp. IV-420--422).

Following the 2007 fire, big sagebrush was seeded; however, the success of that seeding has not yet been determined. Prior to 2007, reestablishment of big sagebrush following fire had limited success and fire rehabilitation efforts used perennial grasses to stabilize the soil. As a consequence, Bureau-administered lands supporting slickspot peppergrass occupied habitat in this allotment consist primarily of nonnative perennial seedings (e.g., crested wheatgrass) and pockets of native shrub communities. Use of nonnative perennial grasses for postfire rehabilitation has, in part, prevented dominance of the area by nonnative invasive annuals, although some unseeded nonnative invasive annuals such as cheatgrass, bur buttercup, and clasping pepperweed occur in the allotment. Current habitat conditions in this allotment are rated in the Assessment as low to moderate quality for the slickspot peppergrass due to over 50 percent of the slickspot peppergrass occupied habitat being dominated by crested wheatgrass, the presence of 24 percent native shrub communities, and the low occurrence of areas dominated by invasive nonnative annuals.

The AGPs are developed to prescribe use periods for each pasture throughout the grazing year, including deferment, rest, and utilization, and must comply with the 2003 Williams and the 2009 Winmill Orders. Use stipulations associated with Judge Williams' 2003 Order are anticipated to have reduced grazing impacts on the slickspot peppergrass by decreasing the potential for disruption of the soil surface during saturated soil conditions on 99 percent of the slickspot peppergrass occupied habitat. Late winter and spring use restrictions are imposed on six of the pastures containing occupied habitat (West Well, Rocky Draw, Trough in the Draw, Juniper Lake, South Clover, and North Well). For example, during the spring grazing season (April–June), livestock are alternately deferred and stocked at 20 percent of the forage production. The Assessment states that limiting spring use to every other year and utilization to 20 percent reduces disturbance that could promote weed introduction and spread in slickspot peppergrass occupied habitat and helps to reduce adverse effects to slickspot microsites and native plant communities that could result from trampling during saturated soil conditions. However, adverse effects from livestock trampling could occur during spring use periods and in years when saturated soil conditions coincide with livestock use. In addition to these conservation measures, the permittee voluntarily agreed to not graze two pastures containing slickspot peppergrass

occupied habitat (Juniper Lake Holding Pasture and Draw Below the Well Enclosure) to allow for these areas to be used in a slickspot peppergrass livestock trampling study.

Based on grazed transects associated with the Inside Desert Allotment #00353, total livestock hoof print cover in slickspots was moderate to high overall in all years, with average percent cover of livestock hoof prints exceeding 10 percent about 18 percent of the time and average percent cover of penetrating livestock hoof prints exceeding 10 percent about 8 percent of the time. The penetrating trampling trigger was tripped in 5 of 5 years of HIP monitoring in 1 to 4 of the 13 total HIP transects on the allotment. Although 2009 HIP data are not currently available, preliminary results indicate that penetrating trampling occurred due to wet conditions during June. Average percent cover of livestock feces in slickspots was less than 5 percent for all transects in all years. Sullivan and Nations (2009, p. 136) found only a single year (2007) where a consistent negative relationship existed between slickspot peppergrass abundance and each of the measures of livestock presence within slickspots (e.g., total livestock print percent cover, penetrating livestock print percent cover, and livestock feces percent cover) from HIP monitoring data, and this relationship only occurred within the Owyhee Plateau physiographic region. Based on this analysis, even with the existing conservation measures, there may be adverse impacts within this allotment in individual years that may adversely affect the abundance of the slickspot peppergrass within the Owyhee Plateau physiographic region.

HIP transect 715 (associated with sub-EO 715) is currently located inside a livestock enclosure. This enclosure, which was constructed between the 2004 and 2005 monitoring seasons, is used for controlled livestock trampling studies. In this study, the mechanical effects of cattle trampling on the slickspot peppergrass is examined by an annual treatment of leading a halter-broken heifer (about 900 pounds) across each of 10 selected slickspots until 8--10 percent of each slickspot is covered with hoof-prints. (Young 2007, p. 12). Because this area has not been grazed by livestock since construction of the enclosure, data collected for this transect are not representative of current livestock management in the remainder of the allotment. Livestock use in the enclosure is limited to a single heifer being halter-led to walk on slickspots during the application of study treatments for several hours on one day each year.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The Assessment indicates that approximately 24 percent of slickspot peppergrass occupied habitat on Bureau-administered lands in the allotment contains native shrub communities with a native understory, and an additional 2 percent contains native shrub with nonnative perennial grass understory. Over 50 percent of the slickspot peppergrass occupied habitat is dominated by crested wheatgrass with minimal or no native shrub component. Current habitat condition quality ratings for seeded and unseeded nonnative plants within slickspots, which are based on HIP data, averaged moderate to high quality for the slickspot peppergrass. One exception has been sub-EO 716, which over 4 of the past 5 years has documented greater than 10 percent combined nonnative annual and perennial cover within slickspots. Overall, no clear trend in nonnative plant cover was evident from HIP data. The majority of nonnative plant cover in slickspots in the Inside Desert Allotment #00353 is composed of crested wheatgrass, cheatgrass, bur buttercup, and clasping pepperweed.

Since the construction of a livestock exclosure fence between 2004 and 2005 that contains HIP transect 715, slickspot peppergrass plant numbers at HIP transect 715 for EO 16 have declined over the past 3 years of monitoring. The highest plant numbers in this HIP transect were observed in 2005 in the spring subsequent to fence construction (286 plants). Plant numbers observed substantially declined on this HIP transect in 2006 (17 plants), with the lowest plant numbers observed in 2008 (10 plants) (Colket 2009, p.32). HIP transect 715 had such an increase in crested wheatgrass cover since it was fenced that slickspots on this transect are barely visible; it is unclear whether this decrease in the number of slickspot peppergrass plants on HIP transect 715 is related to the increased crested wheatgrass cover and associated litter cover in the slickspots (Colket 2009, p. 23). It has been suggested that the Bureau consider testing spot herbicide treatments on seeded invasive nonnative plants in slickspots, particularly on slickspots near HIP transect 715 (Colket 2009, p. 27)

Biological soil crust cover measurements at HIP transects between years did not appear to be consistent; however, a 2006 Bureau inventory indicated that average biological soil crust cover in the allotment was about 11 percent. Areas that burned in 2007 might currently have lower cover. See the Assessment for a discussion regarding HIP data for biological soil crusts (Bureau 2009, pp. IV-478 through IV-479).

A decrease in forb cover occurred at 11 of 13 sites between 2004 and 2006 (the only available data for forb cover) and all sites had low cover (less than 1.5 percent) in 2006. Low forb cover might have some historical basis and is influenced by current vegetation. Reported forb cover and diversity may have also been influenced by the timing of monitoring and the amount and timing of annual precipitation. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

Effects of the Action

No direct effects to slickspot peppergrass occupied habitat are likely to occur from authorized livestock use in the Juniper Lake Holding Pasture or the Draw Below the Well Exclosure as the permittee is currently not grazing these pastures.

In addition, conservation measures in this allotment—including limiting spring livestock use to every other year and limiting utilization to 20 percent—are expected to reduce the potential for grazing activity to cause adverse effects to the slickspot peppergrass and its habitat. In particular, lack of or the reduced grazing use during periods when saturated conditions are most likely to occur reduces the potential for physical disturbance of slickspot microsites. However, based on HIP monitoring data, penetrating trampling is likely to occur in the Inside Desert Allotment #00353 during spring use and other periods when saturated soil conditions coincide with livestock use. Livestock trampling when soils are wet increases the potential for penetrating livestock trampling, which can impair existing plants and seed beds and change the slickspot soil structure. To date, based on grazed transects associated with the Inside Desert Allotment #00353, total livestock hoof print cover in slickspots was moderate to high overall in all years, with the average percent cover of livestock hoof prints exceeding 10 percent about 18 percent of the time and average percent cover of penetrating livestock hoof prints exceeding 10 percent about 8 percent of the time. The penetrating trampling trigger was tripped in 5 of 5 years of HIP

monitoring in 1 to 4 of the 13 total HIP transects on the allotment. Although 2009 HIP data are not currently available, preliminary results indicate that penetrating trampling occurred due to wet conditions during June. Instances where average percent cover of livestock hoof prints exceeded 10 percent sometimes coincided with spring use; however, spring use did not consistently result in high percent cover of livestock prints. Periodic use during saturated soil conditions is likely to continue to occur but at a reduced level due to the conservation measures in this allotment as described above. However, as only about four more years are remaining for this action, it is likely that while adverse effects on slickspot peppergrass will continue to occur annually, the conservation value of the EOs within this allotment is not likely to be reduced within this relatively short time period.

Livestock trampling may reduce cover of biological soil crusts during both wet (saturated) and dry conditions; however, use restrictions imposed on six of the pastures containing occupied habitat would tend to reduce impacts to biological soil crusts during periods when the nonvascular plants composing biological soil crust are actively reproducing (i.e., when soils are moist or wet but not frozen). Current management in occupied habitat would tend to promote recovery of organisms that would be impacted by use during dry periods when biological soil crusts are more susceptible to crushing. Therefore, it is expected that biological soil crust cover will be maintained at a moderate level within the allotment.

Livestock grazing activities can also contribute to the spread of nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds. Since greater than half of the slickspot peppergrass occupied habitat within this allotment is dominated by seeded nonnative perennial grasses, the potential exists for these to spread to adjacent native areas due to disturbance such as fire or use during saturated soil conditions. In addition, livestock use during periods when noxious weeds or invasive plants are dispersing seed could result in transportation of seed into or out of occupied habitat. Based on 5 years of HIP data within the allotment, increased effects of nonnative vegetation within slickspots on slickspot peppergrass are possible but the likelihood and severity are low due to conservation measures (deferred rotation and other seasonal use restrictions) discussed above. Cattle feces may also increase the likelihood of nonnative plant invasion due to transport of seed and elevated nitrogen levels. For the Inside Desert Allotment #00353, average percent cover of livestock feces in slickspots was less than 5 percent for all transects in all years, so effects associated with presence of livestock feces are anticipated to be minimal.

Generally, livestock grazing in native plant communities reduces plant biomass and can affect plant species and structural diversity at the community and landscape level. Greater than half of the slickspot peppergrass occupied habitat within this allotment is dominated by nonnative perennial grasses; however, the presence of native shrub communities slightly increases the probability that moderate to high quality slickspot peppergrass sites are currently located in these areas of the allotment. These native shrub communities become increasingly valuable as habitat with sagebrush cover decreases and the potential for introduction and spread of invasive nonnative plants increases due to high fire frequencies. Livestock use during late spring and early summer could affect the long-term maintenance of native communities. Annual grazing

that occurs during flowering and seed production could result in reduced plant reproductive success. As discussed above, the annual grazing plans for this allotment are developed to prescribe use periods for each pasture throughout the grazing year, including deferment, rest, and utilization, and must comply with the 2003 Williams and 2009 Winmill Orders. Consequently, annual use during critical growth periods is not likely to occur. Therefore, although adverse effects to native vegetation are possible, the likelihood and severity of those effects are expected to be low due to the restrictions placed on the timing, amount, and duration of grazing activities within slickspot peppergrass-occupied habitat in this allotment. Because much of this allotment is dominated by nonnative perennial grasses, it has limited potential for increased cover and diversity of native forbs. Due to the competitive nature of the nonnative perennial grasses and limited potential for expansion of existing forb populations, slickspot peppergrass occupied habitat dominated by nonnative perennial grasses will require active restoration to increase forb cover and diversity. Current livestock management in these areas would have a limited effect on the existing forb component due to limited grazing levels in the spring when native forbs are actively growing and reproducing.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

Cumulative effects likely to occur within the allotment are described in the Assessment (Bureau 2009, p. IV-413). No residential and agricultural development exists or is planned on the 1,373 ac of State lands within the Inside Desert Allotment #00353 that contain occupied slickspot peppergrass habitat. In addition, the Service recognizes that some actions on non-Federal lands within this allotment may have adverse effects at the individual plant or EO level for the slickspot peppergrass. However, because only 2 percent (322 ac) of the total EO acreage rangewide for the slickspot peppergrass occurs on non-Federal lands (see Table 2), the Service expects that cumulative effects will be insignificant in terms of affecting the rangewide survival and recovery of the slickspot peppergrass. *See also the Cumulative Effects discussion on pages 67--68 for the Black Canyon Allotment #00176.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 76 percent of B-ranked EO 16 (about 18,991 ac), 50 percent of B-ranked EO 96 (about 24 ac), and B-ranked EO 84 (2 ac). The allotment has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Five additional small EOs are also located within the allotment: C-ranked EO 95 (2 ac), D-ranked EO 93 (5 ac), and F-ranked EOs 81 (0.5 ac) and 83 (0.5 ac), and 70 percent of F-ranked 94 (about 1 ac).

Conservation measures implemented within the Inside Desert Allotment #00353 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. Implementation of a deferred grazing rotation system and restrictions on cattle stocking levels are likely to have resulted in a reduced frequency and magnitude of adverse grazing impacts, inclusive of penetration trampling events, on the slickspot peppergrass and its habitat within this allotment. Other conservation measures that may reduce

adverse impacts to the slickspot peppergrass in the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass.

HIP monitoring in the allotment show total livestock hoof print cover in slickspots as moderate to high overall in all years, with the average percent cover of livestock hoof prints exceeding 10 percent about 18 percent of the time and average percent cover of penetrating livestock hoof prints exceeding 10 percent about 8 percent of the time. Penetrating trampling triggers have been tripped in at least one transect in all 5 years of HIP monitoring in the allotment. It is likely that adverse effects will continue to occur in the allotment despite conservation measures currently in place. However, over the remaining 4 years of permit authorization, the overall distribution and abundance of the slickspot peppergrass and the condition of its habitat on this allotment are expected to remain relatively stable based on the past 5 years of HIP monitoring data in the allotment, although some level of livestock penetrating trampling is likely to continue to occur. Effects of these penetrating trampling incidents are expected to be tempered by the sheer magnitude of the B-ranked EOs located within the allotment (18,991 ac) coupled with the short remaining term of the action (about 4 more years). For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (1 more year).

5.3.1.1.2. Juniper Butte Allotment #01119

Description of the Action Area

The Juniper Butte Allotment #01119 is located in T13S/14S, R9E/10E/11E and covers approximately 19,326 ac: 8,173 ac is Bureau-administered land; 955 ac is State land; and 198 ac is private land. This allotment contains 8,461 ac of slickspot peppergrass occupied habitat, including all or portions of EOs 74, 85, 87, 97, 98, 99, and 16 with sub-EOs 700, 702, and 704 in CCA MA 11. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer. Acreages for overlapping pollinator buffers are counted only once.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

Grazing use within the Juniper Butte Allotment #01119 is subject to a grazing permit issued by a final grazing decision dated March 19, 2004, as conditioned by an Order issued by U.S. Magistrate Chief Judge Winmill on October 20, 2005, in Western Watersheds Project v. K Lynn Bennett et al., CV-04-181-S-BLW (U.S. District Court, District of Idaho). This Order included implementation of a SSA that modified the allowed AUMs from 3,527 to 2,300. It also changed the allowable utilization level from 40 percent to 30 percent at key areas in native plant species

dominated pastures. Under the Order, the permittee is authorized to graze 2,300 AUMs by cattle from March 1 to February 28 (the grazing year) in a deferred rotation. This permit is scheduled to be renewed around 2014 (3 years following the signing of the Record of Decision for the Jarbidge RMP, as stipulated in the SSA).

The grazing permit also includes the implementation of adaptive management, whereby pasture use schedules are set in an AGP using the specified management guidelines described in the Assessment (Bureau 2009, pp. IV-403 through IV-409, Table IV.E-2). The Juniper Butte Allotment #01119 has 4 pastures that contain occupied slickspot peppergrass habitat (Bench, East Well, Mosquito Butte, and Mosquito Lake). The Bench Pasture is deferred in spring every other year. For the East Well, Mosquito Butte, and Mosquito Lake Pastures, one pasture is not grazed from February 1 to October 1 each year, and one pasture is not grazed from February 1 to June 15 each year. The pasture grazed prior to June 15 is limited to 20 percent utilization.

The overall stocking level on public lands in the allotment is approximately 8 ac/AUM. Developing the AGP each year includes reviewing data from previous year(s) and making any needed changes to pasture use. If monitoring indicates that changes are necessary to conserve the slickspot peppergrass, the Bureau will develop appropriate adaptive management. As adaptive management allows for modification of the AGP, management can be modified to further avoid or minimize adverse impacts to the slickspot peppergrass. Examples of changes that may be made for the slickspot peppergrass include altering the way cattle trail through closed pastures, shutting off some of the tanks in a pasture to minimize trampling impacts, and changing the season of use to allow for deferment. An example of one change made in this allotment was the elimination of a trailing authorization through the allotment by a permittee from outside the allotment after trailing use resulted in trampling damage within EOs. Season of use and grazing periods are defined in the AGP. General parameters applied to grazing allotments are shown in the Assessment (Bureau 2009, p. IV-410, Table IV.E-3), and those dates apply to the Juniper Butte Allotment #01119. Examples of the seasons of use by pasture and the grazing periods in the 2007 and 2008 AGPs are provided in the Assessment (Bureau 2009, p. IV-439). Terms and conditions applicable to this allotment include requiring the development of an AGP, following guidelines for the placement of authorized supplements, and requiring submission of an actual use report. A complete description of the terms and conditions for the grazing permit for this allotment is provided in the Assessment (Bureau 2009, p. IV-402, Table IV.E-1).

Conservation measures and actions to benefit the slickspot peppergrass are described in the Assessment (Bureau 2009, p. IV-410). CA conservation measures applicable to the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. Until February 2006, when the Jarbidge FO developed policy regarding livestock trailing across allotments within the CCA LEPA Consideration Zone, permits were issued allowing trailing of livestock across the Juniper Butte Allotment #01119 by permittees other than those on the allotment permit. The policy no longer allows crossing permits to be issued to livestock operators other than those holding the grazing permit. The only trailing authorized within

allotments in the CCA LEPA Consideration Zone is pasture-to-pasture movement of cattle by the permit holder. While not specified in the policy, the Jarbidge FO also extends this policy to all occupied slickspot peppergrass habitat outside the CCA LEPA Consideration Zone. Eliminating trailing in the Juniper Butte Allotment #01119 contributes to the conservation of the slickspot peppergrass by preventing trampling by livestock not controlled by the permittee.

Range improvements constructed within slickspot peppergrass occupied habitat in the Juniper Butte Allotment #01119, include 8 water facilities, 7 mi of water pipeline, and 15 mi of boundary and internal fence. Livestock water is delivered to the Juniper Butte Allotment #01119 through the Jim Bob Pipeline which services a system of underground pipelines to tanks that deliver water to troughs throughout the allotment. These water sources improve livestock distribution and minimize livestock concentration in any one area. Two ponds are located in the Mosquito Butte and Mosquito Lake Pastures, but these rarely hold water. There are no other facilities in slickspot peppergrass occupied habitat. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-437 through IV-440).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

The Juniper Butte Allotment #01119 contains a total of seven EOs (74, 85, 87, 97, 98, 99, and 16) and three sub-EOs (700, 702, and 704) that are located either wholly or partially within the boundaries of the Juniper Butte Allotment #01119. All three sub-EOs are associated with the EO 16 metapopulation. Four HIP transects are monitored in pastures containing slickspot peppergrass occupied habitat within the allotment. Information for these EOs and the associated HIP transect data are summarized below. For more detailed information, see the Assessment (Bureau 2009, pp. IV-441 through IV-442).

All of the EOs referenced above except EO 16 are located entirely in the Juniper Butte Allotment #01119. Three of these EOs are categorized by the INHP as B-ranked (16 - about 750 ac, 97 - 20 ac, and 99 - 5 ac); three are C-ranked (74 - 3 ac, 85 - 10 ac, and 98 - 9 ac); and one is F-ranked (87 - 0.5 ac). One of the three sub-EOs associated with EO 16 is located entirely within the Juniper Butte Allotment #01119 (sub-EO 700); sub-EOs 702 and 704 are only partially located within the allotment. Sub-EO 704 is categorized by the INHP as B-ranked, and sub-EOs 700 and 702 are C-ranked.

No HIP data are available for EOs 74, 85, and 87 or sub-EOs 700 and 702. EOs 97–99 exhibited plant numbers ranging from 80 to 213, 16 to 146, and 24 to 125, respectively, over the past 5 years of HIP monitoring (Colket 2009, p. 31). Only one sub-EO (704) contains an HIP transect (transect 706), representing EO 16. Slickspot peppergrass numbers along this HIP transect ranged from 16 to 434 over the 5-year monitoring period, with individual plant numbers in 2007 and 2008 dropping below 100 (Colket 2009, p. 32).

Plant numbers at HIP transects 700 (EO 99), 707 (EO 97), and 722 (EO 98) appear to be increasing over the 5 years of HIP monitoring. At HIP transect 700 for EO 99, the lowest plant numbers were observed in 2004 (24 plants), with the highest numbers documented in 2008 (125 plants). HIP transect 707 for EO 97 documented with the lowest plant numbers in 2008 (80 plants), with the highest plant numbers observed in 2008 (213 plants). HIP transect 722 for EO 98 documented with the lowest plant numbers in 2004 (16 plants), with the highest plant

numbers observed in 2008 (146 plants). In contrast, slickspot peppergrass plant numbers in HIP transect 706 for EO 88 appear to be declining over the 5 years of HIP monitoring, with plant numbers documented highest in 2004 (235—434 plants) and lowest in 2008 (16 plants). No obvious trends in are apparent in plant numbers at HIP transect 705 for EO 16 (subEO 704) over the 5 years of HIP monitoring, with variations in plant numbers in some years likely due to environmental factors such as spring precipitation levels. The highest plant numbers on HIP transect 705 were observed in 2005 and 2006 (52 plants), with the lowest plant numbers observed in 2008 (17 plants) (Colket 2009, p.32).

Vegetation data indicate that approximately 90 percent of the slickspot peppergrass occupied habitat in the Juniper Butte Allotment #01119 contains native shrub habitat with a native understory; about half of this is dominated by rabbitbrush (*Chrysothamnus viscidiflorus* and *Ericameria nauseosa*). An additional 8 percent contains native shrub with a nonnative perennial grass understory, and approximately 1 percent of the occupied habitat is dominated by bluebunch wheatgrass. Based on the above information, there is a moderate to high potential for enhancing the distribution and abundance of the slickspot peppergrass in occupied habitat located outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Juniper Butte Allotment #01119 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. The majority of the slickspot peppergrass occupied habitat associated with EOs in this allotment has burned one or more times in the past, including fires in the 1970s and 1980s. A small amount of slickspot peppergrass occupied habitat burned in 2007. Past fires have resulted in about 45 percent of the slickspot peppergrass occupied habitat being dominated by rabbitbrush communities. Fire rehabilitation efforts consisted mainly of allowing natural recovery, which may have contributed to the dominance of rabbitbrush or perennial native grasses in the allotment.

The Juniper Butte Allotment #01119 has 4 pastures that contain occupied slickspot peppergrass habitat (Bench, East Well, Mosquito Butte, and Mosquito Lake). The Bench Pasture is deferred in spring every other year. For the East Well, Mosquito Butte, and Mosquito Lake Pastures, one pasture is not grazed from February 1 to October 1 each year, and one pasture is not grazed from February 1 to June 15 each year. The pasture grazed prior to June 15 is limited to 20 percent utilization.

Within slickspots, the average percent cover of total livestock hoof prints exceeded 10 percent about 25 percent of the time across all 5 years of monitoring. The average percent cover of livestock feces in slickspots was 1 percent or less in all years. Within the action area, percent cover of penetrating livestock hoof prints exceeded 10 percent about 15 percent of the time across all 5 years of monitoring. The penetrating trampling trigger was tripped in 2 of 5 years of HIP monitoring at 1 or 2 of the 4 total HIP transects on the allotment. Spring use in the Juniper Butte Allotment #01119 did not consistently result in high percent cover of total livestock prints; some years with elevated print cover may have been due to trailing. Sullivan and Nations (2009, p. 136) found only a single year (2007) where a consistent negative relationship existed between slickspot peppergrass abundance and each of the measures of livestock presence within

slickspots (e.g., total livestock print percent cover, penetrating livestock print percent cover, and livestock feces percent cover) from HIP monitoring data, and this relationship only occurred within the Owyhee Plateau physiographic region. Based on this analysis, even with the existing conservation measures, there may be livestock-related impacts within this allotment in individual years that may adversely affect the abundance of the slickspot peppergrass within the Owyhee Plateau physiographic region.

The majority of nonnative plant cover in slickspots in this allotment is composed of seeded crested wheatgrass, with some unseeded bur buttercup and clasping pepperweed. Overall slickspot peppergrass habitat quality ratings based on HIP data were evaluated by the Bureau relative to the acreages of the associated EOs in the Juniper Butte Allotment #01119. Slickspot peppergrass habitat quality condition averaged moderate to high for all transects. No clear trend in nonnative plant cover is suggested by the HIP data; however, vegetation change due to fire could increase the potential for the introduction and spread of nonnative plants into slickspots.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. Approximately 90 percent of occupied habitat in the allotment contains native shrub habitat with a native understory; an additional 8 percent contains native shrub with a nonnative perennial grass understory. About 1 percent of occupied habitat is dominated by bluebunch wheatgrass. Current habitat condition is rated as moderate to high due to the dominance of native plant communities in occupied habitat. The prominence of rabbitbrush communities with Sandberg bluegrass may limit diversity in about one-third of the occupied habitat. No areas greater than 20 ac within the allotment are dominated by invasive nonnative annual grasses (Bureau GIS vegetation data 2008 as cited in Bureau 2009, p. IV-499). Moderate occurrence of seeded perennial nonnative plants in the slickspot peppergrass occupied habitat limits the potential for spread into adjacent native communities.

Biological soil crust cover measurements at HIP transects between years did not appear to be consistent; however, a 2006 Bureau inventory indicated that the average biological crust cover across the allotment was about 2 percent. This value is considerably less than HIP data indicate and may reflect conditions in areas not containing HIP transects (see the Assessment for a discussion regarding HIP data for biological soil crusts [Bureau 2009, pp. IV-449 through IV-450]).

HIP monitoring data showed a decrease in forb cover between 2004 and 2006 (the only available data for forb cover) for 3 of the 4 transects, with percent cover of native forbs consistently less than 3.9 percent and mostly less than 1.5 percent. Forb cover was low to moderate in 2006. Forb cover may have also been influenced by the timing of monitoring. The amount and timing of annual precipitation can also influence forb cover and diversity. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

Effects of the Action

In the Juniper Butte Allotment #01119, 4 of the 7 pastures contain occupied slickspot peppergrass habitat (Bench, East Well, Mosquito Butte, and Mosquito Lake Pastures). Grazing is deferred in the Bench Pasture in spring every other year. For the East Well, Mosquito Butte, and

Mosquito Lake Pastures, one pasture is not grazed from February 1 to October 1 each year, and one pasture is not grazed from February 1 to June 15 each year. The pasture grazed prior to June 15 is limited to 20 percent utilization. Therefore, current management reduces use during periods when saturated conditions are most likely to occur in 2 of 3 years on 91 percent of the Bureau-administered occupied habitat in the Juniper Butte Allotment #01119 and limits use to 20 percent during the year when grazing is allowed prior to June 15 (higher forage utilization levels are allowed in the other pastures not grazed prior to June 15). Spring use on the remaining 9 percent of the allotment occurs every other year. Limiting use during periods when saturated conditions are most likely to occur (prior to June 1) reduces the probability of impacts during saturated soil conditions in occupied habitat. However, the potential for direct grazing of slickspot peppergrass plants and trampling damage to slickspots still exists at intervals allowed by current conservation measures. Within the action area, the percent cover of penetrating livestock hoof prints exceeded 10 percent about 15 percent of the time across all years of monitoring. The penetrating trampling trigger was tripped in 2 of 5 years of HIP monitoring at 1 or 2 of the 4 total HIP transects on the allotment. The current frequency and magnitude of penetration trampling in the action area is not likely to change over the remaining term of the action (about 4 more years). Therefore, based on the past 5 years of HIP data, slickspot peppergrass numbers and distribution are not expected to significantly change over the next 4 years.

Livestock grazing activities can contribute to the spread of nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. Since no clear trend in nonnative plant cover from HIP data exists, it is expected that current grazing management would maintain the condition of slickspots relative to this indicator. Although trampling and weed seed spread could occur during spring grazing use periods, particularly in years when substantial moisture events occur following June 1 when pastures are in use, the presence of conservation measures covering 91 percent of the slickspot peppergrass occupied habitat reduces the probability of spreading weed seeds in occupied habitat. Therefore, increased effects of nonnative vegetation within slickspots on the slickspot peppergrass and within the action area are possible, but the likelihood and severity are minimal.

The current condition of native plant communities in slickspot peppergrass occupied habitat in the allotment is rated as moderate to high quality; however, the allotment has low cover of biological soil crusts and low to moderate cover of native forbs. Deferral of growing-season livestock use will substantially reduce impacts to native plant communities in 1 of 3 years. Lack of spring use prior to June 15, reduced utilization prior to June 15, and deferred use every other spring in the Bench Pasture would further reduce impacts to forbs that set seed prior to mid-June. However, impacts to native plant communities, including some reduced production of forbs, are anticipated to occur in 2 of 3 years on 91 percent of the occupied habitat in the allotment and every other year on the remaining 9 percent of occupied habitat since livestock use during late spring and early summer could affect the long-term maintenance of native communities and grazing that occurs during flowering and seed production could result in reduced reproductive success. Therefore, effects to native vegetation and native forbs are reasonably likely to occur but at a reduced level because best available information indicates that the conservation measures included as part of this action are likely to reduce but do not eliminate the effect. Rest

during late winter and early spring in pastures containing occupied habitat would tend to reduce impacts to biological soil crusts during periods when the component organisms are actively reproducing (i.e., when soils are moist or wet but not frozen). Current management in occupied habitat would tend to promote recovery of organisms that would be impacted by use during dry periods when biological soil crusts are more susceptible to crushing. Therefore, effects to biological soil crusts in the action area are possible, but the likelihood and severity are low. It is expected that cover of biological soil crusts will be maintained at a low level on the allotment for the remaining the term of this action (about 4 more years).

Overall, implementation of the conservation measures within most of the occupied habitat in the Juniper Butte Allotment #01119 will reduce the risk of trampling impacts to slickspot peppergrass; however, these measures have not eliminated the potential for localized adverse effects, and periodic trampling is likely to continue to occur when saturated soil conditions exist concurrent with livestock use or trailing. Therefore, effects of livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs are reasonable likely to occur. To a lesser extent, effects are also anticipated from livestock-related localized effects on nonnative plant establishment. Based on slickspot peppergrass abundance and habitat parameters monitored over the past 5 years through HIP monitoring within the allotment, these localized adverse effects are not expected to significantly change the distribution or abundance of slickspot peppergrass within the allotment over the remaining term of this action (about 4 more years).

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No threat of residential and agricultural development exists for the 523 ac of State or 6 ac of private lands in the Juniper Butte Allotment #01119 that contain occupied slickspot peppergrass habitat. *See also the Cumulative Effects discussion on pages 67--68 for the Black Canyon Allotment #00176 and page 190 for the Inside Desert Allotment #00353.*

Overview of Effects

Direct trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 3 percent of B-ranked EO 16 (about 750 ac), and B-ranked EOs 97 (20 ac) and 99 (5 ac). The allotment has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Four additional small EOs are also located within the allotment: C-ranked EOs 74 (3 ac), 85 (10 ac), and 98 (9 ac), and F-ranked EO 87 (0.5 ac).

Conservation measures implemented within the Juniper Butte Allotment #01119 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect slickspot peppergrass and its habitat. Implementation of a deferred spring grazing rotation system and reduced spring forage utilization in slickspot peppergrass pastures are likely to have resulted in a reduced frequency and magnitude of adverse grazing impacts, inclusive of penetration trampling events, on the slickspot peppergrass and its habitat within this allotment. Other conservation measures that may reduce adverse impacts to the slickspot peppergrass in the

allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass.

HIP monitoring in the allotment show total livestock hoof print cover in slickspots as moderate to high overall in all years, with the average percent cover of livestock hoof prints exceeding 10 percent about 25 percent of the time and average percent cover of penetrating livestock hoof prints exceeding 10 percent about 15 percent of the time. The penetrating trampling trigger was tripped in 2 of 5 years of HIP monitoring at 1 or 2 of the 4 total HIP transects on the allotment. It is likely that adverse effects will continue to occur in the allotment despite conservation measures currently in place. However, over the remaining 4 years of permit authorization, the overall distribution and abundance of the slickspot peppergrass and the condition of its habitat on this allotment are expected to remain relatively stable based on the past 5 years of HIP monitoring data in the allotment, although some level of livestock penetrating trampling is likely to continue to occur. Effects of these penetrating trampling incidents are expected to be tempered by the relatively short remaining term of the action (about 4 more years). For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (about 4 more years).

5.3.1.1.3. Juniper Draw Allotment #01138

Description of the Action Area

The Juniper Draw Allotment #01138 is located in T12S/13S, R9E/10E and encompasses approximately 6,985 ac: 6,203 ac are Bureau-administered land, 320 ac are State land, 23 ac are private land, and 439 ac are military land. This allotment contains 3,663 ac of slickspot peppergrass occupied habitat, including all or portions of EO 16 and sub-EO 704 in CCA MA 11. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer. Acreages for overlapping pollinator buffers are counted only once.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

The Juniper Draw Allotment #01138 has 5 pastures that contain occupied slickspot peppergrass habitat. The allotment was reduced to its current size when public lands were withdrawn and put under USAF management for use as the Juniper Butte Training Range in 2000. Prior to the withdrawal, the allotment consisted of 19,032 ac: 17,732 ac of Bureau land; 1,280 ac of State land; and 20 ac of private land. The Bureau administered the grazing use on public land and the Air Force withdrawn land through 2003.

Description of the Action

The Juniper Draw Allotment #01138 was one of 34 allotments included in the Order issued by U.S. District Court Chief Judge Winmill on February 26, 2009, in Western Watershed Project v. Tom Dyer, et al., CV-04-181-S-BLW (U.S. District Court, District of Idaho). This Order directed the Bureau to modify grazing levels and seasons of use in unburned areas to maintain or enhance existing or potential populations of sensitive species, including the slickspot peppergrass. Permit renewal is expected in 2010 under the “permit renewal rider”, with subsequent renewal scheduled around 2014 (3 years following the signing of the Record of Decision for the Jarbidge RMP, as stipulated in the SSA).

The Juniper Draw Allotment #01138 grazing permit authorizes the permittee to graze 686 AUMs with cattle in a deferred grazing rotation with a season of use from March 1 through February 28, although use in this allotment does not occur year-round. Typically livestock are not grazed from early June through early January one year and mid-March through early December the next. For example, the Lower Riparian and North Juniper Butte Pastures are normally grazed from February 15 through March 15 and February 15 through April 15 in alternative years. The South Bombing Range Pasture may have spring grazing every other year. As a part of the Air Force withdrawal, the west boundary fence of the West Juniper Draw Pasture was removed and is now managed with the South Clover Pasture of the Inside Desert Allotment #00353. Spring grazing is deferred every other year in the West Juniper Draw Pasture. The East Juniper Butte and Upper Riparian Pastures are typically grazed annually in winter (January 15 through February 15). Most of the occupied habitat is in the South Bombing Range (1,026 ac); East Juniper Butte (932 ac); Upper Riparian (872 ac); and West Juniper Draw (252 ac) Pastures. Therefore, most of the slickspot peppergrass occupied habitat is either used during winter (55 percent of occupied habitat) or every other spring (39 percent of occupied habitat). About 2 percent of the slickspot peppergrass occupied habitat occurring in the North Juniper Butte Pasture is used annually in late winter and early spring when soils are likely to be saturated. The Lower Riparian Pasture contains no slickspot peppergrass occupied habitat.

Under Section 123 of the Interior Department Appropriation Act, up to 162 AUMs may be authorized for temporary nonrenewable use (TNR) if monitoring shows that forage is available and additional use would be consistent with management of special status species, including the slickspot peppergrass. This use would occur at the end of the grazing season, usually between August and February.

Season of use and grazing periods for the Juniper Draw Allotment #01138 are coordinated with grazing use in the Inside Desert and Juniper Butte Allotments (#00353 and #01119, respectively). General season of use parameters applied to grazing allotments are shown in the Assessment (Bureau 2009, p. IV-410, Table IV.E-3), and those dates apply to the Juniper Draw Allotment #01138. Examples of the seasons of use by pasture and the grazing periods from the 2007 actual grazing use report are provided in the Assessment (Bureau 2009, p. IV-455). The preparation of an AGP is not a term and condition in the Juniper Draw Allotment #01138. However, the CA indicates that adaptive management may be used for modification of livestock management to further avoid or minimize adverse impacts to the slickspot peppergrass.

Grazing management within the allotment includes reviewing the monitoring data from previous years and making any needed changes to pasture use to maintain or improve conservation of the slickspot peppergrass. Examples of such changes to pasture use could include and have included altering the way cattle trail through pastures; shutting off, turning on, or rotating some troughs in a pasture to minimize trampling impacts; expanding the number of pastures used during the spring to decrease cattle density; changing trough-area or pasture periods of use to allow for deferment; eliminating trailing authorizations through the non-allotment permittees; and redirecting movement of cattle from one pasture to another to avoid trailing through EOs.

The terms and conditions for the Juniper Draw Allotment #01138 state that season of use may vary on this allotment to allow for rotation with other allotments. Currently the allotment is stocked at 10 ac/AUM on Bureau lands. The number of livestock listed on the permit is for administrative purposes only. Deviation from the number on the permit is authorized in the AGP or annual billing. The number of active AUMs will not be exceeded unless otherwise directed by the Authorized Officer. No management guidelines specific to the slickspot peppergrass exist for the Juniper Draw Allotment #01138. If monitoring indicates that changes are necessary to conserve the slickspot peppergrass, the Bureau will develop appropriate adaptive management.

Conservation measures and actions to avoid or minimize adverse effects to the slickspot peppergrass are described in the Assessment (Bureau 2009, p. IV-410). CA conservation measures applicable to the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. In February 2006, the Jarbidge FO developed policy regarding livestock trailing across allotments within the CCA LEPA Consideration Zone. The policy no longer allows crossing permits to be issued to livestock operators other than those holding the grazing permit. The only trailing authorized within allotments in the CCA LEPA Consideration Zone is pasture-to-pasture movement of cattle by the permit holder. While not specified in the policy, the Jarbidge FO also extends this policy to all occupied slickspot peppergrass habitat outside the CCA LEPA Consideration Zone. Prior to 2006, trailing authorizations through the Juniper Draw Allotment #01138 were typically issued to outside permittees. Eliminating trailing in the Juniper Draw Allotment #01138 contributes to the conservation of the slickspot peppergrass by preventing trampling by livestock not controlled by the permittee.

Range improvements constructed within slickspot peppergrass occupied habitat in the Juniper Draw Allotment #01138 include 1 water facility, 4 mi of water pipeline, 17 mi of allotment boundary and internal pasture fence, and 1 corral. The Juniper Draw Allotment #01138 has a system of underground pipelines that deliver water to troughs throughout the allotment. The troughs are spread across the allotment to increase livestock distribution and reduce livestock concentrations in any one area. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-453 through IV-456).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

A total of two EOs and one sub-EO are located either wholly or partially within the boundaries of the Juniper Draw Allotment #01138. The HIP transect for the allotment is located in the West Juniper Draw Pasture. This pasture is grazed with the South Clover Pasture of the Inside Desert Allotment #00353 and therefore is representative of management in the South Clover Pasture only, but not the remainder of the allotment. Data for this HIP transect are presented to provide reference information for evaluation of potential grazing effects. However, these data do not specifically represent grazing management within the Juniper Draw Allotment #01138. Information for the EOs located in this allotment and the associated HIP transect data are summarized below. For more detailed information, see the Assessment (Bureau 2009, pp. IV-459 through IV-460).

EO 75 (1 ac) is located entirely within the Juniper Draw Allotment #01138. This EO is categorized by INHP as F-ranked. About 3 percent of EO 16 (about 750 ac) is located partially within the allotment and is B-ranked. This allotment has one sub-EO (704) associated with the EO 16 metapopulation. The HIP transect (transect 705) associated with this sub-EO exhibited plant numbers below 100 over the 5-year monitoring period, with individual plant numbers ranging from 17 to 52 (Colket 2009, p. 32).

No obvious trends in are apparent in plant numbers at HIP transect 705 for EO 16 (sub-EO 704) over the 5 years of HIP monitoring, with variations in plant numbers in some years likely due to environmental factors such as spring precipitation levels. The highest plant numbers on HIP transect 705 were observed in 2005 and 2006 (52 plants), with the lowest plant numbers observed in 2008 (17 plants) (Colket 2009, p.32).

Vegetation data indicate that approximately 59 percent of slickspot peppergrass occupied habitat on Bureau-administered lands in the allotment contains native shrub habitat with a native understory, while an additional 16 percent contains native shrub with a nonnative perennial grass understory. Approximately 22 percent of slickspot peppergrass occupied habitat in the allotment is dominated by nonnative perennial grasses with minimal (less than 10 percent canopy cover) or no native shrub component due to wildfire. About 2 percent of slickspot peppergrass occupied habitat is dominated by the native perennial bunchgrass bluebunch wheatgrass. The high level of native shrub-dominated habitat increases the probability that moderate- to high-quality slickspot peppergrass sites are currently located in these areas of the allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Juniper Draw Allotment #01138 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Slickspot peppergrass occupied habitat associated with all EOs in this allotment has burned several times in the past, including fires in the 1970s, 1980s, and 1990s. Though the habitat is predominantly a native shrub community, about 48 percent of the slickspot peppergrass occupied habitat in this allotment is dominated by rabbitbrush and 22 percent by intermediate wheatgrass (*Thinopyrum intermedium*). Fire rehabilitation efforts consisted of allowing natural recovery and seeding the nonnative perennial grasses crested

wheatgrass and intermediate wheatgrass, which may have contributed to the dominance of rabbitbrush or intermediate wheatgrass in the slickspot peppergrass occupied habitat.

Various measures are in place to minimize adverse effects to the slickspot peppergrass from livestock-related activities in the Juniper Draw Allotment #01138. For example, the Lower Riparian and North Juniper Butte Pastures are normally grazed from February 15 through March 15 and February 15 through April 15 in alternative years; the East Juniper Butte and Upper Riparian Pastures are typically grazed during times when soils are more likely to be frozen (January 15 through February 15); and spring grazing in the West Juniper Draw Pasture is deferred every other year, while the South Bombing Range Pasture may have spring grazing in alternate years. Under the grazing permit, all pastures containing slickspot peppergrass occupied habitat in the Juniper Draw Allotment #01138 have the potential for use by livestock when saturated conditions are likely to occur, since impacts could occur during spring use periods and in years with warm, wet winters. Current management, including winter use and deferred rotation grazing within most of the slickspot peppergrass occupied habitat in the allotment, helps to minimize potential negative effects to the slickspot peppergrass and its habitat associated with livestock use.

HIP data for transect 705, which is located in the West Juniper Draw Pasture and grazed with the South Clover Pasture of the Inside Desert Allotment #00353, are provided as reference information for evaluation of potential grazing effects; however, data for this HIP transect do not specifically represent grazing management within the Juniper Draw Allotment #01138. The majority of nonnative plant cover in slickspots in this allotment is composed of the seeded species crested wheatgrass, with some unseeded bur buttercup and clasping pepperweed. The percent cover of unseeded nonnative plants along HIP transect 705 was consistently less than 5 percent; combined percent cover of unseeded and seeded nonnative plants was less than 5 percent in 2 of 5 years, between 5 and 10 percent in 2 of 5 years, and greater than 10 percent in 1 of 5 years of monitoring. While no clear trend in nonnative plant cover exists from HIP data, vegetation change due to fire could increase the potential for introduction and spread of nonnative plants into slickspots in the allotment.

Within slickspots, the average percent cover of total livestock hoof prints exceeded 10 percent about 20 percent of the time across all years. The percent cover for total livestock prints was less than 5 percent in 3 of 5 years, between 5 and 10 percent in 1 of 5 years, and exceeded 10 percent in 2005 when the West Juniper Draw Pasture (where the HIP transect is located) was used from April 1 through June 10. The average percent cover of livestock feces in slickspots was 1 percent or less in all years of monitoring. Within the action area, the percent cover of penetrating livestock prints was less than 5 percent in all years except 2005. In 2005, when livestock use occurred between April 1 and June 10, percent cover of penetrating livestock prints was greater than 10 percent; however, the 10 percent threshold was not exceeded when livestock used the pasture in spring 2007. Sullivan and Nations (2009, p. 136) found only a single year (2007) where a consistent negative relationship existed between slickspot peppergrass abundance and each of the measures of livestock presence within slickspots (e.g., total livestock print percent cover, penetrating livestock print percent cover, and livestock feces percent cover) from HIP monitoring data, and this relationship only occurred within the Owyhee Plateau physiographic region. Based on this analysis, even with the existing conservation measures, there may be

adverse impacts within this allotment in individual years that may adversely affect the abundance of the slickspot peppergrass within the Owyhee Plateau physiographic region.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. Slickspot peppergrass occupied habitat in the allotment is dominated by native shrub communities, with approximately 59 percent of occupied habitat on Bureau-administered lands in the allotment containing native shrub habitat with a native understory and an additional 16 percent containing native shrub with a crested wheatgrass understory. Rabbitbrush is the predominant native shrub, followed by Wyoming big sagebrush. Diversity within plant communities in the allotment may be low within areas dominated by rabbitbrush with Sandberg bluegrass. Seeded nonnative perennial grasses are present in the allotment, both as understory components and community dominants. Approximately 22 percent of slickspot peppergrass occupied habitat in the allotment is dominated by intermediate wheatgrass with minimal (less than 10 percent canopy cover) or no native shrub component due to wildfire (Bureau GIS vegetation data 2008 as cited in Bureau 2009, p. IV-463). Invasive nonnative annuals occur in small patches, but are never dominant in areas greater than 20 ac (Bureau GIS vegetation data 2008 as cited in Bureau 2009, P. IV-463).

Biological soil crust cover measurements between years at HIP transect 705 did not appear to be consistent; however, a 2006 Bureau inventory indicated that average biological crust cover was about 5 percent across the allotment (see the Assessment for a discussion regarding HIP data for biological soil crusts [Bureau 2009, p. IV-465]).

HIP monitoring data indicate that percent native forb cover decreased from 11 percent to less than 2.4 percent between 2004 and 2006 (the only available data for forb cover), although reported forb cover may have been influenced by the timing of the monitoring or annual precipitation. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

Effects of the Action

In the Juniper Draw Allotment #01138, 5 of the 6 pastures contain occupied slickspot peppergrass habitat (East Juniper Butte, North Juniper Butte, South Bombing Range, Upper Riparian, and West Juniper Draw Pastures). Current management includes winter use and deferred rotation grazing within most of the slickspot peppergrass occupied habitat in the allotment. The Lower Riparian and North Juniper Butte Pastures are normally grazed from February 15 through March 15 and February 15 through April 15 in alternative years; the East Juniper Butte and Upper Riparian Pastures are typically grazed during times when soils are more likely to be frozen (January 15–February 15); and spring grazing in the West Juniper Draw Pasture is deferred every other year, while the South Bombing Range Pasture may have spring grazing in alternate years. Although all pastures containing slickspot peppergrass occupied habitat in the allotment have the potential for use by livestock when saturated conditions are likely to occur (i.e., during spring use periods and in years with warm, wet winters), the current management helps to minimize potential negative effects to the slickspot peppergrass and its habitat in the allotment.

Livestock trampling in slickspots can result in damage or destruction of plants and during saturated soil conditions can also result in burial of seeds and modification of the seedbed, which allows for establishment and spread of nonnative plants. In the spring (March–June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Spring deferment in the South Bombing Range Pasture (where a significant portion of EO 16 is located in the allotment) and West Juniper Draw Pasture (where a portion of EO 16 is located in the allotment) would reduce the potential for impacts in alternate years on 39 percent of the slickspot peppergrass occupied habitat, while livestock use during times when soils are more likely to be frozen (January 15–February 15) in the East Juniper Butte Pasture (where a significant portion of EO 16 is located in the allotment) and Upper Riparian Pasture (where F-ranked EO 75 is located) would reduce potential for impacts on 55 percent of the slickspot peppergrass occupied habitat in the allotment. However, trampling impacts could occur during spring use periods and in occasional years with warm, wet winters. Therefore, trampling effects within slickspots are reasonably likely to occur in the Juniper Draw Allotment #01138 but at a reduced level because best available information indicates that current management is likely to reduce the severity of the effect. Localized trampling effects on individual plants are not likely to result in the loss of conservation value of the allotment to the species due to reduced impacts associated with current management and the short remaining term of the action (1 more year).

Livestock grazing activities can contribute to the spread of nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. HIP data have not demonstrated a trend for increased nonnative plants in slickspots in the allotment. The predominance of winter and early spring use in slickspot peppergrass occupied habitat within the allotment reduces the potential that livestock would contribute to nonnative plant spread by seed. Nonnative plant spread due to reduction in native plant competition or disruption of the soil surface and creation of microsites for plant establishment are more likely to occur, particularly in those areas of the allotment that receive spring use. Although use is permitted year-round in the Juniper Draw Allotment #01138, current management would tend to promote maintenance of native plant communities by removing livestock prior to the critical growth periods for native grasses, such as bluebunch wheatgrass and Thurber's needlegrass in most of the slickspot peppergrass occupied habitat. Alternate-year spring deferment in the South Bombing Range and West Juniper Draw Pastures is likely to reduce impacts to native plant communities relative to annual grazing use. Potential reduction of biomass and reproductive capability could occur during years of spring use. However, compliance with Judge Winmill's February 2009 Order is likely to maintain or improve native vegetation in the allotment. Any TNR authorized would not occur during the growing season and would not conflict with management that maintains or improves native vegetation. Based on this information, increased effects of nonnative vegetation on the slickspot peppergrass, slickspots, and the action area are possible, but the likelihood and severity are low.

The allotment has low cover of biological soil crusts and moderate cover of forbs. Effects to vegetation relative to cover of native forbs in the occupied habitat are reasonably likely to occur but at a reduced level. Winter use in the East Juniper Butte and Upper Riparian Pastures would reduce the potential for declining biological crust cover on 55 percent of the occupied habitat in

the allotment, and spring deferment in the South Bombing Range and West Juniper Draw Pastures would reduce the potential for impacts in alternate years on 39 percent of the slickspot peppergrass occupied habitat. However, when spring livestock use does occur, reduced forb cover and reproductive potential could occur, which may affect the abundance of slickspot peppergrass insect pollinators in the area. The predominance of winter and spring use in pastures containing slickspot peppergrass occupied habitat would tend to reduce impacts to biological soil crusts during periods when the component organisms are actively reproducing (i.e., when soils are moist or wet but not frozen), and current management would tend to promote recovery of biological soil crusts that would be impacted by use during dry periods when these organisms are more susceptible to crushing. Therefore, effects to biological soil crusts in the action area are possible, but the likelihood and severity are low. It is expected that biological soil crust cover will be maintained at a low level.

Overall, adverse effects from livestock trampling appear to have been reduced in most of the Juniper Draw Allotment #01138 due to current livestock management and CA conservation measures; however, this management and CA conservation measures have not eliminated the potential for localized adverse effects. Therefore, effects of livestock trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs as well as herbivory on native forbs are reasonable likely to occur. To a lesser extent, effects are also anticipated from livestock-related localized effects on shrub cover and nonnative plant establishment. Current livestock management designed to minimize adverse effects to the slickspot peppergrass and CA conservation measures, including limiting livestock grazing to a deferred or rest rotational schedule in the summer and fall within known occupied habitat, have reduced but not eliminated potential localized effects of ongoing livestock grazing activities on the slickspot peppergrass and its habitat in this allotment. However, based on HIP monitoring data from adjacent allotments, it is unlikely that current livestock management in this allotment would result in a change in the abundance and distribution of the slickspot peppergrass in the allotment over the remaining term of the action (1 more year).

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No threat of residential and agricultural development exists on the 253 ac of State or 23 ac private lands within the Juniper Draw Allotment #01128 that contain occupied slickspot peppergrass habitat. *See also the Cumulative Effects discussion on pages 67--68 for the Black Canyon Allotment #00176 and page 190 for the Inside Desert Allotment #00353.*

Overview of Effects

Some level of livestock trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 3 percent of B-ranked EO 16 (about 750 ac), and F-ranked EO 75 (1 ac). Slickspot peppergrass EOs within the allotment has been categorized as having a high conservation value for the slickspot peppergrass rangewide.

Livestock management and CA conservation measures implemented within the Juniper Draw Allotment #01128 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. Implementation of winter grazing in some pastures and a deferred spring grazing rotation system in other pastures are likely to have resulted in a reduced frequency and magnitude of adverse grazing impacts on the slickspot peppergrass and its habitat within this allotment. Other conservation measures that may reduce adverse impacts to the slickspot peppergrass in the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. It is likely that some livestock-related adverse effects will continue to occur in the allotment to individual slickspot peppergrass plants and slickspot microsites despite current livestock management and CA conservation measures currently in place to avoid or minimize impacts to the slickspot peppergrass. However, over the remaining 1 year of permit authorization, the overall distribution and abundance of the slickspot peppergrass and the condition of its habitat on this allotment are expected to remain relatively stable based on the past 5 years of HIP monitoring data in adjacent allotments. For this reason, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (1 more year).

5.3.1.1.4. Juniper Ranch Allotment #01031

Description of the Action Area

The Juniper Ranch Allotment #01031 is located in T10S/11S/12S, R9E/10E and encompasses approximately 39,695 ac: 36,794 ac are Bureau-administered lands; 2,582 ac are State land; and 319 ac are private land. This allotment contains 1,082 ac of slickspot peppergrass occupied habitat, all located on Bureau land, including a portion of EO 16 and a portion of sub-EO 704 in CCA MA 11. The Juniper Ranch Allotment #01031 has 1 pasture (Pasture 9) containing slickspot peppergrass occupied habitat. Occupied habitat is inclusive of the slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer. Acreages for overlapping pollinator buffers are counted only once.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The grazing permit for the Juniper Ranch Allotment #01031 allows 2,550 cattle AUMs and 40 horse AUMs from April 1 through November 30. Under Section 123 of the Interior Department Appropriation Act, up to 1,000 AUMs may be authorized for TNR in the Juniper Ranch Allotment #01031 if monitoring shows that forage is available. Additional use would need to be consistent with management of special status species, including the slickspot peppergrass. This

TNR livestock use is made at the end of the grazing season, usually in November and December. If available, this use could be used through February 28 each year, but cattle are generally removed from the allotment before January 1. The overall stocking level on Bureau-administered land in the allotment is approximately 13 ac/AUM. For the 2009 grazing year, the permittee agreed to graze in Pasture 9 only between June 1 and December 31 in order to conserve the slickspot peppergrass. This agreement is tracked through annual authorizations. No trailing is authorized through Pasture 9 where the slickspot peppergrass occupied habitat is located.

The Juniper Ranch Allotment #01031 was one of 34 allotments included in the Order issued by U.S. District Court Chief Judge Winmill on February 26, 2009, in Western Watershed Project v. Tom Dyer, et al., CV-04-181-S-BLW (U.S. District Court), District of Idaho. This Order directed the Bureau to modify livestock grazing levels and seasons of use in unburned areas to maintain or enhance existing or potential populations of sensitive species, including the slickspot peppergrass. This permit is scheduled to be renewed around 2014 (3 years following the signing of the Record of Decision for the Jarbidge RMP, as stipulated in the SSA). If monitoring indicates that changes are necessary to conserve the slickspot peppergrass, the Bureau will develop appropriate adaptive management.

The allotment is managed under a deferred rest rotation system set up on an annual basis. Pasture 9 is composed of a mixture of Wyoming big sagebrush / Thurber's needlegrass and Wyoming big sagebrush / crested wheatgrass. Pasture 9 is grazed on a deferred or rest rotational basis in the summer and fall (June 1–November 30). General parameters applied to grazing allotments are shown in the Assessment (Bureau 2009, p. IV-410, Table IV.E-3), and those dates apply to the Juniper Ranch Allotment #01031. Pasture 9 is the only pasture with occupied slickspot habitat. This slickspot peppergrass occupied habitat is associated with portions of EO 16 (sub-EO 704). A summary of livestock grazing in all pastures in this allotment is provided in the Assessment (Bureau 2009, p. IV-470).

Terms and conditions applicable to slickspot peppergrass conservation in this allotment are as follows:

- Coordinate trailing with the Bureau prior to trailing.
- Livestock turnout is subject to Twin Falls District range readiness criteria.

A full description of the terms and conditions is provided in the Assessment (Bureau 2009, pp. IV-402 through IV-403, Table IV.E-1). No additional terms and conditions are placed on this grazing allotment. A list of management guidelines applied to grazing allotments in the Jarbidge FO is provided in the Assessment (Bureau 2009, pp. IV-403 through IV-409, Table IV.E-2); however, no management guidelines specific to the Juniper Ranch Allotment #01031 exist.

Conservation measures and actions were created for slickspot peppergrass based on its conservation and recovery needs. The conservation measures, implementation actions, responsibility, and timeframe are described in the Assessment (Bureau 2009, p. IV-411). CA conservation measures applicable to the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize

impacts to the slickspot peppergrass. In addition to these conservation measures, the Jarbidge FO developed policy regarding livestock trailing across allotments within the CCA LEPA Consideration Zone in February 2006. The policy no longer allows crossing permits to be issued to livestock operators other than those holding the grazing permit. The only trailing authorized within allotments in the CCA LEPA Consideration Zone is pasture-to-pasture movement of cattle by the permit holder. While not specified in the policy, the Jarbidge FO also extends this policy to all occupied slickspot peppergrass habitat outside the CCA LEPA Consideration Zone. Prior to 2006, trailing authorizations through the Juniper Ranch Allotment #01031 were typically issued to outside permittees. Eliminating trailing in this allotment contributes to the conservation of the slickspot peppergrass by preventing trampling by livestock not controlled by the permittee. The permittee also agreed to graze Pasture 9 only between June 1 and December 31 during the 2009 grazing year in order to conserve the slickspot peppergrass.

Several range improvements have been constructed within the allotment, including permanent boundary and pasture division fences and water developments, such as storage tanks and troughs. This allotment contains about 2 mi of allotment boundary and internal pasture fences in occupied habitat. No additional livestock management facilities are constructed within slickspot peppergrass occupied habitat in the allotment. The Juniper Ranch Allotment #01031 has a system of underground pipelines that deliver water to troughs throughout the allotment. The troughs are spread across the allotment to increase livestock distribution and reduce livestock concentrations in any one area. Two livestock watering sites are located within Pasture 9, which contains 1,082 ac of slickspot peppergrass occupied habitat.

For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-468 through IV-471).

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

Approximately 2 percent of EO 16 (about 500 ac), including a portion of sub-EO 704, is located within the boundaries of the Juniper Ranch Allotment #01031. Information for this EO and HIP transect data are summarized below. For more detailed information, see the Assessment (Bureau 2009, pp. IV-472 through IV-473). EO 16 is categorized by INHP as B-ranked. No HIP transects are currently located within the allotment, therefore no allotment-specific HIP data from adjacent allotments are available to evaluate potential effects from factors such as levels of livestock trampling or levels of nonnative plants within slickspots. HIP transect 713 is the nearest HIP transect and occurs just south of the allotment boundary in the Inside Desert Allotment #00353. Data for this HIP transect are provided to reflect general environmental baseline conditions; however, these data do not specifically represent grazing management within the Juniper Ranch Allotment #01031.

Vegetation data were collected to assess the vegetation conditions for current or future opportunities for slickspot peppergrass conservation outside of known EOs but within slickspot peppergrass occupied habitat in this allotment. According to these data, approximately 12 percent of occupied habitat in the allotment contains native shrub communities with a native understory, while approximately 88 percent of slickspot peppergrass occupied habitat is dominated by nonnative perennial communities (e.g., crested wheatgrass) with minimal or no

native shrub component. Invasive nonnative annuals occur in patches but are never dominant in areas greater than 20 ac. The high level of habitat fragmentation from past wildfires and the challenges of introducing native shrubs and forbs into crested wheatgrass–dominated sites reduce the ability to develop moderate- to high-quality slickspot peppergrass habitat in the allotment. Based on the above information, there is a low potential for enhancing the distribution and abundance of the slickspot peppergrass in occupied habitat located outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Juniper Ranch Allotment #01031 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Portions of slickspot peppergrass occupied habitat associated with sub-EO 704 have burned several times in the past, including fires in the 1970s, 1990s, and 2000s. As a consequence, the slickspot peppergrass occupied habitat associated with this allotment consists predominantly of crested wheatgrass seedings, some of which have been repopulated with Wyoming big sagebrush.

Various conservation measures are in place to minimize effects to the slickspot peppergrass from livestock-related activities in the Juniper Ranch Allotment #01031. Currently, Pasture 9, the only pasture in the allotment that contains slickspot peppergrass occupied habitat, is grazed on a deferred or rest rotational basis in the summer and fall (June 1–November 30). Lack of use during periods when saturated conditions are most likely to occur (prior to June 1) reduces the probability of impacts during saturated soil conditions in occupied habitat. While trampling impacts could occur during use periods when substantial moisture events occur after June 1 and livestock are present in slickspot peppergrass occupied habitat, the risk is lower compared to a spring grazing schedule. However, the potential for direct effects on individual slickspot peppergrass plants and the potential for trampling damage to slickspot microsites still exist.

HIP data at transect 713 (sub-EO 704), a nearby transect located outside of the Juniper Ranch Allotment #01031 but adjacent to the allotment boundary, are provided as reference information for evaluation of potential grazing effects; however, data for this HIP transect do not specifically represent grazing management within the Juniper Ranch Allotment #01031. The HIP monitoring data at transect 713 show limited evidence of livestock print cover in slickspots, with percent cover of total livestock prints less than 5 percent in 4 of 5 years and between 5 and 10 percent in 1 year. HIP data at this transect are not currently available for 2009, but preliminary results indicate that penetrating trampling occurred due to wet conditions in June. Levels of livestock feces cover within slickspots in areas adjacent to the Juniper Ranch Allotment #01031 were less than 1 percent over 5 years of HIP monitoring. Sullivan and Nations (2009, p. 136) found only a single year (2007) where a consistent negative relationship existed between slickspot peppergrass abundance and each of the measures of livestock presence within slickspots (e.g., total livestock print percent cover, penetrating livestock print percent cover, and livestock feces percent cover) from HIP monitoring data, and this relationship only occurred within the Owyhee Plateau physiographic region. Based on this analysis, even with the existing conservation measures, there may be adverse impacts within this allotment in individual years that may adversely affect the abundance of the slickspot peppergrass within the Owyhee Plateau physiographic region.

The HIP data at transect 713 indicate minimal invasion of slickspot microsites by either unseeded or seeded nonnative plants. However, about 88 percent of the slickspot peppergrass occupied habitat in the Juniper Ranch Allotment #01031 is dominated by nonnative perennial communities, and vegetation change due to fire could increase the possibility of introduction and spread of nonnative plants into slickspots.

Slickspot peppergrass habitat fragmentation levels within the action area are determined by shrub cover, which is an indicator of fire occurrence within the past 15--25 year period. The majority of slickspot peppergrass occupied habitat in the allotment is made up of nonnative perennial communities with minimal or no native shrub component. Invasive nonnative annuals occur in patches but are never dominant in areas greater than 20 ac. The areas dominated by crested wheatgrass, a perennial nonnative seeded grass, are relatively stable; it is unlikely that the size of native communities or diversity of plants within seeded areas will increase under current management. Since native shrub communities occur on only 12 percent of the slickspot peppergrass occupied habitat, it is possible that livestock might congregate in these areas.

Biological soil crust cover measurements between years at HIP transect 713 did not appear to be consistent; however, a 2006 Bureau inventory indicated that average biological soil crust cover in slickspot peppergrass habitat was about 32 percent across the allotment (see the Assessment for a discussion regarding HIP data for biological soil crusts [Bureau 2009, p. IV-478 through IV-479]).

HIP monitoring data indicate that percent native forb cover decreased from 5 percent to less than 1 percent between 2004 and 2006 (the only available data for forb cover), although reported forb cover may have been influenced by the timing of the monitoring or annual precipitation. Low forb cover is consistent with the dominance of crested wheatgrass in slickspot peppergrass occupied habitat. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

Effects of the Action

Existing conservation measures include limiting livestock use in Pasture 9 to a deferred or rest rotational schedule in the summer and fall (June 1–November 30). Pasture 9 is the only pasture with occupied slickspot habitat. Livestock trampling in slickspot microsites can result in damage or destruction of individual slickspot peppergrass plants and during saturated soil conditions can also result in burial of seeds and modification of the seedbed, which allows for establishment and spread of nonnative plants. In the spring (March–June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Lack of use during periods when saturated soil conditions are most likely to occur (prior to June 1) reduces the probability of impacts during saturated soil conditions in slickspot peppergrass occupied habitat. However, trampling impacts could occur during use periods when substantial moisture events occur after June 1 and livestock are present in slickspot peppergrass occupied habitat. In addition, individual slickspot peppergrass plants may be trampled by livestock during the active growth and flowering period when livestock are grazing in Pasture 9 during June. Therefore, adverse livestock trampling effects within slickspots are reasonably likely to occur in the Juniper Ranch Allotment #01031 but at a reduced level because best available information indicates that conservation measures

have reduced the severity of the effect on the slickspot peppergrass. In addition, livestock-related effects of nonnative vegetation on the slickspot peppergrass, slickspots, and the action area are possible, but the likelihood and severity are low due to the conservation measures. Although it is expected that current management would maintain the condition of slickspots relative to nonnative plants, vegetation change due to fire could increase the possibility of introduction and spread of nonnative plants into slickspots.

Current management (rest during late winter and early spring in pastures containing slickspot peppergrass occupied habitat) would tend to reduce impacts to biological soil crusts during periods when the component organisms are actively reproducing (i.e., when soils are moist or wet but not frozen). Therefore, effects to biological soil crusts in the action area are possible, but the likelihood and severity are low. It is expected that cover of biological soil crusts will be maintained at a relatively high level.

Since native shrub communities occur on only 12 percent of the slickspot peppergrass occupied habitat, it is possible that livestock might congregate in these areas resulting in a reduction of shrub and herbaceous plant cover or diversity. In addition, due to the competitive nature of the nonnative perennial grasses and limited potential for expansion of existing forb populations, slickspot peppergrass occupied habitat dominated by nonnative perennial grasses would require active restoration to increase forb cover and diversity. However, compliance with Judge Winmill's February 2009 Order will continue to maintain native vegetation in the allotment, and current livestock management in these areas would have limited adverse effects on the existing forb component. Likewise, any TNR authorized would not occur during the growing season and would not conflict with livestock management that maintains native vegetation.

Overall, effects from livestock trampling appear to have been reduced in most of Pasture 9 of the Juniper Ranch Allotment #01031 due to implementation of conservation measures; however, these measures have not eliminated the potential for localized adverse effects. Therefore, effects of livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs are reasonable likely to occur. To a lesser extent, effects are also anticipated from livestock-related localized effects on shrub cover and nonnative plant establishment. Existing conservation measures, including limiting livestock grazing to a deferred or rest rotational schedule in the summer and fall within known slickspot peppergrass occupied habitat, have reduced but not eliminated potential effects of ongoing livestock grazing activities on the slickspot peppergrass and its habitat. However, as livestock grazing only occurs in Pasture 9 of the allotment between June 1 and November 30 when slickspot soils are less likely to be saturated and subject to physical disturbance, localized adverse effects to the slickspot peppergrass related to livestock use are not expected to result in a reduction in the distribution and abundance of the slickspot peppergrass in the allotment over the remaining term of the action (about 4 more years).

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No State or private land in the Juniper Ranch Allotment #01031 contains occupied slickspot peppergrass habitat. *See also the Cumulative Effects discussion on pages 67--68 for the Black Canyon Allotment #00176 and page 190 for the Inside Desert Allotment #00353.*

Overview of Effects

Some level of livestock trampling impacts and localized degradation of habitat conditions are expected with continued implementation of this action. The action area contains 2 percent of B-ranked EO 16 (about 500 ac). The EO within Pasture 9 of the allotment has been categorized as having a high conservation value for the slickspot peppergrass rangewide.

Livestock management and CA conservation measures implemented within the Juniper Ranch Allotment #01031 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. Limiting livestock use in Pasture 9 to a deferred or rest rotational schedule in the summer and fall (June 1–November 30) is likely to have resulted in a reduced frequency and magnitude of adverse grazing impacts on the slickspot peppergrass and its habitat within this allotment. Other conservation measures that may reduce adverse impacts to the slickspot peppergrass in the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. It is likely that some livestock-related adverse effects will continue to occur in the allotment to individual slickspot peppergrass plants and slickspot microsites despite current livestock management and CA conservation measures currently in place to avoid or minimize impacts to the slickspot peppergrass. However, over the remaining 4 years of permit authorization, the overall distribution and abundance of the slickspot peppergrass and the condition of its habitat on this allotment are expected to remain relatively stable based on the past 5 years of HIP monitoring data in adjacent allotments. For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (about 4 more years).

5.3.1.1.5. Poison Butte Allotment #01050

Description of the Action Area

The Poison Butte Allotment #01050 is located in T12S,13S,14S,15S,16S; R7E,8E,9E,10E,11E Boise Meridian and T47N, R59E Mount Diablo Meridian and encompasses approximately 77,236 ac: 73,898 ac are Bureau land; 3,182 ac are State land; and 156 ac are private land. Of the 17,395 ac of slickspot peppergrass occupied habitat within this allotment, 16,698 are located on Bureau land and 697 on State land. Slickspot peppergrass occupied habitat in this allotment contains all or portions of EOs 73, 78, 79, 80, 89, 90, 91, 92, 94, 96, and 16 with sub-EOs 701, 703, 708, 717, 719, 720, 721, and 722 in CCA MA 11. The Poison Butte Allotment #01050 has 9 pastures containing occupied slickspot peppergrass habitat. Occupied habitat is inclusive of the

slickspots, surrounding matrix, and 0.5-mi EO pollinator buffer. Acreages for overlapping pollinator buffers are counted only once.

The Service considers the action area for this permit to be the allotment in its entirety. We do, however, recognize that the greatest influence of livestock management on slickspot peppergrass occupied habitat occurs where there is direct overlap with the species. Our subsequent discussion will focus on areas of direct overlap, but we note that indirect effects may occur in nearby areas where direct overlap with the species does not necessarily occur.

Description of the Action

The Poison Butte Allotment #01050 is subject to the Order as filed by Magistrate Judge Williams on April 11, 2003, in Committee for the High Desert, et. al. v. Edward Guerrero, et al., CV-02-521-S-MHW (U.S. District Court, District of Idaho). Judge Williams ordered that the Bureau's 2003 AGP be implemented as the interim grazing management plan until the Bureau could complete the permit renewal process. No final decision has been issued for the Poison Butte Allotment #01050 at this time, and thus, the guidelines from the 2003 plan are still relevant. Under the 2003 plan, the permittee is authorized to graze 9,930 AUMs by cattle from March 1 to February 28 in a deferred rest rotation. The 2003 Order by Judge Williams which provided interim measures to conserve the slickspot peppergrass, was upheld in the Order issued by U.S. District Court Chief Judge Winmill on February 26, 2009, in Western Watershed Project v. Tom Dyer, et al., CV-04-181-S-BLW (U.S. District Court, District of Idaho). This permit is scheduled to be renewed around 2014 (3 years following the signing of the Record of Decision for the Jarbidge RMP, as stipulated in the SSA).

Livestock in the Poison Butte Allotment #01050 are managed in a deferred rotation system. Pastures grazed in the growing season of one year typically receive growing season rest the following year. Winter use tends to occur in the northern pastures of the allotment where the elevation is lower. As weather warms in the spring, the majority of livestock are moved south to summer range on USFS lands (July 2–October 15). Some livestock remain on the allotment during the summer months. In mid-October, livestock leave the USFS allotments, return to the Poison Butte Allotment #01050, and are then rotated through the allotment to the northern winter pastures. In addition to USFS land, the permittee grazes the Poison Butte Allotment #01050 in conjunction with State and private land. Season of use and grazing periods are provided in the AGP. General parameters applied to grazing allotments, including dates, are shown in the Assessment (Bureau 2009, p. IV-410, Table IV.E-3), and those dates apply to the Poison Butte Allotment #01050. Examples of the seasons of use by pasture and the grazing periods in the 2007 and 2008 AGPs are provided in the Assessment (Bureau 2009, pp. IV-484 through IV-485).

Terms and conditions applicable to this allotment are as follows:

- The grazing permit is subject to judicial orders.
- Changes in scheduled use must be approved in advance.
- Trailing must be coordinated with the Bureau prior to trailing.

A full description of the terms and conditions is provided in the Assessment (Bureau 2009, pp. IV-402 through IV-403, Table IV.E-1).

The 2003 Williams Order included changing the 14,993 AUMs proposed in the Bureau's Environmental Assessment ID-097-03-040 for the Poison Butte Allotment #01050 to an allowed grazing level of 9,930 AUMs and implementing interim measures, which included mitigation for the slickspot peppergrass. The number of livestock listed on the permit is for administrative purposes only. Deviation from the number on the permit is authorized in the AGP or annual billing. The number of active AUMs will not be exceeded unless otherwise directed by the Authorized Officer.

In addition, the 2003 Williams Order provides that five slickspot peppergrass pastures (South Herbs Camp, Saltbush, North Poison Creek Burn, South Poison Creek Burn, and Rock Corral) are grazed as follows:

- Herding, trailing, and gathering of livestock would not occur in occupied slickspot peppergrass pastures during periods when soils are saturated and slickspots are most vulnerable to trampling impacts. Probable periods with saturated soils include spring thaw (when the frost leaves the ground) and periods immediately following significant moisture events.
- No grazing in occupied slickspot peppergrass pastures would occur February 1–March 31, which is the most probable period for saturated soils.
- Spring-deferred rotation grazing management would be implemented with the specific intent to limit livestock hoof impacts during periods with wet soils (April 1–June 1) in known occupied slickspot peppergrass pastures. These pastures are stocked at 20 percent of the forage production and monitored. Pastures used anytime in the spring (April 1–June 1) would not be used in the spring of the following year. Summer, fall, and winter use of these pastures could occur at a rate of up to 40 percent utilization on pastures dominated by native vegetation communities and up to 50 percent utilization on pastures dominated by seeded nonnative perennials (e.g., crested wheatgrass). Pastures grazed in the spring would not be regrazed in the fall or winter of the same grazing year.

At the time of the 2003 Williams Order, there was no documented occupied habitat in the North Herbs Camp, Inside Lakes, Poison Butte, or Middle Butte Pastures, and therefore, they are not mentioned in the Order to be managed as the other five slickspot peppergrass pastures. Also under the Order, all pastures, including slickspot peppergrass occupied pastures, are managed according to the following requirements, per the 2003 AGP:

- Two-day trailing periods per pasture will be authorized as necessary. Overnight livestock stops will be permitted.
- Pastures will be grazed only one time period during the grazing year. The grazing year is defined as March 1 to February 28.

The grazing permit for this allotment not only requires a deferred rotation grazing system but also requires the implementation of adaptive management, whereby pasture use schedules are set in an AGP using specified management guidelines. As adaptive management allows for modification of the AGP, management can be modified to further avoid or minimize the adverse impacts of livestock use on the slickspot peppergrass. The management guidelines applicable to this allotment are described in the Assessment (Bureau 2009, pp. IV-403 through IV-409, Table IV.E-2).

Conservation measures and actions are described in the Assessment (Bureau 2009, p. IV-410). CA conservation measures applicable to the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. In February 2006, the Jarbidge FO developed policy regarding livestock trailing across allotments within the CCA LEPA Consideration Zone. The policy no longer allows crossing permits to be issued to livestock operators other than those holding the grazing permit. The only trailing authorized within allotments in the CCA LEPA Consideration Zone is pasture-to-pasture movement of cattle by the permit holder. While not specified in the policy, the Jarbidge FO also extends this policy to all occupied slickspot peppergrass habitat outside the CCA LEPA Consideration Zone. Eliminating trailing in the Poison Butte Allotment #01050 contributes to the conservation of the slickspot peppergrass by preventing trampling by livestock not controlled by the permittee.

With the foregoing permit, mitigation measures, management guidelines, voluntary management actions, and monitoring, an AGP is developed each year by reviewing the monitoring data from previous years and making any needed changes to pasture use to maintain or improve conservation of the slickspot peppergrass. Examples of such changes to pasture use could include and have included altering the way cattle trail through pastures; shutting off, turning on, or rotating some troughs in a pasture to minimize trampling impacts; expanding the number of pastures used during the spring to decrease cattle density; changing trough-area or pasture periods of use to allow for deferment; eliminating trailing authorizations by the non-allotment permittees; and redirecting cattle movement from one pasture to another to avoid trailing through EOs.

Range improvements constructed within slickspot peppergrass occupied habitat in the Poison Butte Allotment #01050 include 16 water facilities, 23 mi of water pipeline, and approximately 29 mi of allotment boundary and internal pasture fences. Livestock water is delivered to the allotment through the Jim Bob Pipeline. This system delivers water through underground pipelines and above-ground tanks and reservoirs that deliver water to troughs throughout the allotment to improve livestock distribution and minimize livestock concentration in any one area. For additional details on the project description for the allotment, see the Assessment (Bureau 2009, pp. IV-481 through IV-486). If monitoring indicates that changes are necessary to conserve the slickspot peppergrass, the Bureau will develop appropriate adaptive management.

Environmental Baseline

Status of the Slickspot Peppergrass in the Action Area

A total of 11 EOs (16, 73, 78, 79, 80, 89, 90, 91, 92, 94, and 96) and 8 sub-EOs (701, 703, 708, 717, 719, 720, 721, and 722) are located either wholly or partially within the boundaries of the Poison Butte Allotment #01050. All 8 sub-EOs are associated with the EO 16 metapopulation. Five HIP transects are monitored in pastures containing slickspot peppergrass occupied habitat within the allotment. Information for these EOs and the associated HIP transect data are

summarized below. For more detailed information, see the Assessment (Bureau 2009, pp. IV-487 through IV-488).

All EOs except EOs 16, 94, and 96 are located entirely within the Poison Butte Allotment #01050. EOs 16 (about 3,998 ac within the allotment boundary), 80 (5 ac), and 96 (about 25 ac within the allotment boundary) are categorized by the INHP as B-ranked ; EO 92 (40 ac) is C-ranked; EOs 73 (35 ac), 89 (0.5 ac), 90 (1 ac), and 91 (3 ac) are D-ranked ; and EOs 78 (1 ac), 79 (1 ac), and 94 (1 ac) are F-ranked. All but one (sub-EO 703) of the 12 sub-EOs associated with EO 16 are located entirely within the allotment. One sub-EO is categorized by the INHP as C-ranked (720); five are D-ranked (701, 703, 708, 717, and 721); one is F-ranked (719); and one is E-ranked (722).

No HIP data are available for EOs 73, 78, 79, 80, 89, 90, 91, and 94 or sub-EOs 701, 719, 720, 721, and 722. One of the HIP transects in this allotment (HIP transect 701 of EO 96 in the South Poison Creek Burn Pasture) is documented containing over 500 plants in 2004 and 2005 during the past 5 years of HIP monitoring, ranging from 1 to 721 plants over the monitoring period (Colket 2009, p. 32). The other four HIP transects exhibited plant numbers below 100 all 5 years, with no plants located along transect 708 (EO 708 in the Salt Brush Pasture) during the 5-year monitoring period (Colket 2009, p. 32).

Plant numbers at HIP transect 701 for EO 96 showed a significant decline from 2006 (285 plants) to 2007 (1 plant) (Colket 2009, p. 32); this decline was not related to the Murphy Complex Fire as all HIP monitoring was completed prior to the fire starting (ICDC 2008, p. 29). In contrast, no obvious trends are apparent in plant numbers at HIP transects 717 (sub-EO 717) and 718 (sub-EO 702) for EO 16 over the 5 years of monitoring, with variations in plant numbers in some years likely due to environmental factors such as spring precipitation levels. The highest plant numbers in HIP transect 717 were observed in 2005 (47 plants), with the lowest plant numbers observed in 2006 (9 plants). Similarly, the highest plant numbers in HIP transect 718 were observed in 2005 (318 plants), with the lowest plant numbers observed in 2007 (96 plants). Plant numbers were stable but very low at HIP transects 708 (sub-EO 708) for EO 19 and 711 for EO 92. No plants were observed during the 5 years of HIP monitoring at HIP transect 708, and only 1—2 plants were documented during 5 years of HIP monitoring at HIP transect 711 (Colket 2009, p. 32).

Vegetation data indicate that approximately 6 percent of slickspot peppergrass occupied habitat in the allotment contains native shrub communities with a native understory, and an additional 1 percent contains native shrub, which includes seeded fourwing saltbush, with a nonnative perennial grass understory. Approximately 10 percent of slickspot peppergrass occupied habitat in the allotment is dominated by nonnative annuals, and 43 percent is dominated by nonnative perennial grasses with minimal (less than 10 percent canopy coverage) or no native shrub component due to wildfire. About 52 percent of the slickspot peppergrass occupied habitat burned in 2007, and approximately 39 percent of this area was mapped as burned vegetation following the fire. The high level of habitat fragmentation from past wildfires and the challenges of restoring crested wheatgrass-dominated sites to native vegetation with forbs reduce the possibility of moderate- to high-quality slickspot peppergrass sites in these areas of the allotment. Based on the above information, there is a low potential for enhancing the distribution

and abundance of the slickspot peppergrass in occupied habitat located outside of EOs in this allotment.

Factors Affecting the Slickspot Peppergrass in the Action Area

Threats to the slickspot peppergrass identified in the Assessment for the Poison Butte Allotment #01050 include wildfire, invasive nonnative plants, fire rehabilitation activities, herbicide and pesticide use, and livestock use. Portions of the slickspot peppergrass occupied habitat associated with all EOs have burned several times in the past, including fires in the 1970s, 1980s, 1990s, and 2000s. Most recently, about 48 percent of all lands within the allotment burned in 2007. Fire has repeatedly resulted in the conversion of native plant communities to nonnative annual and perennial communities in the allotment. Fire rehabilitation efforts consisted of allowing natural recovery and seeding nonnative perennial grasses, which may have contributed to the dominance of nonnative perennial native grasses in much of the allotment. Prior to 2007, reestablishment of big sagebrush following fire had limited success in the allotment. Fire rehabilitation efforts used perennial grasses to stabilize the soil. Use of nonnative perennial grasses for postfire rehabilitation has, in part, prevented dominance of the area by nonnative invasive annuals. Big sagebrush was seeded following fire in 2007, but the success of that seeding has not yet been determined.

Conservation measures for the Poison Butte Allotment #01050 include late winter and spring use restrictions on 78 percent of the slickspot peppergrass occupied habitat. In 5 of the 9 pastures with slickspot peppergrass occupied habitat (South Herbs Camp, Saltbush, North Poison Creek Burn, South Poison Creek Burn, and Rock Corral Pastures), spring use (April 1–June 1) is limited to every other year and utilization is limited to 20 percent, which helps to reduce the potential for adverse effects to slickspots and native plant communities that would result from trampling during saturated soil conditions and early-season grazing every year. However, periodic livestock use during saturated soil conditions is likely to occur on the other 22 percent of the occupied habitat not managed under the Williams Order and can occur any time livestock use is coincident with saturated soil conditions. At the time of the 2003 Williams Order, there was no documented slickspot peppergrass occupied habitat in the North Herbs Camp, Inside Lakes, Poison Butte, or Middle Butte Pastures, and therefore they are not mentioned in the Order to be managed as the other five slickspot peppergrass occupied pastures.

Based on HIP data collected in the Poison Butte Allotment #01050, percent cover of total livestock hoof prints in slickspots was moderate overall, with the average percent cover exceeding 10 percent about 30 percent of the time. Instances where the average percent cover of livestock hoof prints exceeded 10 percent sometimes coincided with spring use; however, spring use did not consistently result in higher percent cover of livestock prints. The average percent cover of livestock feces in slickspots was consistently less than 6 percent for all transects in all years. The average percent cover of penetrating livestock hoof prints was also moderate in the action area. When considering grazed transects associated with the allotment in all years, penetrating livestock hoof prints exceeded 10 percent cover about 20 percent of the time. The penetrating trampling trigger was tripped in 3 of 5 years of HIP monitoring at 1 to 3 of the 5 total HIP transects within the allotment. Sullivan and Nations (2009, p. 136) found only a single year (2007) where a consistent negative relationship existed between slickspot peppergrass abundance and each of the measures of livestock presence within slickspots (e.g., total livestock print

percent cover, penetrating livestock print percent cover, and livestock feces percent cover), and this relationship only occurred within the Owyhee Plateau physiographic region. Based on this analysis, even with the existing conservation measures, there may be adverse impacts within this allotment in individual years that may adversely affect the abundance of the slickspot peppergrass within the Owyhee Plateau physiographic region. Trampling levels coupled with the level of invasive nonnative plant cover in slickspots at HIP transect 701 likely contributed to the localized decline in slickspot peppergrass plant numbers along this transect over the 5 years of HIP monitoring. The penetrating trampling trigger was tripped at this transect in 2007, which corresponded with the lowest number of plants (1 plant) documented at this site over the 5 years of HIP monitoring (Colket 2009, p. 32).

Fire has repeatedly resulted in fragmentation of native plant communities in the Poison Butte Allotment #01050. Current slickspot peppergrass habitat condition within the action area is rated low, with greater than half the occupied habitat dominated by nonnative perennial grass communities or shrub communities with nonnative perennial grass as the understory dominant. Native shrub communities with a native understory occur in patches on about 6 percent of the allotment. There is relatively low occurrence of areas dominated by invasive nonnative annuals (approximately 10 percent of occupied habitat); however, they are dominant in areas greater than 20 ac. Within slickspots, HIP data have not demonstrated a trend for increased nonnative plants. However, unseeded and seeded nonnative plants are relatively common in slickspots in the Poison Butte Allotment #01050. Most of the nonnative cover is comprised of the seeded perennial grass species crested wheatgrass. The majority of unseeded nonnative plant cover in slickspots in this allotment is composed of cheatgrass, bur buttercup, clasping pepperweed Russian thistle, and tumble mustard, all unseeded species.

Biological soil crust cover measurements at HIP transects between years did not appear to be consistent; however, a 2006 Bureau inventory indicated that average biological crust cover in the Poison Butte Allotment #01050 was about 15 percent. It is likely that areas burned in 2007 might currently have lower cover (see the Assessment for a discussion regarding HIP data for biological soil crusts [Bureau 2009, pp. IV-478 through IV-479]).

HIP monitoring data at all sites showed a decrease in forb cover between 2004 and 2006 (the only available data for forb cover), with three of the five sites having low cover (less than 1.5 percent) in 2006. Low forb cover is consistent with dominance of the occupied habitat by crested wheatgrass. Forb cover may have been influenced by timing of monitoring. The amount and the timing of annual precipitation can also influence forb cover and diversity. Diversity and cover of native forbs are important as these factors can affect the availability of insect pollinators required for successful reproduction of the slickspot peppergrass.

Effects of the Action

Existing conservation measures for the Poison Butte Allotment #01050 include rest and deferment of livestock use during periods when there is a high likelihood of saturated conditions and reduced potential for trailing impacts through the crossing permit policy. This allotment contains 9 pastures with slickspot peppergrass occupied habitat. In 5 of these pastures, spring use (April 1–June 1) is limited to every other year and utilization is limited to 20 percent. Late winter and spring use restrictions are imposed on 78 percent of the slickspot peppergrass occupied

habitat, which helps to reduce the potential for impacts to slickspots and native plant communities that would result from trampling during saturated soil conditions and early-season grazing. Periodic use during saturated soil conditions is likely to occur on the other 22 percent of the slickspot peppergrass occupied habitat not managed under the Williams Order. In addition, trampling effects can occur in all pastures any time livestock use is coincident with saturated soil conditions.

Livestock trampling in slickspots can result in damage or destruction of plants and during saturated soil conditions can also result in burial of seeds and modification of the seedbed, which allows for establishment and spread of nonnative plants. Trampling can also damage the soil structure and the functionality of slickspot microsites (Rengasamy et al. 1984, p. 63; Seronko in litt. 2004). In the spring (March–June), soils are more likely to be wet due to climatic patterns in southwestern Idaho. Conservation measures in this allotment that limit use during periods when saturated conditions are most likely to occur (prior to June 1) reduces but does not eliminate the probability of livestock-related impacts during saturated soil conditions in slickspot peppergrass occupied habitat. Within the Poison Butte Allotment #01050, instances where the average percent cover of livestock hoof prints exceeded 10 percent sometimes coincided with spring use; however, spring use did not consistently result in higher percent cover of livestock prints. The penetrating trampling trigger was tripped in 3 of 5 years of HIP monitoring at 1 to 3 of the 5 total HIP transects located within the allotment. Since HIP monitoring data have documented livestock hoof prints, including penetrating livestock hoof prints, within slickspots containing slickspot peppergrass, it is anticipated that livestock trampling effects to individual slickspot peppergrass plants, slickspot microsites, and the seed bank are reasonably likely to occur as described above. However, based on HIP monitoring data, it is likely that while localized adverse trampling effects on slickspot peppergrass will likely continue to occur annually, the distribution and abundance of the slickspot peppergrass in the allotment will not be reduced within the remaining term of this action (about 4 more years).

Livestock grazing activities can contribute to the spread of nonnative plants by (1) reducing native plant biomass and competition within the plant community; (2) disrupting the soil surface, particularly during saturated soil conditions, and creating disturbed areas open to introduction of nonnative plants; and (3) physically transporting seeds externally or in feces. HIP data have not demonstrated a trend for increased annual or perennial nonnative plants in slickspots in conjunction with past grazing activities in the allotment, therefore it is expected that current management would maintain the current low to moderate slickspot peppergrass habitat quality relative to nonnative plant cover in slickspots. However, vegetation change due to fire could increase the possibility of introduction and spread of invasive nonnative plants into slickspots. Due to the perennial nature of seeded nonnative plant communities in the allotment, it is anticipated that their composition is unlikely to change due to ongoing livestock use. Conservation measures would reduce but not eliminate the livestock-related impacts to forbs that set seed prior to mid-June, which may affect the abundance of slickspot peppergrass insect pollinators in the area. Rest during late winter and early spring in pastures containing occupied habitat would tend to reduce impacts to biological soil crusts during periods when the component organisms are actively reproducing (i.e., when soils are moist or wet but not frozen). It is expected that cover of biological soil crusts will be maintained at a low level.

Overall, effects from livestock trampling appear to have been reduced in most of the Poison Butte Allotment #01050 due to implementation of conservation measures; however, these measures have not eliminated the potential for localized adverse effects. Therefore, effects of livestock herbivory and trampling on individual slickspot peppergrass plants, the seed bank, slickspot microsite soils, and native forbs and impacts from livestock-related localized effects on shrub cover and nonnative plant establishment are reasonable likely to occur. It is anticipated that these localized effects would only impact a small portion of the plant and slickspot habitats within the Poison Butte Allotment #01050. Trampling may result in a small number of plants being damaged or killed. These plants would not contribute to replenishing the seed bank.

Effects of Interrelated and Interdependent Activities

None are anticipated.

Cumulative Effects

No threat of residential and agricultural development exists on the 697 ac of State lands in the Poison Butte Allotment #01050 that contain occupied slickspot peppergrass habitat. *See also the Cumulative Effects discussion on pages 67--68 for the Black Canyon Allotment #00176 and page 190 for the Inside Desert Allotment #00353.*

Overview of Effects`

Livestock trampling impacts and degradation of habitat conditions are expected with continued implementation of this action. The action area contains 16 percent of B-ranked EO 16 (about 3,998 ac), 50 percent of B-ranked EO 96 (about 25 ac), and B-ranked EO 80 (5 ac). The allotment has been categorized as having a high conservation value for the slickspot peppergrass rangewide. Additional EOs located within the allotment include C-ranked EO 92 (40 ac); D-ranked EOs 73 (35 ac), 89 (0.5 ac), 90 (1 ac), and 91 (3 ac); and F-ranked EOs 78 (1 ac), 79 (1 ac), and 94 (1 ac).

Conservation measures implemented within the Poison Butte Allotment #01050 are likely to reduce but not eliminate localized effects from livestock grazing activities that could adversely affect the slickspot peppergrass and its habitat. Limiting spring livestock use to every other year and limiting forage utilization to 20 percent are likely to reduce the potential for grazing activity to cause adverse effects to the slickspot peppergrass and its habitat because lack of or reduced grazing use during periods when saturated conditions are most likely to occur reduces the potential for physical disturbance of slickspot microsities and the seed bank. Other conservation measures that may reduce adverse impacts to the slickspot peppergrass in the allotment include no trailing of livestock through EOs when soils are saturated, placement of supplements and water to draw livestock away from EOs, the continuation of weed treatments within the allotment while avoiding adverse impacts to the slickspot peppergrass, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in livestock grazing activities to minimize impacts to the slickspot peppergrass. It is likely that some livestock-related adverse effects will continue to occur in the allotment to individual slickspot peppergrass plants and slickspot microsities despite conservation measures currently in place to avoid or minimize impacts to the slickspot peppergrass. However, over the remaining 4 years of permit authorization, the overall distribution and abundance of the slickspot peppergrass and the condition of its habitat in this allotment are expected to remain relatively stable based on

the past 5 years of HIP monitoring in the allotment. For these reasons, the action is compatible with maintaining a high slickspot peppergrass conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the remaining term of the action (about 4 more years).

5.4. Effects Summary

5.4.1. Summary of Ongoing Actions Effects Determinations

Table 11 below summarizes the effects of the 27 ongoing livestock grazing ongoing actions on the current conservation value of EOs and associated slickspot peppergrass occupied habitat located within the individual action areas.

Of the 67 total HIP monitoring transects located within the 21 allotments with spring livestock use, slickspot peppergrass plant numbers have shown no apparent trends at 48 HIP transects, increasing plant numbers at 7 HIP transects, and decreasing plant numbers at 12 HIP transects over the last 5 years of HIP monitoring. A single allotment containing multiple HIP transects typically shows no apparent overall trend in plant numbers, and could have both increasing and decreasing trends in plant numbers. For example, three HIP transects on the Juniper Butte Allotment appeared to show an increasing trend for slickspot peppergrass plant numbers, while one transect in the allotment appeared to show a declining trend in plant numbers, and another transect showed no apparent trend in slickspot peppergrass plant numbers. Thus available HIP monitoring data do not appear to show a definitive trend in plant numbers at the allotment level, although future monitoring may provide additional information regarding the relationship between livestock use and the slickspot peppergrass.

Conservation measures designed to reduce wildfire threats and invasive nonnative plant competition are expected to be especially important for the survival and recovery of the species. Conservation measures designed to reduce wildfire and invasive nonnative plants include placing a high priority on protecting slickspot peppergrass during fire suppression efforts; using pesticides in a manner that conserves or minimizes risk of exposure to slickspot peppergrass and its habitat; and promoting the diversity, richness, and health of native plant communities to support pollinators and slickspot peppergrass habitat. Future recovery and critical habitat planning efforts may identify conservation actions and essential factors appropriate for consideration when ongoing actions are reauthorized.

Many of the actions analyzed in this Opinion are described as having “localized effects” on the slickspot peppergrass. Localized effects are those that are anticipated to occur within a relatively small area in relation to slickspot peppergrass occupied habitat within an action area. HIP monitoring data and project descriptions within the Assessment indicate that potential impacts are typically patchy in distribution and/or frequency across the action area and may be limited in size. Thus, while some adverse impacts may occur within a small portion of an action area, localized effects are not expected to occur across the extent of occupied habitat within an action area. For example, livestock are typically not evenly distributed across an allotment, and areas with trampling impacts have been observed to be portions of pastures where livestock congregate near or within EOs, particularly when soils are saturated. Potential livestock trampling-related

effects are not expected to occur throughout all slickspot peppergrass occupied habitat located within an allotment.

Table 11. Summary of effects of 27 ongoing Bureau livestock grazing actions on the slickspot peppergrass.

Conservation Value	Conservation Measures	Beneficial Effects of Ongoing Action	Adverse Effects of Ongoing Action	Overall Effects on Conservation Value of EOs and Associated Occupied Habitat within Action Area
High—Entire B-ranked EO 70 located within action area	Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management	Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by restricting grazing activity to the winter period, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.	Localized trampling of some slickspot microsites within the EO may occur in years with winter thaw. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur in years with winter thaw. Small risk of livestock contributing to the spread of invasive nonnative plants into EOs due to low historic livestock use levels in the EO.	Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).

Black Canyon Allotment #00310—Livestock Grazing, Expires 2/28/2013

EOs Affected (Estimated Occupied Habitat): 4 EOs, with the action area containing a portion of the 0.5 mile buffer only for 1 of the 4 EOs (1,047 Acres)			
<p>High—A portion of B-ranked EO 76 is located within the action area (EO acreage within the action area is unknown). C-ranked EO 52 is located entirely within the action area (26 acres) A portion of occupied habitat associated with D-ranked EO 56 is located within the action area (0 acres of the EO). F-ranked EO 47 is located entirely within the action area (less than 1 acre)</p>	<p>Livestock Exclusion (EO 52), Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by excluding grazing activity from EO 52, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within EOs 47 and 76 may occur annually in the spring. Localized, deep burial of some seeds in portions of some slickspots within EOs 47 and 76 may occur annually in the spring. Localized spread of invasive nonnative plants into EOs 47 and 76 may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>
<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (3 more years)</p>			

Black Canyon Shaw Allotment #20135—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 4 EOs, with the action area containing a portion of the 0.5 mile buffer only for 1 of the 4 EOs (2,287 Acres)	
<p>Medium—A portion of occupied habitat associated with B-ranked EO 70 is located within the action area (0 acres of the EO). C-ranked EOs 66 and EO 68 are located entirely within the action area (9 and 6 acres, respectively) D-ranked EO 69 is located entirely within the action area (3 acres)</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by excluding grazing activity from EO 66, by restricting grazing activity to the winter period in EOs 68 and 69, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Native forb and grass reproduction and vigor is likely to be increased by restricting grazing activity to the winter period in EOs 68 and 69 and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>
<p>Livestock Exclusion (EO 66), Seasonal Use Restrictions (EOs 68 and 69), Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Localized trampling of some slickspot microsites within EOs 68 and 69 may occur in years with winter thaw. Localized, deep burial of some seeds in portions of some slickspots within EOs 68 and 69 may occur in years with winter thaw. Small risk of livestock contributing to the spread of invasive nonnative plants into EO 68 and 69s in years with winter thaw.</p>
	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>

Bowns Creek Allotment #00830—Livestock Grazing, Expires 2/28/2014
 EOs Affected (Estimated Occupied Habitat): 1 EO (510 Acres)

<p>High—About 5 percent of B-ranked EO 30 is located within the action area (about 34 acres of the EO). A portion of occupied habitat associated with D-ranked EO 15 is located within the action area (0 acres of the EO).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by restricting grazing activity to the fall/winter period every other year in the EO, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Native forb and grass reproduction and vigor is likely to be increased by restricting grazing activity to the winter period every other year in the EO and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EO may occur every other year in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur every other year in the spring. Localized spread of invasive nonnative plants into the EO may occur every other year in the spring.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Cornell Allotment #00820—Livestock Grazing, Expires 2/28/2017
EOs Affected (Estimated Occupied Habitat): 2 EOs (1,062 Acres)

<p>Medium to High—Less than 1 percent of B-ranked EO 30 is located within the action area (less than 7 acres of the EO). C-ranked EO 31 is located entirely within the action area (71 acres).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EOs may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EOs may occur annually in the spring. Localized spread of invasive nonnative plants into the EOs may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium to high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (7 more years).</p>
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Ditto Creek Allotment #00818—Livestock Grazing, Expires 8/31/2014
EOs Affected (Estimated Occupied Habitat): 2 EOs (1,713 Acres)

<p>High—About 95 percent of B-ranked EO 30 is located within the action area (about 640 acres of the EO). C-ranked EO 20 is located entirely within the action area (less than 1 acre).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some slickspot microsites within the EOs may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EOs may occur annually in the spring. Localized spread of invasive nonnative plants into the EOs may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Hammett #2 Allotment #01034—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 1 EO (1,635 Acres)

<p>High—About 90 percent of B-ranked EO 8 is located within the action area (about 915 acres).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by restricting grazing activity to the winter period in the EO, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Native forb and grass reproduction and vigor is likely to be increased by restricting grazing activity to the winter period in EO 8 and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Localized trampling of some slickspot microsites within the EO may occur in years with winter thaw or annually in spring within the restricted roadside sheep trailing zone. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur in years with winter thaw or annually in spring within the restricted roadside sheep trailing zone. Small risk of livestock contributing to the spread of invasive nonnative plants into the EO in years with winter thaw or annually in spring within the restricted roadside sheep trailing zone.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Hammett #3 Allotment #01035—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 2 EOs (770 Acres)

<p>Medium to High—About 2 percent of B-ranked EO 8 is located within the action area (about 20 acres). D-ranked EO 63 is located entirely within the action area (less than 1 acre).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EOs may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EOs may occur annually in the spring. Localized spread of invasive nonnative plants into the EOs may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium to high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Hammett #4 Allotment #01036—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 1 EO (1,412 Acres)

<p>High—About 40 percent of B-ranked EO 26 is located within the action area (about 277 acres)</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by restricting grazing activity to the fall/winter period in the EO, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Native forb and grass reproduction and vigor is likely to be increased by restricting grazing activity to the fall/winter period in the EO and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Localized trampling of some slickspot microsites within the EO may occur in years with saturated soils during fall/winter. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur in years with saturated soils during fall/winter. Small risk of livestock contributing to the spread of invasive nonnative plants into the EO in years with saturated soils during fall/winter.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Hammett Individual Allotment #01054—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 1 EO (500 Acres)

<p>High—About 5 percent of B-ranked EO 26 is located within the action area (about 35 acres)</p>	<p>Livestock Exclusion (EO 26), Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by excluding grazing activity from EO 26, by restricting grazing activity to the winter period in occupied habitat associated with the EO, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Native forb and grass reproduction and vigor is likely to be increased by restricting grazing activity to the winter period in the EO and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Small risk of livestock contributing to the spread invasive nonnative plants into occupied habitat associated with the EO in years with winter thaw.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Indian Creek FFR—Allotment #00878 Livestock Grazing, Expires 2/28/2018

EOs Affected (Estimated Occupied Habitat): 1 EO (316 Acres)

<p>Low—F-ranked EO 54 is located entirely within the action area (2 acres).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EO may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur annually in the spring. Localized spread of invasive nonnative plants into the EO may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing. Low native shrub cover may be further reduced in localized areas by livestock-related mechanical damage.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a low conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (8 more years).</p>
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Lower Alkali Allotment #01127—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 1 EO (557 Acres)

<p>Medium to High—About 5 percent of B-ranked EO 26 is located within the action area (about 35 acres)</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EO may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur annually in the spring. Localized spread of invasive nonnative plants into the EO may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium to high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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McPherson Individual Allotment #00196—Livestock Grazing, Expires 2/28/2012

EOs Affected (Estimated Occupied Habitat): 1 EO (234 Acres)

<p>High—A portion of B-ranked EO 76 is located within the action area (EO acreage within the action area is unknown).</p>	<p>Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EO may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur annually in the spring. Localized spread of invasive nonnative plants into the EO may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (2 more years).</p>
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Melba Seeding Allotment #00868—Livestock Grazing, Expires 9/30/2019

EOs Affected (Estimated Occupied Habitat): 1 EO (790 Acres)

<p>Medium—About 25 percent of C-ranked EO 18 is located within the action area (about 229 acres).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Plant Surveys, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by restricting grazing activity to the fall/winter period in the EO, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, by relocation of livestock away from the EO when soils are moist or likely to become saturated, and by locating salt/supplements 0.5 miles from EOs. Native forb and grass reproduction and vigor is likely to be increased by restricting grazing activity to the fall/winter period in the EO and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities. Mechanical damage to individual plants or slickspot microsites is likely to be reduced by use of existing roads and trails only for vehicle travel. Adaptive management is likely to be facilitated by information provided through permittee supplemental surveys and monitoring of LEPA.</p>	<p>Localized trampling of some slickspot microsites within the EO may occur in years with saturated soils during fall/winter. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur in years with saturated soils during fall/winter. Small risk of livestock contributing to the spread of invasive nonnative plants into the EO in years with saturated soils during fall/winter.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (9 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Mountain Home Subunit Allotment #00813—Livestock Grazing, Expires 2009-2019 (varies with the individual permittees)

EOs Affected (Estimated Occupied Habitat): 3 EOs (2,910 Acres)

<p>Medium to High—BC-ranked EO 51 is located entirely within the action area (less than 1 acre). C-ranked EOs 29 and 62 are located entirely within the action area (103 acres and 1 acre, respectively).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by alternating years of spring grazing use in Pastures 6 and 7 (EOs 51 and 62), implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, by relocation of livestock away from the EO when soils are moist or likely to become saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EOs may occur annually in the spring in EO 29 and in alternate years in EOs .51 and 62. Localized, deep burial of the seed bank in portions of some slickspots within the EOs may occur annually in the spring in EO 29 and in alternate years in EOs .51 and 62. Localized spread of invasive nonnative plants into the EOs may occur annually in the spring in EO 29 and in alternate years in EOs .51 and 62. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium to high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (up to 9 more years depending on the individual permittee).</p>
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Reverse Allotment #00873—Livestock Grazing, Expires 2/28/2018

EOs Affected (Estimated Occupied Habitat): 2 EOs (712 Acres)

<p>Medium—C-ranked EO 61 is located entirely within the action area (15 acres). D-ranked EO 10 is located entirely within the action area (less than 1 acre).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, by restriction of livestock access if monitoring shows current management is not adequately protecting LEPA, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EOs may occur every other spring. Localized, deep burial of the seed bank in portions of some slickspots within the EOs may occur every other spring. Localized spread of invasive nonnative plants into the EOs may occur every other spring. Native forb and grass reproduction and vigor may be reduced by grazing every other spring. Low native shrub cover may be further reduced in localized areas by livestock-related mechanical damage.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (8 more years).</p>
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Southeast Alkali Seeding Allotment #01129—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 1 EO (840 Acres)

<p>Medium to High—About 2 percent of B-ranked EO 26 is located within the action area (about 14 acres). Based on the degraded condition of the occupied habitat within the action area, the area was categorized as medium to high value rather than high value.</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EO.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EO may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur annually in the spring. Localized spread of invasive nonnative plants into the EO may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing. Low native shrub cover may be further reduced in localized areas by livestock-related mechanical damage.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium to high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Spring Valley Allotment #00278—Livestock Grazing, Expires 2/28/2013

EOs Affected (Estimated Occupied Habitat): 2 EOs (1,948 Acres)

<p>High—Occupied habitat associated with B-ranked EO 76 is located within the action area (0 acres of the EO). BC-ranked EO 108 is located entirely within the action area (5 acres).</p>	<p>Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EOs may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EOs may occur annually in the spring. Localized spread of invasive nonnative plants into the EOs and associated occupied habitat may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (3 more years).</p>
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Squaw Creek Allotment #00886—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 2 EOs (470 Acres)

<p>Medium—C-ranked EOs 2 and 21 are located entirely within the action area (less than 1 acre and 100 acres, respectively).</p>	<p>Livestock Exclusion (EO 21), Seasonal Use Restrictions, Supplement Location Restrictions, Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by excluding grazing activity from that portion of EO 21 located on Bureau and private lands until the private land is sold, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within EO 2 may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within EO 2 may occur annually in the spring. Localized spread of invasive nonnative plants into EO 2 may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Sunnyside Spring Fall Allotment #00825—Livestock Grazing, Expires 2015 or 2018 (varies with the individual permittee)

EOs Affected (Estimated Occupied Habitat): 23 EOs (35,173 Acres)

<p>High—The action area includes EOs by Management Area as follows: MA 5: C-ranked EOs 22, 32, and 48 are located entirely within the action area (126, 619, and less than 1 acre, respectively). F-ranked EO 49 is located entirely within the action area (less than 1 acre). MA 6: C-ranked EOs 24 and 25 are located entirely within the action area (90 and 38 acres, respectively), and about 70 percent of EO 18 is located within the action area (about 650 acres). D-ranked EOs 19, 43, and 58 are located entirely within the action area (678, 1, and 2 acres, respectively). F-ranked EOs 41 and 42 are located entirely within the action area (214 and 2 acres, respectively).</p>	<p>Livestock AUM Reductions, Livestock Exclusion (EOs 24, 58, and 60), Deferred Livestock Grazing (EOs 48, 22, 24, 32, 57), Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites will be avoided by exclusion of livestock from EOs 24 and 58 in CCA MA 6 and from EO 60 in CCA MA 8. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by deferred livestock grazing in MA 5 (EOs 48, 22, 32) and in MA 6 (EOs 24, 57), by fall/winter grazing only in MA 6 (EOs 18, 19, 24, 25, 41, 42, 43, 58), by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by restricting livestock use in EO 27 (MA 7) to periods when soils are dry, by delay of livestock turn-out in MA 7 when soils are saturated, by relocation of livestock away from EOs if soils become moist or are likely to become saturated in EOs 32 and 48 (MA 5) and all MA 6 EOs, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 1 mile from EO 27 in MA 7 and EOs 32 and 48 in MA 5 and 0.5 miles from all other EOs, and by restriction of sheep bedding within 0.5 miles of EOs. Mechanical damage to individual plants or slickspot microsites is likely to be reduced by use of existing roads and trails only for vehicle travel in MA 6. Adaptive management is likely to be facilitated by information provided</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EOs may occur annually in the spring, except in MA 6, where localized trampling of some slickspot microsites within MA 6 EOs may occur in years with winter thaw. Localized spread of invasive nonnative plants into the EOs and associated occupied habitat may occur annually in the spring, except in MA 6, where there is a small risk of livestock contributing to the spread of invasive nonnative plants into EOs in years with winter thaw. Native forb and grass reproduction and vigor may be reduced by annual spring grazing, (except in MA 6, which is grazed during fall/winter).</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (5 or 8 years depending on the individual permittee).</p>
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Biological Opinion
State of Idaho

Bureau of Land Management Individual Ongoing Actions

<p>MA 7: B-ranked EOs 27 (which also includes EOs 35, 59, and 100) and 67 are located entirely within the action area (7,163 and 10 acres, respectively). C-ranked EO 53 (which also includes EO 71) is located within the action area (40 acres). MA 8A: D-ranked EOs 15 and 60 are located within the action area (156 and 15 acres, respectively). MA 8B: C-ranked EOs 72, 77, and 104 are located within the action area (167, 4, and 91 acres, respectively). D-ranked EO 103 is located within the action area (90 acres). EOs outside of MAs: C-ranked EO 64 is located within the action area (15 acres). D-ranked EO101 is located within the action area (less than 1 acre).</p>	<p>through permittee supplemental surveys and monitoring of LEPA.</p>		
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Sunnyside Winter Allotment #00826—Livestock Grazing, Expires 2/28/2018

<p>EOs Affected (Estimated Occupied Habitat): 2 EOs, with the action area containing a portion of the 0.5 mile buffer only for 1 of the 2 EOs. (2,780 Acres)</p>	<p>Medium—About 30 percent of C-ranked EO 18 is located within the action area (about 275 acres). Occupied habitat associated with F-ranked EO 41 is located within the action area (0 acres).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by restricting grazing activity to the fall/winter period in the EOs, by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by relocation of livestock away from EOs if soils become moist or are likely to become saturated, by no livestock trailing through EOs when soils are saturated, by locating salt/supplements 0.5 miles from EOs, and by restriction of sheep bedding within 0.5 miles of EOs. Native forb and grass reproduction and vigor is likely to be increased by restricting grazing activity to the fall/winter period in the EOs and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities. Mechanical damage to individual plants or slickspot microsites is likely to be reduced by use of existing roads and trails only for vehicle travel. Adaptive management is likely to be facilitated by information provided through permittee supplemental surveys and monitoring of LEPA.</p>	<p>Localized trampling of some slickspot microsites within the EOs may occur in years with saturated soils during fall/winter. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur in years with saturated soils during fall/winter. Small risk of livestock contributing to the spread of invasive nonnative plants into the EOs in years with saturated soils during fall/winter.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a medium conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (8 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

SW Alkali Seeding Allotment #01030—Livestock Grazing, Expires 8/31/2014

EOs Affected (Estimated Occupied Habitat): 1 EO (854 Acres)

<p>High—About 52 percent of B-ranked EO 26 is located within the action area (about 360 acres).</p>	<p>Seasonal Use Restrictions, Supplement Location Restrictions, Noxious Weed Treatments, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no livestock trailing through EO when soils are saturated, and by locating salt/supplements 0.5 miles from EO.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites within the EO may occur annually in the spring. Localized, deep burial of the seed bank in portions of some slickspots within the EO may occur annually in the spring. Localized spread of invasive nonnative plants into the EO may occur annually in the spring. Native forb and grass reproduction and vigor may be reduced by annual spring grazing. Low native shrub cover may be further reduced in localized areas by livestock-related mechanical damage.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (4 more years).</p>
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Inside Desert Allotment #00353—Livestock Grazing, Permit Term Ends ~2014

EOs Affected (Estimated Occupied Habitat): 8 EOs (25,988 Acres)

<p>High—The action area contains about 76 percent of B-ranked EO 16 (about 18,990 acres), about 50 percent of B-ranked EO 96 (about 25 acres), and all of B-ranked EO 84 (2 acres). C-ranked EO 95 is located entirely within the action area (2 acres). D-ranked EO 93 is located entirely within the action area (5 acres). The action area contains about 70 percent of F-ranked EO 94 (about 1 acre) and all of F-ranked EOs 81 and 83 (less than 1 acre for each EO).</p>	<p>Livestock Exclusion (portion of EO 16), Reduced Livestock Forage Utilization, Seasonal Use Restrictions, Supplement Location Restrictions, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by excluding grazing activity from 2 pastures (Juniper Lake Holding Pasture and Draw Below the Well Enclosure—portion of EO 16), by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by no late spring/early summer grazing in LEPA pastures every other year, by no livestock trailing through EOs by outside permittees, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Adaptive management is likely to be facilitated by information provided through permittee supplemental surveys and monitoring of LEPA. Native forb and grass reproduction and vigor may increase by restricting spring grazing activity to the late summer/fall period every other year in EOs and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites is expected to occur every other spring in EOs 16, 81, 83, 84, 93, 94, 95, and 96. Localized, deep burial of some seeds in portions of some slickspots within EOs 16, 81, 83, 84, 93, 94, 95, and 96 may occur every other spring. Minimal risk of localized invasive nonnative plant spread into EOs 16, 81, 83, 84, 93, 94, 95, and 96 facilitated by late spring/early summer cattle grazing every other year. Minimal risk of localized reduced native grass and forb cover facilitated by late spring/early summer cattle grazing every other year.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (about 4 more years).</p>
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Juniper Butte Allotment #01119—Livestock Grazing, Permit Term Ends ~2014

EOs Affected (Estimated Occupied Habitat): 7 EOs (7,942 Acres)

<p>High—The action area contains about 3 percent of B-ranked EO 16 (about 750 acres), and all of B-ranked EOs 97 and 99 (20 and 5 acres, respectively). C-ranked EOs 74, 85, and 98 are located entirely within the action area (3, 10, and 9 acres, respectively). F-ranked EO 87 is located entirely within the action area (less than 1 acre).</p>	<p>Reduced Livestock Stocking and Forage Utilization, Seasonal Use Restrictions, Supplement Location Restrictions, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by reductions in livestock numbers, by no spring/early summer grazing in three LEPA pastures every 1 of 3 years, by reduced utilization in spring/early summer in three LEPA pastures in 1 of 3 years, by no livestock trailing through EOs by outside permittees, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Adaptive management is likely to be facilitated by information provided through permittee supplemental surveys and monitoring of LEPA. Native forb and grass reproduction and vigor may increase by no spring/early summer grazing in three LEPA pastures every 1 of 3 years, by reduced utilization in spring/early summer in three LEPA pastures in 1 of 3 years by no spring grazing every other year in the Bench Pasture (EO 74), and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites is expected to occur every 2 of 3 years during spring/early summer in EOs 16, 85, 87, 97, 98, 99, and every other year in the Bench Pasture (EO 74). Localized, deep burial of the seed bank in portions of some slickspots may occur every 2 of 3 years during spring/early summer in EOs 16, 85, 87, 97, 98, 99, and every other year in EO 74, especially in wet years. Minimal risk of localized invasive nonnative plant spread into EOs 16, 85, 87, 97, 98, 99 facilitated by late spring/early summer cattle grazing every 2 of 3 years, and every other year in EO 74. Minimal risk of localized reduced native grass and forb cover facilitated by late spring/early summer cattle grazing every 2 of 3 years during spring/early summer in EOs 16, 85, 87, 97, 98, 99, and every other year in EO 74.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (about 4 more years).</p>
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Bureau of Land Management Individual Ongoing Actions

Juniper Draw Allotment #01138—Livestock Grazing, Permit Term Ends ~2014

EOs Affected (Estimated Occupied Habitat): 2 EOs (3,285 Acres)

<p>High—The action area contains about 3 percent of B-ranked EO 16 (about 750 acres). F-ranked EO 75 is located entirely within the action area (1 acre).</p>	<p>Reduced Livestock Stocking and Forage Utilization, Seasonal Use Restrictions, Supplement Location Restrictions, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by modifying grazing levels and season of use in unburned areas to maintain or enhance sensitive species (Judge Winmill order), by annual winter grazing in East Juniper Butte Pasture and Upper Riparian Pasture (EOs 16 and 75), by grazing every other spring in the South Bombing Range and West Juniper Draw pastures (portion of EO 16), by no livestock trailing through EOs by outside permittees, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Adaptive management is likely to be facilitated by information provided through permittee supplemental surveys and monitoring of LEPA.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites is expected to occur in EOs 16 and 75 every other year during late spring/early summer grazing in EOs 16 and 75. Localized, deep burial of the seed bank in portions of some slickspots in EOs 16 and 75 may occur every other year during late spring/early summer grazing, especially in wet years or during occasional winter thaws when soils are saturated. Minimal risk of localized invasive nonnative plant spread into EOs 16 and 75 facilitated by late spring/early summer cattle grazing every other year in EOs 16 and 75. Minimal risk of localized reduced native grass and forb cover facilitated by late spring/early summer cattle grazing every other year in EOs 16 and 75.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (1 more year, with a second renewal scheduled in about 4 more years).</p>
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Juniper Draw Allotment #01138 (Cont.)—Livestock Grazing, Permit Term Ends ~2014
 EOs Affected (Estimated Occupied Habitat): 2 EOs (3,285 Acres)

		<p>Native forb and grass reproduction and vigor may increase by modifying grazing levels and season of use in unburned areas to maintain or enhance sensitive species (Judge Winmill order), by annual winter grazing in East Juniper Butte Pasture and Upper Riparian Pasture (EOs 16 and 75), by grazing every other spring in the South Bombing Range and West Juniper Draw pastures (portion of EO 16), and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>		
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Juniper Ranch Allotment #01031—Livestock Grazing, Permit Term Ends ~2014

EOs Affected (Estimated Occupied Habitat): 1 EO (1,082 Acres)

<p>High—The action area contains about 2 percent of B-ranked EO 16 (about 500 acres). Action area considered important as it represents the northernmost portion of the range of LEPA in the Owyhee Plateau physiographic region; however, the majority (88 percent) of occupied habitat in the action area is created wheatgrass.</p>	<p>Reduced Livestock Stocking and Forage Utilization, Seasonal Use Restrictions, Supplement Location Restrictions, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by modifying grazing levels and season of use in unburned areas to maintain or enhance sensitive species (Judge Winmill order), by summer/fall deferred or rotational grazing in Pasture 9 (EO 16), by no livestock trailing through EOs by outside permittees, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Adaptive management is likely to be facilitated by information provided through permittee supplemental surveys and monitoring of LEPA. Native forb and grass reproduction and vigor may increase by modifying grazing levels and season of use in unburned areas to maintain or enhance sensitive species (Judge Winmill order), by summer/fall deferred or rotational grazing in Pasture 9 (EO 16), and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites may occur every year during summer/fall grazing in EO 16. Localized, deep burial of the seed bank in portions of some slickspots in EO 16 may occur in occasional years with a wet summer/fall, or during occasional winter thaws when soils are saturated. Minimal risk of localized invasive nonnative plant spread into EO 16 facilitated by annual summer/fall grazing. Minimal risk of localized reduced native grass and forb cover in EO 16 facilitated by annual summer/fall grazing.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (about 4 more years).</p>
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Poison Butte Allotment #01050—Livestock Grazing, Permit Term Ends ~2014

EOs Affected (Estimated Occupied Habitat) 11 EOs (16,698 Acres)

<p>High—The action area contains about 16 percent of B-ranked EO 16 (about 3,998 acres), about 50 percent of B-ranked EO 96 (about 25 acres), and all of B-ranked EO 80 (5 acres). C-ranked EO 92 is located entirely within the action area (40 acres). D-ranked EOs 73, 89, 90, and 91 are located entirely within the action area (35, less than 1, 1 and 3 acres, respectively). About 30 percent of F-ranked EO 94 (less than 1 acre) and all of F-ranked EOs 78 and 79 (1 acre each) are located entirely within the action area.</p>	<p>Reduced Livestock Stocking Levels and Forage Utilization, Seasonal Use Restrictions, Supplement Location Restrictions, Adaptive Management</p>	<p>Fire risk and the severity of fire impacts on LEPA habitat are likely to be reduced because the volume of fine fuels is likely to be reduced due to livestock grazing. Livestock trampling of individual plants or slickspot microsites is likely to be reduced by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities, by reductions in livestock numbers, by no herding, trailing, or gathering of livestock in five LEPA pastures when soils are saturated, by no livestock grazing in LEPA pastures between February 1 and March 31, by no late spring/early summer grazing in LEPA pastures every other year with stocking rates to achieve a maximum 20 percent forage utilization in spring in the following year, by no livestock trailing through EOs by outside permittees, by no livestock trailing through EOs when soils are saturated, and by locating salt/supplements 0.5 miles from EOs. Adaptive management is likely to be facilitated by information provided through permittee supplemental surveys and monitoring of LEPA. Native forb and grass reproduction and vigor may increase by no late spring/early summer grazing in LEPA pastures every other year with stocking rates to achieve a maximum 20 percent forage utilization in spring in the following year, and by implementing compliance inspections that may trigger an adaptive management response with appropriate changes in the grazing activities.</p>	<p>Localized trampling of some individual LEPA plants and slickspot microsites is expected to occur every other year during late spring/early summer in EOs 16, 73, 78, 79, 80, 89, 90, 91, 92, 94, and 96. Localized, deep burial of some seeds in portions of some slickspots within EOs 16, 73, 78, 79, 80, 89, 90, 91, 92, 94, and 96 may occur every other spring, especially in wet years. Minimal risk of localized invasive nonnative plant spread into EOs 16, 73, 78, 79, 80, 89, 90, 91, 92, 94, and 96 facilitated by late spring/early summer cattle grazing every other year. Minimal risk of localized reduced native grass and forb cover facilitated by late spring/early summer cattle grazing every other year. Low native shrub cover may be further reduced in localized areas by livestock-related mechanical damage.</p>	<p>Current habitat conditions are likely to be maintained over the majority of the action area with continued implementation of the conservation measures. For this reason, the action is compatible with maintaining a high conservation value for the allotment and its associated slickspot peppergrass occupied habitat over the term of the action (about 4 more years).</p>
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5.5. Conclusion

After reviewing the current status of the slickspot peppergrass, the environmental baseline for the action areas, the direct and indirect effects of the 27 ongoing livestock grazing actions (inclusive of the conservation measures described in the 2006 CA (Table 4 and Appendix A) and 2003 CCA), and cumulative effects, it is the Service's biological opinion that continued implementation of the 27 ongoing livestock grazing actions is not likely to jeopardize the continued existence of this species. No critical habitat has been designated for the slickspot peppergrass; therefore, none will be affected.

The Service reached the no-jeopardy determination on the basis that the aggregate effects of the 27 ongoing grazing actions considered in this analysis (see summary Table 11), inclusive of applicable conservation measures set forth in the 2006 CA and 2003 CCA, taken together with cumulative effects, are compatible with maintaining and/or improving the ecological function of the higher quality (C- through A-ranked) EOs rangewide. As noted in the "Status of the Species" section of this document (section 4.1), the long-term conservation of slickspot peppergrass is likely to depend on the maintenance or improvement of ecological function of the higher quality (C- through A-ranked) EOs rangewide, including maintaining or improving the connectivity within and between EOs, which may involve maintaining or enhancing lower ranked EOs (D- through F-ranked), as necessary, to facilitate pollinator activity, maintain genetic diversity, and minimize the effects of activities that promote the establishment of invasive nonnative plant species.

The slickspot peppergrass conservation measures being implemented by the Bureau in conjunction with the 27 ongoing grazing actions considered in this document are either specific measures designed to reduce impacts to the species and its habitat at the local level, or general measures designed to improve the ecological condition of native sagebrush-steppe vegetation at a landscape scale. The specific measures include management actions such as staging fire suppression resources for quick response, reducing the spread of nonnative plants, reducing livestock numbers, varying the timing or season of livestock grazing or trailing, and moving water or supplements away from EOs. These specific conservation measures are intended to reduce the amount or extent of localized impacts, although localized adverse effects are not completely eliminated. The general conservation measures include management actions designed to maintain or increase the cover of native forbs and grasses, protect sagebrush through fire protection or suppression, and restore degraded habitats to improve connectivity between sites. The general conservation measures are intended to incrementally improve rangeland conditions across the range of the species. As these general conservation measures are implemented over the long term, their effectiveness will be evaluated and modified as appropriate through an adaptive management process. The 2006 CA provides direction for annual monitoring to assess effectiveness of conservation measures and an adaptive management program to respond to new information and adjust livestock use as appropriate.

There are 27 ongoing grazing allotments considered in this Opinion, of which 20 have a remaining term of 4 years or less. Of the 27 allotments, 21 allow for some degree of spring grazing within slickspot peppergrass-occupied habitat. Of the 21 allotments with some level of spring grazing, 16 are scheduled to expire within 4 years, making it likely that any localized

adverse effects will not rise to the level that the conservation value of individual allotments would be reduced during the remaining terms of these ongoing actions. Under conditions of saturated soils, these grazing activities are expected to result in a limited amount of penetrating trampling within slickspot peppergrass occupied habitat by one or more livestock that may trample and kill slickspot peppergrass plants, and in some cases may disrupt the soil structure and functionality of affected slickspots and/or push seeds too deeply into the soil for subsequent successful germination and emergence. Where these effects occur, there is the potential for a localized reduction in abundance of slickspot peppergrass plants. The extent of these effects is expected to be very localized based on the small size and scattered distribution of slickspot peppergrass-occupied slickspots over a given allotment as well as due to the restrictions placed on season of use, stocking levels, and trailing within allotments. In addition, the best available information on the effects of livestock grazing on the slickspot peppergrass, using rangewide HIP data based on 4 to 5 years of livestock use, shows no significant relationships between slickspot peppergrass abundance and penetrating livestock trampling in slickspots or between slickspot peppergrass abundance and total livestock-print cover or livestock feces cover in slickspots.

The effects of these 27 ongoing grazing authorizations are not expected to reduce the overall abundance of the slickspot peppergrass in affected allotments over the remaining term of these actions. The conservation value assigned to the EOs of affected allotments is not likely to change over the remaining 2 to 9-year terms of these grazing permits with continued implementation of these actions, inclusive of conservation measures, as described herein.

CHAPTER 6. INCIDENTAL TAKE STATEMENT

6.1. Incidental Take Statement

Because the “take” prohibitions detailed under section 9(a)(1) of the Act do not apply to listed plants, those sections of the Act dealing with incidental “take”, Sections 7(b)(4) and 7(0)(2), generally do not apply to listed plants either. Therefore, we are not including an Incidental Take Statement for slickspot peppergrass in this Opinion.

However, section 9(a)(2) of the Act prohibits, among other actions, the removal and reduction to possession of plants listed as endangered or threatened from areas under Federal jurisdiction. The Act prohibits the malicious damage of Federally listed endangered plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulations or in the course of any violation of a State criminal trespass law. These protections may apply to slickspot peppergrass as well if State regulations are promulgated.

6.2. Conservation Recommendations

Section 7(a)(1) of the Act requires Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities intended to minimize or avoid adverse effects of a proposed action on a listed species or critical habitat, help implement recovery plans, or develop information.

The Service recommends that the Bureau implement the following conservation measures:

- Use the conservation measures and associated implementation actions in the 2009 CA as a basis for developing conservation measures for future revised LUPs in order to continue recovery of slickspot peppergrass. Given new information resulting from implementation actions identified in the 2009 CA (e.g., completion of surveys) and additional site specificity due to smaller action areas, LUPs may be revised to include more stringent conservation measures and implementation actions as appropriate.
- Continue to implement conservation measures for slickspot peppergrass, regardless of future listing status, to ensure continued species conservation and population expansion over time. The Service’s interpretation of the signed 2009 CA is that the conservation measures apply to Bureau actions regardless of the species’ status under the Act.
- Continue annual monitoring efforts to ensure that conservation measures are implemented and to assist in determining if these measures are effective in the conservation of the species and report these annual findings to the Service.
- Conduct surveys in cooperation with the Service, Idaho Department of Fish and Game, and other parties to determine slickspot peppergrass locations and densities in potential habitat.
- Encourage research and projects to restore sagebrush-steppe habitat within the range of slickspot peppergrass.

- Actively participate in critical habitat and recovery planning efforts for slickspot peppergrass. These efforts are expected to be initiated shortly.
- Continue to participate in the LEPA Technical Team and other cooperative forums for sharing information, developing partnerships, and encouraging research to facilitate the survival and recovery of slickspot peppergrass, including restoration techniques for sagebrush-steppe habitat and methods to reintroduce slickspot peppergrass into areas capable of supporting slickspot peppergrass.
- Conduct annual coordination meetings between the Bureau and the Service to address new information; provide perspective regarding the relationship of new information to ongoing actions; use this information, as appropriate, to modify actions or conservation measures via the established adaptive management strategy; and consider whether this information may modify the analyses in this Opinion and/or the appropriateness of the Service's conclusions.
- Consider establishing conservation reserves for slickspot peppergrass to maintain high quality sagebrush-steppe habitat and for use as research areas.
- Establish annual slickspot peppergrass monitoring transects applicable to each action area to facilitate adaptive management efforts to maintain or enhance the conservation value of EOs over the long term, especially in EOs with high conservation value (e.g., EO 76—Black Canyon Allotment #00310 and Spring Valley Allotment #00278; EO 30—Bowns Creek Allotment #00830 and Cornell Allotment #00820; EO 26—Hammett #4 Allotment #01036, Lower Alkali #01127, Southeast Alkali Seeding Allotment #01129, SW Alkali Seeding Allotment #01030; EO 108—Spring Valley Allotment #00278; EO 104—Sunnyside Spring Summer Allotment #00825; and EO 64—Sunnyside Spring/Fall Allotment #00825).
- Consider modifying livestock management in allotments that are annually grazed in spring during periods of saturated soil conditions (e.g., avoid or minimize trampling that negatively affects the seed bank by pushing seeds too deeply into the soil for successful germination and emergence or alters the soil structure and functionality of slickspots) or when plants are flowering, particularly in areas of high or medium conservation value (e.g., Black Canyon Allotment #00310, Cornell Allotment #00820, Ditto Creek Allotment #00818, Lower Alkali #01127, Hammett #3 Allotment #01035, Indian Creek Allotment #00878, Lower Alkali Allotment #01127, McPherson Individual Allotment #00196, Mountain Home Subunit Allotment #00813, Southeast Alkali Seeding Allotment #01030, SW Alkali Seeding Allotment #01129, Spring Valley Allotment #00278, Squaw Creek Allotment #00886, and Sunnyside Spring/Fall Allotment #00825).
- Exercise section 7(a)(1) of the Act to maintain or enhance plant communities in a manner compatible with the needs of the slickspot peppergrass, which includes maintaining a functional sagebrush-steppe ecosystem, minimizing ground disturbance in slickspot habitats, and providing native forb cover to maintain or enhance insect pollinator populations.
- Prioritize fire suppression to protect remaining large sagebrush stands within the range of slickspot peppergrass.
- Avoid or minimize ground-disturbing activities within EOs when soils are saturated and/or when slickspot peppergrass is flowering (May–June).
- Avoid pesticide contact with slickspot peppergrass plants or insect pollinators near EOs.

- For upcoming Bureau permit renewals and reissuances, cooperate with the Service, the Idaho Department of Fish and Game, permit holders, and other parties to identify strategies for avoiding or minimizing adverse impacts to slickspot peppergrass.

To remain informed about actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

CHAPTER 7 REINITIATION

7.1. Reinitiation-Closing Statement

This concludes formal consultation on the effects of 27 individual ongoing livestock grazing actions authorized by the Bureau on the slickspot peppergrass. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental “take” is exceeded, any operations causing such “take” must cease pending reinitiation. Because the “take” prohibitions detailed under section 9(a)(1) of the Act do not apply to listed plants, requirements for reinitiation of formal consultation associated with incidental “take” as described above are not applicable to listed plants, including the slickspot peppergrass.

As noted in our transmittal letter, we assume new information is likely to be generated during the remaining time these ongoing actions are implemented, and prior to individual actions undergoing separate consultations (i.e., these livestock grazing actions will be up for renewal, as identified in the individual action descriptions, and would be subject to consultation at that time). To evaluate whether reinitiation of consultation is necessary prior to permit renewals, and in light of any available new information, it is recommended that annual coordination meetings between the Bureau and the Service be established whereby new information, its relevance to this Opinion and our conclusions, and the adequacy/appropriateness of our conclusions can be fully discussed.

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APPENDIX A

CONSERVATION AGREEMENT

**U.S. Bureau of Land Management – Idaho State Office
U.S. Fish and Wildlife Service –
Snake River Fish and Wildlife Office**

**Idaho Bureau of Land Management Existing Land Use Plans and On-going
Actions Affecting Slickspot Peppergrass**

I. INTRODUCTION

This Conservation Agreement updates the August 2006 agreement between the Idaho State Office Bureau of Land Management (BLM) and the Snake River Fish and Wildlife Office of the U.S. Fish and Wildlife Service (USFWS) to provide for the conservation of slickspot peppergrass related to existing Idaho BLM land use plans (LUPs) and a subset of ongoing actions. The Conservation Agreement and associated conservation measures guide BLM management actions and serve as a basis for consultation or conference on these LUPs and on-going actions between the BLM and the USFWS regarding slickspot peppergrass, a proposed species for listing under the Endangered Species Act. This update of the Conservation Agreement reflects the Idaho District Court ruling that directs the USFWS to reconsider the USWS slickspot peppergrass status and make a listing determination by October 1, 2009.

Land use plans provide guidance and direction for managing public lands administered by the BLM. They ensure that public land is managed in accordance with the intent of Congress as stated in the Federal Land Policy and Management Act (FLPMA) (43 U.S.C. 1701 et seq.). Resource management planning is used by the BLM to allocate resources and select appropriate uses for public land. There are four LUPs that are addressed under the scope of this Conservation Agreement. The LUPs include the 1983 Kuna Management Framework Plan, 1987 Jarbidge RMP, the 1988 Cascade RMP, and the 2008 Snake River Birds of Prey RMP. At the time these LUPs were prepared, there was no requirement to consult with the USFWS on slickspot peppergrass. Currently land use plan revisions are in progress for the Jarbidge Field Office and Four Rivers Field Office that will update and replace all but the 2008 Snake River Birds of Prey RMP. The BLM and USFWS will consult on these revised LUPs when they are at the appropriate stage of development and depending on the impending listing decision for slickspot peppergrass.

This Conservation Agreement also addresses on-going actions currently authorized by the BLM including livestock grazing, rights-of way activities, and military training.

II. OBJECTIVE AND INTENT

This Conservation Agreement is intended to promote the conservation of slickspot peppergrass, a species proposed for listing which has not yet undergone consultation or conference at the LUP level or for ongoing actions. The conservation measures describe desired recovery and conservation objectives with corresponding implementation actions and will be analyzed in the associated Biological Assessment (BA). These conservation measures replace or create guidance within the LUPs regarding programmatic management direction for slickspot peppergrass. It is the intent of BLM and USFWS that specific conservation measures will be fully implemented and that this Conservation Agreement will remain in effect and binding on both parties until such time as new LUPs or amendments are prepared with completed section 7 compliance as appropriate, and Records of Decision signed. At that time, programmatic management direction for slickspot peppergrass will be included in the new or revised LUP or amendment, and this Conservation Agreement, or portions thereof in the case of programmatic amendments, will no longer apply to the planning area. Additionally, the conservation measures associated with this agreement may be modified based on the current USFWS analysis of new information and assessment of threats being conducted as part of the listing determination process.

While a high priority for BLM, both the BLM and USFWS recognize that funding constraints may affect the ability to implement specific conservation measures as planned. Where funding is lacking, BLM and USFWS will cooperate to set priorities and adjust dates for accomplishment. In addition, minor modifications to conservation measures may be necessary as the conference process progresses. Any modification must be agreed to by the BLM and the USFWS, and shall not materially alter the meaning or intent of a conservation measure as stated at the time of signature of this agreement.

III. PARTIES TO THE CONSERVATION AGREEMENT

U.S. Bureau of Land Management, Idaho; and
U.S. Fish and Wildlife Service, Snake River Fish and Wildlife Office

IV. AUTHORITY FOR CONSERVATION AGREEMENTS

The commitments and actions in this Conservation Agreement are within existing authorities of the signatory agencies. The primary authority for the USFWS and BLM to enter into this Conservation Agreement derives from the Endangered Species Act of 1973, as amended.

The primary purpose of the ESA is to provide a means whereby ecosystems upon which endangered and threatened species depend may be conserved. Section 7(a) directs Federal agencies to utilize their authorities (e.g., FLPMA) in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species. Further, under Section 7(b), each Federal agency is expected to, in consultation and with the assistance of the USFWS, ensure that any action authorized, funded or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species.

Section 3 of the ESA includes the following definition for conservation as is intended under this Conservation Agreement:

The terms "conserve," "conserving," and "conservation" mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.

Additional authorities for the USFWS derive from the Fish and Wildlife Act of 1956, as amended; and the Fish and Wildlife Coordination Act, as amended.

In addition to the ESA, FLPMA (43 U.S.C. 1701 et. seq) provides the BLM with the authorities required for this Conservation Agreement:

The public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.

BLM Special Status Species Management Manual 6840 provides specific policy guidance as it pertains to the ESA, FLPMA and this Conservation Agreement. For listed species, the policy states the following:

1. Actions authorized by the BLM shall further the conservation and/or recovery of federally listed species and conservation of Bureau sensitive species.
2. The BLM shall retain in Federal ownership those habitats essential for the conservation of any listed species, particularly those that are part of a broader, logical public land ownership management unit. The BLM may dispose of lands providing habitat for listed species, including critical habitat, only following consultation with the FWS or NMFS and upon a determination that such action is consistent with relevant law.
3. Ensure that all actions authorized, funded, or carried out by the BLM are in compliance with the ESA. To accomplish this, the BLM shall:
 - a. Evaluate all proposed actions to determine if individuals or populations of listed species or their habitat may be affected.
 - b. Initiate consultation with the USFWS, including preparation of biological assessments, as appropriate, for those actions that may affect listed species or their habitats.

- c. Until the consultation proceedings are completed and a final biological opinion has been issued, BLM shall not carry out any action that would cause an irreversible or irretrievable commitment of resources such that it would foreclose the formulation or implementation of any reasonable and prudent alternative measure that might avoid jeopardy to listed species and/or prevent the adverse modification of critical habitat.
 - d. Ensure that BLM actions will not reduce the likelihood of survival and recovery of a listed species.
4. Cooperate with the USFWS in planning and providing for the recovery of listed species. To accomplish this, the BLM shall:
- a. Develop and implement activities that provide for the conservation and recovery of species listed pursuant to the ESA.
 - b. Undertake actions designed to maintain the integrity of the primary constituent elements of federally designated critical habitat on BLM-administered lands.
 - c. Ensure that BLM actions are not likely to jeopardize the continued existence of any endangered species or threatened species or destroy or adversely modify designated critical habitat.
 - d. Determine, to the extent practicable, the occurrence, distribution, population, and habitat condition of all ESA-listed species on BLM-administered lands, and evaluating the significance of BLM-administered lands in the conservation of those species.
 - e. Develop and implement agency land use plans, implementation plans, and actions in a manner consistent with conservation and/or recovery of listed species.
 - f. Monitor and evaluate ongoing management activities to ensure conservation objectives for listed species are being met.
 - g. Cooperate with the FWS and/or NMFS and other interested parties in species recovery and conservation as provided in species recovery plans. Such actions may include species reintroductions, which shall be carried out in conformance with BLM Manual 1745.
 - h. Implement conservation recommendations included in biological opinions if they are consistent with relevant law and policy and are technologically and economically feasible.

For species that are candidates for listing, the policy states the following:

States or offices may wish to seek technical assistance from the FWS and/or NMFS when it is determined to be advantageous to a species' conservation or BLM management options.

VI. CONSERVATION MEASURES

Conservation measures were developed for each LUP program and sub-program covered by this Conservation Agreement. They are discussed specifically for each Planning Area in the associated Biological Assessment. Each conservation measure describes a goal or general action and includes one or more specific BLM actions required to implement it. As mentioned previously, the conservation measures associated with this agreement may be modified based on the current USFWS analysis of new information and assessment of threats being conducted as part of the listing determination process. Responsibilities for implementing the actions are indicated, along with time frames for implementation. Most of the conservation measures will be implemented as standard operating actions conducted during day-to-day management activities. In addition, LUP conservation measure guidance and direction will be applied to ongoing actions. However, as site-specific information will be available for the ongoing actions, additional conservation measures may be considered.

Part 1: Programmatic Planning

Programmatic planning conservation measures include those that are needed for consultation at all planning levels including future LUPs, ongoing activities and proposed projects. In addition to the existing LUP conference activities, BLM will complete all necessary section 7 compliance for new or revised LUPs that may affect this species and its habitat.

Part 2: Projects / Activity Plans – Planning and Implementation

A. Ongoing Actions

This category includes all activities currently ongoing and permitted on BLM land. These include actions that have gone through the agency planning process and have a documented agency decision (decision memorandum, decision notice, or record of decision). The BLM will complete section 7 compliance for ongoing activities that have the potential to directly affect an element occurrence and associated occupied slickspot peppergrass habitat concurrent with the conference effort for existing LUPs. The BLM will also adaptively manage all ongoing activities as described in the associated Biological Assessment, and adjust the action as appropriate to ensure management objectives for slickspot peppergrass are met.

B. Proposed Actions

This category includes all new proposed projects or activities as well as all renewal actions. Project-level inventories will be completed as appropriate during project planning if inventory information is not available or adequate to determine if impacts to the species or habitat may occur. If direct or indirect negative impacts to the species or its habitat are anticipated as a result of new BLM actions, the activity will be modified to avoid or minimize anticipated negative impacts. BLM will complete all necessary section 7 compliance for new activities that may affect this species and its habitat.

Part 3: Monitoring

Conservation measures for slickspot peppergrass include a provision to implement adaptive management as needed to achieve conservation objectives. At the project level, this will be accomplished by conducting site-specific implementation and effectiveness monitoring to track progress toward achieving the conservation measures. BLM and USFWS Level 1 Teams will meet annually to review the implementation and effectiveness monitoring results for projects of concern, determine if current management actions are on a trajectory toward meeting management goals within the established time frames, and modify management actions as needed if progress toward goals is inadequate. Implementation of the programmatic and ongoing actions conservation measures will be monitored through the reporting and monitoring requirements of this Conservation Agreement (Section VII).

VII. CONSERVATION AGREEMENT MONITORING AND REPORTING

The agencies agree to a joint, annual review in October each year to assess progress in implementing this Conservation Agreement. Any recommendations will be presented to the Idaho BLM State Director and USFWS Field Office Supervisor by November of each year. This review could lead to the modification and exceptions discussed in Part VIII below. These modifications or exceptions will be formalized within the scope of this Conservation Agreement.

VIII. AMENDMENTS, EXCEPTIONS, AND DURATION OF AGREEMENT

Exceptions or amendments to this agreement may be jointly agreed to by the signatories on a case-by-case basis, where such changes would better provide for protection and conservation of species, where conflicts must be resolved between species, where priorities need to be adjusted due to funding constraints, or when new, relevant scientific information becomes available. Such exceptions or amendments shall be agreed to by modification. All modifications within the scope of this agreement shall be made by issuance of a modification executed by all parties prior to any changes being performed.

This agreement shall be considered fully executed when all signatories have signed. The agreement shall expire on December 31, 2012, at which time it will be reviewed for renewal or expiration.

IX. QUALIFICATIONS AND CONTACTS

This agreement in no way restricts any of the signatories from participating in similar activities with other public or private agencies, organizations, and individuals. This agreement is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between the parties to this agreement will be handled in accordance with applicable laws, regulations, and procedures including those for government procurement and printing. Such endeavors will be outlined in separate agreements that shall be made in writing by representatives of the parties and shall be independently authorized by appropriate statutory authority. This agreement does not provide such authority. Specifically, this agreement does not

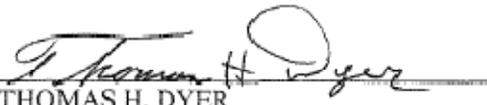
establish authority for noncompetitive award to the cooperator of any contract or other agreement. Any contract or agreement for training or other services must fully comply with all applicable requirements for competition.

The principal contacts for this agreement are:

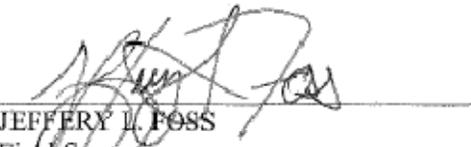
Jonathon Foster, Branch Chief
Bureau of Land Management
Idaho State Office
1387 South Vinnell Way
Boise, ID 83709
208-373-3813

Mark Roberston
U.S. Fish and Wildlife Service
Snake River Fish and Wildlife Office
1387 South Vinnell Way
Boise, ID 83709
208-378-5287

X. SIGNATURES


THOMAS H. DYER
State Director
Bureau of Land Management

8/26/09
Date


JEFFERY L. FOSS
Field Supervisor
U.S Fish and Wildlife Service

8/27/09
Date

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
<p>Special Status Animal and Plant Management</p> <p>Note: Common to All Programs</p>	<p>The conservation measures contained throughout this table implement important elements included in the Candidate Conservation Agreement (CCA) for slickspot peppergrass. The conservation measures reflect BLM's commitment to support species conservation.</p> <p>1) In cooperation with Idaho Department of Fish and Game (IDFG) Conservation Data Center (CDC), U.S. Fish and Wildlife Service (USFWS), Idaho Army National Guard (IDARNG), the U.S. Air Force (USAF), and others:</p> <p>a) Develop and use survey protocols consistent with the USFWS Rare Plant Survey Guidelines to conduct Stage 1, 2, and 3 surveys (see Figure III.C-1 at the end of this table for the general survey process).</p> <p>b) Cooperate to refine slickspot peppergrass potential habitat maps (Stage 1 survey, Figure III.C-1), and to identify and map slickspot peppergrass occurrences (Stage 2 survey, Figure III.C-1).</p>	<p>The implementation actions reflect BLM's commitment to support species conservation and meet ESA objectives. Actions apply to BLM lands and activities only. Habitat terms used throughout this document are defined in Appendix B: Definitions.</p> <p>1) Following actions to be completed in cooperation with others:</p> <p>a) Apply current survey methods, and assure that inventories are done at the appropriate time of the year by qualified botanists, or by persons who are under the guidance of botanists. Develop more specific survey protocols with reporting standards for slickspot peppergrass.</p> <p>b) Surveys, mapping, and data management (refer to Figure III.C-1, <i>Survey Flowchart for Slickspot Peppergrass</i>, at the end of this table):</p> <p>i) Cooperate with CDC and USFWS to record, refine, and map all habitat features including potential habitat, slickspot peppergrass habitat, non-habitat, occupied habitat, and element occurrences (EOs), for BLM lands (see Appendix B, <i>Definitions</i>). Use current GIS standards for mapping and database management. In cooperation with CDC, maintain a spatial database of species</p>	<p>1) As stated below:</p> <p>a) BLM State Office (SO), BLM Field Office (FO), USFWS, and CDC</p> <p>b) FO, with CDC and USFWS</p> <p>i) FO</p>	<p>1) As stated below:</p> <p>a) SO Due Date (DD) for protocol = February 1, 2007</p> <p>b) Standard operating action (SOA)</p> <p>i) Update map annually</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>c) Cooperate in regular monitoring of slickspot peppergrass population trends and land health conditions on BLM lands, and follow current monitoring protocols. Land health conditions include forb diversity to support pollinators and habitat for slickspot peppergrass.</p>	<p>population and habitat information for BLM lands.</p> <p>ii) BLM will continue to conduct Stage 1 and 2 surveys, report survey information to the CDC, and incorporate the information into the adaptive management strategy.</p> <p>iii) BLM's intent will be to conduct Stage 1 surveys (slickspot survey) for at least 50,000 acres of the potential habitat annually with a goal of completing Stage 1 surveys for all potential habitat within 10 years. BLM will work collaboratively with USFWS to prioritize surveys during the first 5 years to areas that have a high likelihood of species occurrence, or that are needed for BLM project purposes. BLM will also target at least 15,000 acres of Stage 2 surveys (slickspot peppergrass plant surveys) that can be done concurrently with the Stage 1 surveys. The amount of habitat to be surveyed each year will be based on available annual funding. Stage 3 plant surveys will be conducted as necessary and desired.</p> <p>iv) Prioritize Stage 2 surveys to address slickspot peppergrass habitat with a high likelihood of species occurrence. Surveys should be scheduled to complement other program needs. Coordinate annually with USFWS as Stage 1 surveys are completed to schedule the Stage 2 surveys.</p> <p>c) Follow the Habitat Integrity and Population (HIP) monitoring protocol or other accepted methodology. BLM will cooperate with others to conduct annual monitoring within all EOs on BLM lands to assess the effectiveness of the conservation measures as part of the adaptive management strategy.</p>	<p>ii) FO</p> <p>iii) Level 1 Team develops schedule; FO completes Stage 1 surveys</p> <p>iv) Level 1 Team develops schedule; FO completes Stage 2 surveys</p> <p>c) FO</p> <p>i) FO, with SO, USFWS, and CDC</p>	<p>ii) SOA, annually</p> <p>iii) Develop schedule for conducting priority Stage 1 surveys by February 1, 2007. Complete all Stage 1 surveys by 2017.</p> <p>iv) Develop Stage 2 survey schedules annually, beginning in 2007.</p> <p>c) SOA</p> <p>i) FO DD = 2008</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p><u>d</u>) Participate in research essential to conservation of the species.</p> <p><u>e</u>) Continue to support seed banks in a long-term seed storage facility.</p> <p><u>f</u>) Support the establishment and maintenance of new populations in slickspot peppergrass habitat. The goal of these activities is to maintain or enhance viable populations.</p> <p>2) Ensure that ongoing Federal actions support or do not preclude species</p>	<p><i>i</i>) Establish permanent ecological reference areas (ERAs) in selected EOs to evaluate land health conditions associated with slickspot peppergrass.</p> <p><i>ii</i>) Use data from the ERAs to assist in completing land health assessments. This information will be used to evaluate permitted management actions and to design restoration projects for slickspot peppergrass.</p> <p><u>d</u>) BLM will participate in research as funding allows. Areas to focus on include, but are not limited to, the following:</p> <p><i>i</i>) Elimination and control of invasive species.</p> <p><i>ii</i>) Pollination, forb restoration, and effects of ground disturbance on the species.</p> <p><i>iii</i>) Determination of specific limiting factors in terms of habitat needs and characteristics.</p> <p><i>iv</i>) Population viability analyses.</p> <p><u>e</u>) As needed, provide funding to a suitable repository to support a seed bank.</p> <p><u>f</u>) Reintroduce slickspot peppergrass at selected experimental reintroduction or historic sites as funding allows.</p>	<p><i>ii</i>) FO</p> <p><u>d</u>) FO and SO, with USFWS (all actions)</p> <p><u>e</u>) SO, with CDC and USFWS</p> <p><u>f</u>) FO and SO, with CDC and USFWS</p> <p>2) FO (all actions)</p>	<p><i>ii</i>) SOA</p> <p><u>d</u>) SOA (all actions)</p> <p><u>e</u>) SOA</p> <p><u>f</u>) SOA</p> <p>2) SOA, annual review</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>conservation in slickspot peppergrass habitat.</p>	<p>2) Ongoing BLM authorized activities:</p> <p>a) Based on the results of annual Stage 1 and 2 surveys, review ongoing activities in slickspot peppergrass habitat. The Level 1 Team will conduct these reviews in a manner consistent with streamlining procedures where local section 7 compliance activities with USFWS (if necessary) have not yet been completed.</p> <p>b) If reviews indicate that direct or indirect negative impacts to the species or its habitat are occurring as a result of ongoing discretionary BLM actions, the activity will be modified to avoid or minimize anticipated negative impacts and, where feasible, promote species conservation.</p> <p>c) Where needed, complete section 7 compliance for ongoing activities that may affect this species and its habitat. Following the annual review of Stage 1 and 2 surveys outlined in (2)(a) above, initiate section 7 compliance activities for ongoing actions within 6 months, as appropriate.</p> <p>d) Where slickspot peppergrass habitat exists, BLM will conserve remaining stands of sagebrush and native vegetation in making activity plan and project level decisions.</p>	<p>3) As listed below:</p> <p>a) FO and USFWS</p> <p>b) FO</p>	<p>3) See below:</p> <p>a) SOA</p> <p>b) SOA</p>
	<p>3) Ensure that new Federal actions support or do not preclude species conservation in slickspot peppergrass habitat.</p>	<p>3) New proposed BLM authorized activities:</p> <p>a) Consistent with streamlining procedures, BLM will require project-level inventories for any project in slickspot peppergrass habitat and in potential habitat during project planning if</p>		

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>4) Implement adaptive management as needed to achieve conservation objectives.</p> <p>5) Support programs to conserve and enhance slickspot peppergrass on non-Federal lands.</p> <p>6) Include language in all land use authorizations to require rehabilitation of slickspot peppergrass habitat in case of trespass or permit violations, if damage occurs.</p>	<p>inventory information is not available or adequate. BLM will use the protocols developed in (1)(a).</p> <p>b) If direct or indirect negative impacts to the species or its habitat are anticipated as a result of new BLM actions, the activity will be modified to avoid or minimize negative impacts and, where feasible, promote species conservation.</p> <p>c) Where needed, complete section 7 compliance for new activities that may affect this species and its habitat.</p> <p>d) Where slickspot peppergrass habitat exists, BLM will conserve remaining stands of sagebrush and native vegetation in making activity plan and project level decisions.</p> <p>4) Conduct site-specific implementation and effectiveness monitoring of management actions. Adjust management as needed to ensure that management objectives are met. See additional details within other programs.</p> <p>5) Take advantage of opportunities to support conservation of slickspot peppergrass through easements, cooperative management efforts, and other programs.</p> <p>6) As a part of management authorizations, require rehabilitation to native vegetation in slickspot peppergrass habitat if trespass or permit violation occurs and the habitat is damaged. If ecological site conditions preclude the use of native species, use non-invasive, nonnative plant species for rehabilitation in trespass or permit violation situations.</p>	<p>c) FO and USFWS</p> <p>d) FO</p> <p>4) FO, with USFWS</p> <p>5) FO</p> <p>6) FO</p>	<p>c) SOA</p> <p>d) SOA</p> <p>4) SOA</p> <p>5) SOA</p> <p>6) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Air Resources	None	None	None	None
Soil and Water Resources: Riparian/ Wetland Areas (includes weed management)	None	None	None	None
Upland Vegetation Management: Rangelands (includes weed management)	<p>1) Activities within the Upland Vegetation Management: Rangelands (includes weed management) program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation. As a part of promoting conservation, the goals are to promote habitat conservation, to avoid negative impacts, or to minimize impacts if avoidance is not possible.</p> <p>2) Although non-chemical methods will be the preferred approach in occupied habitat, when appropriate, projects involving the application of pesticides (including herbicides, fungicides, and other related chemicals) in slickspot peppergrass habitat and potential habitat that may affect the species will be analyzed at the project level and designed such that pesticide applications will support conservation and minimize risks of exposure.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Site-specific stipulations will be developed locally using these criteria:</p> <p><u>a)</u> Evaluate the benefits and risks of vegetation treatment including the following: application methods; pesticides, carriers, and surfactants used; needed treatment buffers; and use of non-chemical weed control (for example, bio-controls, hand pulling).</p> <p><u>b)</u> Apply appropriate spatial and temporal buffers to avoid species' exposure to harmful chemicals.</p> <p><u>c)</u> Explore opportunities to eradicate competing nonnative invasive plants in occupied habitat where slickspots are being invaded by such plants.</p>	<p>1) SO and FO</p> <p>2) FO, with USFWS (all actions)</p>	<p>1) SOA</p> <p>2) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>3) Where needed and feasible, coordinate with adjacent land owners and local governments regarding control of invasive plants in upland areas through cooperative weed management programs. One of BLM's priorities within the cooperative weed management program is the protection of special status plants on BLM lands.</p> <p>4) BLM will promote diversity, richness, and health of native plant communities to support pollinators and habitat for slickspot peppergrass.</p>	<p>d) Implement appropriate revegetation and weed control measures to reduce the risks of nonnative invasive plant infestations following ground/soil disturbing actions in slickspot peppergrass habitat.</p> <p>e) BLM will provide USDA APHIS with the location of slickspot peppergrass habitat. Mormon cricket, grasshopper, or other insect control in slickspot peppergrass habitat will only include those methods that minimize impacts to the plant's pollinators.</p> <p>3) Take advantage of coordination opportunities as they arise.</p>	<p>3) FO</p> <p>4) FO, with USFWS</p>	<p>3) SOA</p> <p>4) SOA</p>
		<p>a) Where slickspot peppergrass habitat exists, BLM will conserve remaining stands of sagebrush and native vegetation in making activity plan and project level decisions.</p> <p>b) Vegetation treatment projects undertaken in slickspot peppergrass habitat will be compatible with species habitat</p>		

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Forest and Woodland Management (includes weed management)	None	restoration objectives, as described in item (d) below.	None	None
Wildlife and Habitat Management	<p>1) Activities within the Wildlife and Wildlife Habitat Management program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Manage facilities installed for wildlife to promote maintenance of slickspot peppergrass habitat.</p>	<p>c) BLM will select and implement specific projects to restore slickspot peppergrass habitat in degraded areas as funding allows, such as planting shrubs and forbs and controlling weeds, within and adjacent to occupied habitat. Apply methods described in item (d) below.</p> <p>d) When conducting vegetation treatment projects, BLM will use seeding techniques that minimize soil disturbance such as no-till drills and rangeland drills equipped with depth bands, use native plant materials and seed during restoration activities, and select native forbs that benefit slickspot peppergrass insect pollinators.</p>	<p>1) SO and FO</p> <p>2) FO</p>	<p>1) SOA</p> <p>2) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Fish and Aquatic Habitat Management	None	None	None	None
Livestock Grazing Management: Permits and Leases	<p>3) Restore wildlife habitat while promoting slickspot peppergrass conservation.</p> <p>None</p> <p>1) Activities within the Livestock Grazing Management: Permits And Leases program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Manage livestock grazing and trailing to conserve suitable habitat conditions for slickspot peppergrass while implementing rangeland health standards and guidelines (S&Gs). Apply the <i>Implementation of Annual Grazing Adaptive Management</i> (Figure III.C-2), located at the end of this conservation measures table, to adjust livestock use as appropriate.</p>	<p>impacts, modify existing and avoid placement of new wildlife facilities in occupied habitat.</p> <p>3) Any restoration efforts for wildlife within slickspot peppergrass habitat will be compatible with the species' habitat requirements.</p> <p>None</p> <p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Permit or lease renewal actions and annual authorizations:</p> <p>a) For review of ongoing actions, see Special Status Animal and Plant Management program section item (2).</p> <p>b) Schedule surveys in slickspot peppergrass habitat as needed for S&G assessments associated with permit and lease renewals. Use survey procedures and flowchart (Figure III.C-2, <i>Implementation of Annual Grazing Adaptive Management</i>) referenced in Special Status Animal and Plant Management program section 1(b).</p> <p>c) For new actions, see Special Status Animal and Plant Management program section item (3).</p> <p>d) As part of adaptive management to avoid or minimize negative</p>	<p>3) FO</p> <p>None</p> <p>1) SO and FO</p> <p>2) FO (all actions)</p>	<p>3) SOA</p> <p>None</p> <p>1) SOA</p> <p>2) SOA (all actions)</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>3) As part of adaptive management, BLM will conduct scheduled compliance inspections in pastures with occupied habitat</p>	<p>impacts, modify livestock grazing activities as outlined in Figure III.C-2, <i>Implementation of Annual Grazing Adaptive Management</i>, located at the end of this conservation measures table. In addition, the following measures will be implemented, as appropriate:</p> <ul style="list-style-type: none"> i) As part of range readiness assessments, delay livestock turnout when soils are saturated. ii) Minimize gathering livestock in EOs. iii) Avoid impacts to EOs from herd movement through rested and deferred pastures. iv) Trailing permits will not be authorized through EOs. v) Sheep grazing permits will be modified to restrict bedding, trailing, or watering herds within 1/2 mile of EOs. vi) Supplements will be placed at least 1/2 mile from EOs. Supplements will be placed so that livestock are drawn away from the EO and avoid trailing through the EO en route to the supplement or a water source. Management requirements will be adjusted to maintain an appropriate distance between supplements and existing EOs to avoid impacts. 	<p>3) FO</p>	<p>3) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	as part of BLM range use supervision to minimize impacts.	<p>vii) No new domestic horse AUMs will be authorized in pastures containing EOs to avoid trampling impacts.</p> <p>3) BLM, in coordination with the USFWS, will create a schedule to prioritize compliance inspections associated with livestock grazing permits in occupied habitat areas. These compliance inspections are a complement to the HIP monitoring listed under Special Status Animal and Plant Management and where practical the efforts may be combined. BLM staff will conduct inspections as determined by the schedule.</p>	<p>a) FO</p> <p>b) SO and USFWS, with FO input</p> <p>c) FO</p>	<p>a) SOA</p> <p>b) DD for developing format: February 1, 2007</p> <p>c) SOA</p>
	<p>4) Provide adequate rest from livestock use for areas treated after major disturbances in slickspot peppergrass habitat. Major disturbances include fire, fire rehabilitation, or other soil-disturbing occurrences.</p>	<p>a) BLM range staff will conduct pre-season range readiness checks for soil moisture conditions in allotments with occupied habitat.</p> <p>b) BLM will conduct post-use monitoring for trampling in slickspots within EOs (could be done in conjunction with utilization compliance checks).</p>	<p>d) FO</p> <p>4) FO</p>	<p>d) SOA</p> <p>4) SOA</p>
	<p>5) BLM will work cooperatively with the livestock permittees to promote slickspot peppergrass conservation.</p>	<p>c) Monitoring results will be documented in a standard format (to be developed by BLM) in the grazing allotment files. Copies will be provided to the USFWS as completed.</p> <p>d) Apply Grazing Adaptive Management Implementation Flowchart as outlined in Figure III.C-2, located at the end of this conservation measures table.</p>	<p>5) FO</p>	<p>5) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Livestock Grazing Management: Livestock Management Facilities	<p>1) Activities within the Livestock Grazing Management: Livestock Management Facilities program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Manage livestock facilities to promote slickspot peppergrass conservation while implementing rangeland health S&Gs.</p>	<p>4) Protect treated areas by using temporary livestock closures or other measures. The length of rest will be determined by achieving certain goals associated with plant establishment outlined in the restoration, fire rehabilitation, or other plan.</p> <p>5) BLM will train permittees on slickspot peppergrass habitat and plant recognition. BLM will also work with permittees to use the CDC rare plant observation form to report survey information in a standard format.</p> <p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) For review of ongoing actions, see Special Status Animal and Plant Management program section item (2). For new actions, see Special Status Animal and Plant Management program section item (3). As appropriate to avoid or minimize negative impacts, modify existing and avoid placement of new livestock facilities in occupied habitat areas.</p> <p>a) Within pastures, place water facilities to support slickspot peppergrass conservation:</p>	<p>1) SO and FO</p> <p>2) FO (all actions)</p>	<p>1) SOA</p> <p>2) SOA (all actions)</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
		<p><i>i)</i> Existing water troughs (includes troughs that are tied into pipelines, as well as both permanent and movable troughs to which water is delivered throughout the grazing season) will be moved at least 1/2 mile from EOs, when feasible. Where troughs cannot be moved (for example, because of topographical constraints, additional disturbance, or impacts to sensitive species), management will be adjusted to mitigate the impacts during the periods of critical concern for slickspot peppergrass (such as when soils are saturated and subject to trampling impacts). Management adjustments could include shutting the water off seasonally, changing pasture boundary fences, or other appropriate measures.</p> <p><i>ii)</i> New water troughs (not including existing water troughs moved in (2)(a)(i), above) will be placed at least 1 mile from EOs. A deviation from this standard may be developed on a case-by-case basis through collaboration with the USFWS. New water troughs will be placed so that cattle are drawn away from the EO and avoid trailing through an EO en route to a water source.</p> <p><i>iii)</i> Temporary water troughs (short-term, emergency, or single-season use) will be located at least 1 mile from EOs. A deviation to this standard may be developed on a case-by-case basis through collaboration with the USFWS. New water troughs will be placed so that cattle are drawn away from the EO and avoid trailing through an EO en route to a water source.</p> <p>b) Placement of new livestock infrastructure will be compatible</p>		

Table III.C-1
Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Wild Horse Management	<p>1) Activities within the Wild Horse Management program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) If the range of wild horses and slickspot peppergrass occupied habitat overlaps now or in the future, protect these areas from wild horses by including applicable conservation measures in herd management plans.</p>	<p>with slickspot peppergrass habitat conservation. Avoid placement of new fences within EOs.</p> <p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Manage wild horse herd size to minimize conflicts with slickspot peppergrass. Limit trampling in occupied habitat by implementing appropriate range management practices, such as fencing and water trough placement.</p>	<p>1) SO and FO</p> <p>2) FO</p>	<p>1) SOA</p> <p>2) SOA</p>
Recreation Management	<p>1) Activities within the Recreation Management program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Developed facilities (paved campgrounds, vault toilets, interpretive kiosks, etc.): Manage existing and new recreation facilities to promote conservation of species habitat.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Management of existing and new facilities:</p> <p>a) For review of existing facilities, see Special Status Animal and Plant Management program section item (2). As appropriate to avoid or minimize negative impacts, modify existing facilities.</p> <p>b) For new facilities, or for expansion of uses at existing facilities, see Special Status Animal and Plant Management program section item (3). In addition, avoid development of new recreation facilities or expansion of existing facilities in slickspot</p>	<p>1) SO and FO</p> <p>2) FO (all actions)</p>	<p>1) SOA</p> <p>2) SOA (all actions)</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>3) Dispersed use areas (informal areas, including camping areas and tie-up areas for pack animals): Manage dispersed use sites to promote conservation of species habitat. This includes limiting disturbances to the species resulting from human uses.</p> <p>4) Commercial and noncommercial recreation permits, including hunting guides and outfitter camps: issue commercial and noncommercial recreation permits to promote conservation of slickspot peppergrass habitat. This includes management of physical facilities (such as camps), as well as disturbances to slickspot peppergrass habitat resulting from human uses.</p>	<p>peppergrass habitat if negative impacts are anticipated.</p> <p>c) BLM will educate recreationists on special status species and invasive weeds, focusing on occupied and selected habitat areas. BLM will develop and install educational signage at entry points and key recreational points regarding the biology and conservation of this species and other special status species.</p> <p>3) For review of ongoing activities, see Special Status Animal and Plant Management program section item (2). In addition, minimize human activity in and adjacent to occupied habitat if negative impacts are occurring. Close areas, either seasonally or year-round, as needed to protect the species and its habitat.</p> <p>4) Issuance and review of existing and new permits:</p> <p>a) For review of existing permits, see Special Status Animal and Plant Management program section item (2). If needed, modify existing permits that negatively impact habitat for this species.</p> <p>b) For new permits, see Special Status Animal and Plant Management program section item (3). Avoid issuing recreation permits in slickspot peppergrass habitat if negative impacts are expected. In particular, avoid permitting new recreation activities in and adjacent to occupied habitat. If a recreation permit is to be issued, apply stipulations to the permit to support or to not preclude species conservation and educate permit holders about species' biology and needs.</p> <p>c) BLM will not authorize organized recreation activities in</p>	<p>3) FO</p> <p>4) FO (all actions)</p>	<p>3) SOA</p> <p>4) SOA (all actions)</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
<p>Recreation Management: Travel Management</p>	<p>1) Activities within the Recreation Management: Travel Management program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Manage roads, OHV routes and areas, as well as non-motorized trails, to promote species habitat conservation. This includes management of roads and trails, as well as ground disturbance resulting from human uses.</p>	<p>slickspot peppergrass habitat if negative impacts are anticipated (for example, OHV races, equestrian events, and other events).</p> <p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Review of existing and new roads, OHV routes, and areas and non-motorized trails:</p> <p>a) For existing roads, designated OHV routes and areas, and designated non-motorized trails, see Special Status Animal and Plant Management program section item (2). Modify roads and routes in and adjacent to slickspot peppergrass habitat if negative impacts are occurring. Implement restrictions to reduce ground disturbance. Seek opportunities to close and revegetate roads, OHV routes, or non-motorized trails and use areas in and adjacent to habitat if negative impacts are occurring.</p> <p>b) For new roads, OHV routes and areas, and non-motorized trails, see Special Status Animal and Plant Management program section item (3). Avoid creating new roads, trails, routes, and areas if negative impacts are expected in and adjacent to slickspot peppergrass habitat.</p> <p>c) Evaluate off-road vehicle use in occupied habitat, and where needed, limit access or close areas to motorized and mechanical vehicles to promote species conservation.</p>	<p>1) SO and FO</p> <p>2) FO and SO (all actions)</p>	<p>1) SOA</p> <p>2) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Visual Resource Management	<p>3) Perform compliance checks on OHV closures to protect occupied habitat, identify problems as soon as possible, and take immediate corrective measures.</p> <p>None</p>	<p>3) See Special Status Animal and Plant Management program section item (2).</p> <p>None</p>	<p>3) FO</p> <p>None</p>	<p>3) SOA</p> <p>None</p>
Special Designation Area Management	<p>1) Activities within the Special Designation Area Management program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Explore the potential for new designations that would enhance species conservation.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Evaluate establishing ACECs for several stronghold populations of slickspot peppergrass during land use plan amendments or revisions.</p>	<p>1) SO and FO</p> <p>2) FO</p>	<p>1) SOA</p> <p>2) SOA</p>
Fire Management: Fire Suppression	<p>1) Activities within the Fire Management: Fire Suppression program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation. Human life and firefighter safety and property take priority over species protection.</p> <p>2) Fire suppression efforts will be conducted, as possible, to protect slickspot peppergrass habitat. Place a high priority on protecting slickspot peppergrass habitat.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Fire management activities: a) Fire Management Plans will include Standard Operating Procedures (SOP's) that address conservation of slickspot</p>	<p>1) SO and FO</p> <p>2) As listed below: a) SO in coordination with</p>	<p>1) SOA</p> <p>2) See below: a) SO DD = 2007</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>3) As needed, coordinate with appropriate agency personnel regarding fire suppression activities in or adjacent to slickspot peppergrass habitat.</p>	<p>peppergrass.</p> <p>i) BLM will provide adequate fire suppression coverage at all stations to meet management objectives with the intent to suppress 90% of fires to the acreages specified in the fire management plans for slickspot peppergrass. BLM will maintain existing remote fire guard stations easily accessible to occupied habitat (for example, Juniper Butte fire guard station) and explore opportunities to establish additional stations to provide better initial attack and reduced response times for wildfires in slickspot peppergrass habitat</p> <p>ii) Apply minimum impact suppression tactics (MIST) in slickspot peppergrass habitat, as appropriate. Consult with resource advisors to determine where MIST tactics should be applied to avoid or minimize negative impacts.</p> <p>iii) Although MIST are preferred, aggressive fire suppression tactics (e.g., blade lines, back fires, etc. in habitat) may be applied if EOs are threatened.</p> <p>b) Do not locate fire base camps, staging areas, and fueling areas within occupied habitat.</p> <p>3) Ongoing interagency coordination.</p>	<p>Fire Management Office (FMO) and FO</p> <p>b) FMO and Incident Commander for fire</p> <p>3) FMO with support from FO resource advisor</p>	<p>b) SOA</p> <p>3) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Fire Management: Emergency Stabilization and Rehabilitation	<p>1) Activities within the Fire Management: Emergency Stabilization and Rehabilitation program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Implement Emergency Stabilization and Rehabilitation (ES&R) activities to consider slickspot peppergrass in and adjacent to slickspot peppergrass habitat rehabilitation.</p>	<p>a) BLM and cooperators will expand on and continue to provide special status plant and habitat awareness training to fire resource advisors, Incident Commanders, Engine Operators, and Fire Operations Supervisors.</p> <p>b) BLM and cooperators will distribute maps and inform fire crews on locations of the EOs to maximize fire protection and to avoid or minimize impacts from fire suppression activities.</p> <p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) The following measures will be applied:</p> <p>a) All wildfires within slickspot peppergrass habitat will be evaluated for ES&R treatments, regardless of size.</p> <p>b) As needed, protect disturbed and recovering areas using temporary closures or other measures. BLM will continue to rest areas from land use activities to meet ES&R objectives, defined through the ES&R plans.</p> <p>c) BLM will initiate and complete ES&R efforts for slickspot peppergrass, such as planting shrubs and forbs, within slickspot peppergrass habitat. BLM will implement the following measures during fire ES&R efforts:</p>	<p>1) SO and FO</p> <p>2) FO (all actions)</p> <p>2) SOA (all actions)</p>	

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>3) Fire rehabilitation projects involving the application of pesticides in slickspot peppergrass habitat will be analyzed and implemented in accordance with the approach described in the Upland Vegetation Management: Rangelands (includes weed management) program section.</p>	<p>i) BLM will use seeding techniques that minimize soil disturbance such as no-till drills and rangeland drills equipped with depth bands when ES&R projects have the potential to impact slickspot peppergrass habitat.</p> <p>ii) BLM will use native plant materials and seed during ES&R activities. BLM will include native forbs in seed mixtures that will benefit slickspot peppergrass insect pollinators.</p> <p>iii) If native plant materials and seed are not available, non-invasive, nonnative species may be used for stabilization activities in slickspot peppergrass habitat.</p> <p>iv) In areas adjacent to slickspot peppergrass habitat, if natives are not available, non-invasive nonnative species are acceptable for stabilization activities. Potentially invasive nonnative species such as intermediate wheatgrass and prostrate kochia may be used as a last resort for stabilization activities in areas adjacent to slickspot peppergrass habitat provided the benefits of their use are demonstrated to outweigh the risks to slickspot peppergrass and its habitat.</p> <p>3) See Upland Vegetation Management: Rangelands (includes weed management) program section.</p>	<p>3) SO and FO</p> <p>3) SOA</p>	

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Fire Management: Wildland Fire Use	<p>1) Wildland fire use projects will not be allowed in slickspot peppergrass habitat.</p>	<p>1) When developing wildland fire use plans, do not allow wildland fire use in slickspot peppergrass habitat.</p>	<p>1) SO and FO</p>	<p>1) SOA</p>
Fire Management: Prescribed Fire	<p>1) Activities within the Fire Management: Prescribed Fire program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Prescribed fire projects will be designed to conserve and enhance slickspot peppergrass habitat.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Prescribed fire in slickspot peppergrass habitat will only be used as a tool for assisting with species conservation (for example, a burn in preparation to decrease cheatgrass litter before herbicide application, or to clear fence lines of accumulated windblown weeds).</p>	<p>1) SO and FO</p> <p>2) FO</p>	<p>1) SOA</p> <p>2) SOA</p>
Fire Management: Non-Fire Fuels Management	<p>1) Activities within the Fire Management: Non-Fire Fuels Management program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Implement projects involving the application of pesticides in accordance with the approach described in the Upland Vegetation Management: Rangelands (includes weed management) program section.</p> <p>3) Fuels management projects conducted in slickspot peppergrass habitat should have</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) See Upland Vegetation management: Rangelands (includes weed management) program section.</p> <p>3) Avoid fuels management projects in occupied habitat, unless such projects would enhance species conservation or are necessary for hazardous fuels reduction near the urban interface.</p>	<p>1) SO and FO</p> <p>2) FO</p> <p>3) FO (all actions)</p>	<p>1) SOA</p> <p>2) SOA</p> <p>3) SOA (all actions)</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>long-term benefits to slickspot peppergrass.</p>	<p>Implement protection measures to avoid or minimize negative impacts to the species. In slickspot peppergrass habitat, design native seed mixes that emphasize local stock and will promote species conservation.</p> <p>a) Because of potential negative impacts to slickspot peppergrass habitat from linear fuel breaks, which can act as weed dispersal corridors, the following measures will be applied in or adjacent to slickspot peppergrass habitat:</p> <p>i) BLM will evaluate the effectiveness of existing fuel breaks (location, dry fuel load, and weed composition) in protecting slickspot peppergrass habitat.</p> <p>ii) BLM may create and maintain fuel breaks where frequent fires can threaten slickspot peppergrass habitat. New fuel breaks in slickspot peppergrass habitat will be designed to conserve and enhance species habitat. Where appropriate and where objectives will be met, native vegetation should be emphasized in the creation of new fuel breaks. If native vegetation or seed is not available or if objectives would not be met through their use, fuel breaks may include nonnative, non-invasive, species that will not invade slickspots. In areas adjacent to slickspot peppergrass habitat, fuel breaks may include potentially invasive nonnative species such as intermediate wheatgrass and prostrate kochia as a last resort if the benefits of their use are demonstrated to outweigh the risks to slickspot peppergrass and its habitat. Apply conservation measure (2) in the Fire Management: Emergency Stabilization and Rehabilitation program section and conservation measure (4) in the Upland Vegetation Management program.</p> <p>iii) Consider actions to repair or restore fuel breaks so they</p>		

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Fire Management: Community Assistance	<p>1) Activities within the Fire Management: Community Assistance program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Follow all measures included throughout the Fire Management program sections.</p>	<p>function as desired. Apply conservation measure (2) in the Fire Management: Emergency Stabilization and Rehabilitation program section and conservation measure (4) in the Upland Vegetation Management program.</p> <p>b) In addition to the reduction in fuels associated with appropriately managed livestock grazing (see relevant conservation measures from Livestock Grazing Management section of this table), BLM may create fuel breaks using techniques such as mowing or targeted grazing to strategically reduce fuel loads where frequent fires can threaten slickspot peppergrass habitat if the benefit of these actions can be demonstrated to outweigh the risks to slickspot peppergrass and its habitat.</p>	<p>1) SO and FO</p>	<p>1) SOA</p>
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	<p>1) Activities within the Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.) program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Where feasible and funding is available,</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) See actions within Fire Management program sections. Incorporate into community assistance agreements.</p> <p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) BLM will opportunistically acquire slickspot peppergrass habitat, particularly occupied habitat, in land exchanges and</p>	<p>1) SO and FO</p> <p>2) FO</p>	<p>1) SOA</p> <p>2) SOA</p>

Table III.C-1
Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
	<p>acquire through land exchange or purchase private lands that contain slickspot peppergrass habitat.</p> <p>3) Retain occupied slickspot peppergrass habitat in Federal ownership unless such a transfer would result in a net benefit to the species.</p>	<p>purchases.</p> <p>3) Review each land tenure decision in terms of species habitat. Avoid the loss of occupied habitat from Federal ownership. If property with occupied habitat is being considered for transfer out of Federal ownership, ensure that the action will result in a greater net benefit for this species. BLM will coordinate with USFWS as early as possible to discuss methods to assure that the proposed land tenure adjustment benefits the species.</p>	<p>3) FO</p>	<p>3) SOA</p>
<p>Lands and Realty Management: Land Use Permits and Leases</p>	<p>1) Activities within the Lands and Realty Management: Land Use Permits and Leases program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Issue new land use permits and leases and review existing permits and leases at renewal to conserve species habitat. This includes management of physical facilities, as well as ground disturbance resulting from human uses.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) For new authorizations, as well as those being renewed, see Special Status Animal and Plant Management program section item (3). Avoid issuing new authorizations, or renewing existing authorizations, in or adjacent to slickspot peppergrass habitat if negative impacts are expected. If an authorization is to be issued or re-issued in such areas, apply stipulations to the authorization that support species conservation and that avoid or minimize negative impacts. BLM will require control of invasive nonnative or weed species on new, renewing, or amending land use permits and leases in slickspot peppergrass habitat.</p> <p>a) Conduct periodic project compliance inspections during</p>	<p>1) SO and FO</p> <p>2) FO (all actions)</p>	<p>1) SOA</p> <p>2) SOA (all actions)</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
		<p>implementation of projects involving soil disturbance.</p> <p>b) BLM will require that new or renewing permit or lease holders establish at least 50% perennial cover after all ground disturbing activities, unless ecological site conditions preclude that level of cover. If a native species component existed prior to the ground disturbance, then the native species component of the perennial cover should be restored.</p>		
Lands and Realty Management: Rights-of-Way	<p>1) Activities within the Lands and Realty Management: Rights-of-Way program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Issue new rights-of-way and review existing rights-of-way at renewal to conserve species habitat. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) For new rights-of-way and renewal of existing rights-of-way, see Special Status Animal and Plant Management program section item (3) Avoid issuing new rights-of-way, or renewing rights-of-way, in or adjacent to slickspot peppergrass habitat if negative impacts are expected. In slickspot peppergrass habitat, only issue or re-issue rights-of-way with stipulations to avoid negative impacts to the habitat. BLM will require control of invasive nonnative or weed species on new, renewing, or amending right of way authorizations in slickspot peppergrass habitat.</p> <p>a) BLM will require that new or renewing permit or lease holders establish at least 50% perennial cover after all ground disturbing activities, unless ecological site conditions preclude that level of cover. If a native species component existed prior to the ground disturbance, then the native species component of the perennial</p>	<p>1) SO and FO</p> <p>2) FO</p>	<p>1) SOA</p> <p>2) SOA</p>

Table III.C-1
 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Mineral Management: Locatable Minerals	<p>1) Activities within the Mineral Management: Locatable Minerals program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Approve plans of operations or allow notice level operations so as not to preclude species habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.</p>	<p>cover should be restored.</p> <p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p> <p>2) Approval of plans of operations and notice-level operations:</p> <p>a) For review of existing plans of operation and notice-level operations, see Special Status Animal and Plant Management program section item (2). To the extent allowed by law, modify plans of operation or notice-level operations that may have negative impacts on the species or its habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts.</p> <p>b) For new plans of operation and notice-level operations, see Special Status Animal and Plant Management program section item (3). To the extent allowed by law, avoid approving plans of operation or notice-level operations that may have negative impacts on the species or its habitat. For notice-level operations, notify the operator that modifications to proposed activities will be required to avoid negative impacts. If a plan of operations is to be approved in or adjacent to slickspot peppergrass habitat, apply stipulations to support or to not preclude species conservation. A notice will require modification by the operator until BLM determines that it will not result in undue or unnecessary degradation.</p>	<p>1) SO and FO</p> <p>2) FO (all actions)</p>	<p>1) SOA</p> <p>2) SOA</p>
Mineral Management:	<p>1) Activities within the Mineral Management: Saleable and Leasable</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the</p>	<p>1) SO and FO</p>	<p>1) SOA</p>

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 Slickspot peppergrass (*Lepidium papilliferum*): Conservation Measures and Implementation Actions for the Jarbidge and Four Rivers FOs

LUP Programs Evaluated	Conservation Measures	BLM Implementation Actions	Responsibilities	Timeframes
Saleable and Leasable Minerals	<p>Minerals program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p> <p>2) Approve development of saleable or leasable minerals so as not to preclude species habitat conservation. This includes management of physical facilities, as well as disturbances to the species resulting from human uses.</p>	<p>beginning of this table.</p> <p>2) Approval of saleable and leasable minerals:</p> <p><u>a)</u> For review of existing mineral leases, see Special Status Animal and Plant Management program section item (2). Modify existing mineral leases if negative impacts are occurring.</p> <p><u>b)</u> For new sales or leases, see Special Status Animal and Plant Management program section item (3). Avoid development of saleable or leasable minerals in or adjacent to slickspot peppergrass habitat if negative impacts are expected. If a minerals lease or sale is to be issued in or adjacent to habitat, apply stipulations to support or to not preclude species conservation.</p>	<p>2) FO</p>	<p>2) SOA</p>
Cultural Management	<p>1) Activities within the Cultural Management program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p>	<p>1) SO and FO</p>	<p>1) SOA</p>
Paleontology	<p>1) Activities within the Paleontology program will implement relevant conservation measures as described in the Special Status Animal and Plant Management program section to promote conservation.</p>	<p>1) Apply relevant conservation measures from the Special Status Animal and Plant Management program section at the beginning of this table.</p>	<p>1) SO and FO</p>	<p>1) SOA</p>

Implementation of Annual Grazing Adaptive Mgt

