BIOLOGICAL OPINION
FOR
THE JARBIDGE RESOURCE MANAGEMENT PLAN, KUNA MANAGEMENT FRAMEWORK PLAN, CASCADE RESOURCE MANAGEMENT PLAN, AND SNAKE RIVER BIRDS OF PREY NATIONAL CONSERVATION AREA RESOURCE MANAGEMENT PLAN FOR THE BUREAU OF LAND MANAGEMENT, IDAHO

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FISH AND WILDLIFE SERVICE
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CHAPTER 1. BACKGROUND

1.1 Introduction

The U.S. Fish and Wildlife Service (Service) has prepared this *Biological Opinion for the Jarbidge Resource Management Plan, Kuna Management Framework Plan, Cascade Resource Management Plan, and Snake River Birds of Prey National Conservation Area Resource Management Plan* (Opinion) on the effects of these land use plan programs on slickspot peppergrass (*Lepidium papilliferum*). In a letter dated and received by the Service on September 16, 2009, the Bureau of Land Management's (Bureau's) Idaho State Office requested formal conference (conference) with the Service under section 7 of the Endangered Species Act of 1973 as amended (Act), for its proposal to continue providing programmatic guidance and direction under the existing land use plans (LUPs) and continuing implementation of 91 individual ongoing project-level actions. As the Service subsequently made a determination that slickspot peppergrass will be listed as threatened under the Act effective December 7, 2009 (74 FR 52014, October 8, 2009), section 7 will be completed through consultation rather than conference. The Bureau determined that the existing LUPs and numerous individual ongoing actions are likely to adversely affect slickspot peppergrass. The Service provided the Bureau with concurrence in a letter dated October 14, 2009 (14420-2009-I-0604) on 8 of the 91 individual ongoing project-level actions which the Bureau determined were not likely to adversely affect the slickspot peppergrass. The remaining 83 actions will be addressed in a separate biological opinion. As described in this Opinion, and based on the Bureau's *Final Biological Assessment for Slickspot Peppergrass (*Lepidium papilliferum*): Jarbidge and Four Rivers Field Offices, Land Use Plans and Ongoing Actions* (Assessment) (Bureau 2009) and other information, the Service has concluded that continued implementation of these existing LUPs, as described in the Bureau's Assessment, is not likely to jeopardize the continued existence of slickspot peppergrass.

The overall management direction addressed in this Opinion includes implementing ongoing LUPs and their plan-level programs of work for two Bureau Field Offices (FOs) in the state of Idaho, together with the August 2006 Conservation Agreement (CA) (updated August 27, 2009) with the Service (Appendix A). For most, if not all of the LUPs and their programs, the original LUPs provided no or minimal specific direction regarding management actions to avoid negative impacts on slickspot peppergrass as this species had no status at the time these plans were written.

However, the current LUP for the Jarbidge FO includes guidance for analyzing project-related effects in accordance with the National Environmental Policy Act (NEPA): "Projects proposed in areas with known threatened, endangered, or sensitive plants will give full consideration to protecting these species, including fencing if necessary. If a proposed action is predicted, through a NEPA Environmental Assessment (EA), to have an adverse effect on threatened, endangered, or sensitive plants, the action will be foregone or redesigned to eliminate such adverse effects." The Service acknowledges that adverse effects under NEPA are not identical to adverse effects under section 7, and this restriction on adverse impacts would only be applicable to proposed new actions rather than to ongoing actions under the existing LUP. The Service

assumes that no new actions will result in adverse impacts (as defined under NEPA) to the species pursuant to the guidance within the existing Jarbidge Resource Management Plan (RMP).

Conservation measures and implementation actions in the CA[1] were jointly developed by the Bureau and Service to provide species-specific protective measures for slickspot peppergrass as this species could potentially be affected by existing Bureau LUPs and their associated plan-level programs of work. The CA provides interim management direction that the Bureau will follow for ongoing and new Federal actions until a new or revised LUP is prepared. The CA will also form the basis for management direction and guidance for any new or revised LUP. It is the Service's expectation that the Bureau has been implementing the CA since August 22, 2006, the date of the final signature appearing on the original CA. The CA is expected to provide long-term benefits and contribute to the recovery of slickspot peppergrass. The direction provided by the CA was the basis for making effects determinations in the Bureau's Assessment as well as the foundation for completing effects analyses in this Opinion.

A summary of Bureau LUP-level effects determinations for the four LUPs addressed in this Opinion is provided in Table 1.

Table 1. Slickspot Peppergrass Effects Determinations for Existing Land Use Plans

Field Office and Land Use Plan Name	Effects Determination for Slickspot Peppergrass
Four Rivers Field Office	
Kuna Management Framework Plan	MA[a], LAA[b]
Cascade Resource Management Plan	MA,LAA
Snake River Birds of Prey National Conservation Area Resource Management Plan	MA,LAA
Jarbidge Field Office	
Jarbidge Resource Management Plan	MA,LAA

[a] MA = May Affect
[b] LAA = Likely to Adversely Affect

1.2 Consultation Context

1.2.1 Conservation Agreement

The Bureau did not consult with the Service when three of the four LUPs analyzed in this Opinion were approved by the Bureau in the 1980s or when they were amended. In addition, when slickspot peppergrass was proposed for listing in 2006, efforts were made to complete conference on existing LUPs; however, the conference was never completed as the proposal to list the species under the Act was withdrawn by the Service in January 2007, making compliance with section 7 unnecessary. Also, when the Snake River Birds of Prey National Conservation Area (NCA) RMP was drafted, conservation measures from the CA were incorporated into the

[1] Throughout the rest of this Opinion, CA refers to both the conservation measures and implementation actions of the Conservation Agreement.

RMP, but section 7 consultation was not required as slickspot peppergrass had no status under the Act at that time. On October 8, 2009, the Service's determination that slickspot peppergrass is threatened under the Act was published in the Federal Register (74 FR 52014, October 8, 2009); the effective date of this listing is December 7, 2009. Because continued implementation of the previously approved LUPs is considered to be an "action" subject to the consultation requirements of section 7(a)(2) of the Act, the Service and Bureau reinitiated efforts in July 2009 to complete consultation for all existing LUPs implemented in Idaho that may affect slickspot peppergrass.

Each of the specific LUP-level programs within the Bureau management areas forms the basis of these LUP consultations. As noted above, three of the four plans considered in this consultation do not provide specific guidance or direction for managing slickspot peppergrass that may occur on the Bureau lands covered by the LUPs. The Service and Bureau determined that specific direction was necessary and appropriate and began to develop species-specific management guidelines in 2006 that would be applied together with LUP direction where slickspot peppergrass may occur. In August 2006, the Service and Bureau signed the CA, committing to implement measures for slickspot peppergrass. The CA was updated on August 27, 2009. The CA is presented in its entirety in Appendix A.

The Bureau will apply CA direction as part of the review process for ongoing, new, and renewable Federal activities. Implementation actions provide greater detail regarding how, where, and when the conservation measures will be implemented and the processes that will be followed. The CA is 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 measures contained in the CA are implemented, as appropriate, where past Bureau actions 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.

1.2.2 Previous Related Consultations

1.2.2.1 Species with Bureau Land Use Plan–Level Consultations Previously Completed

Plan-level section 7 consultations were completed by the Service for bull trout (*Salvelinus confluentus*) and Canada lynx (*Lynx canadensis*) and by the National Oceanic and Atmospheric Administration Fisheries for steelhead (*Oncorhynchus mykiss*), spring/summer and fall Chinook salmon (*Oncorhynchus tshawytscha*), and sockeye salmon (*Oncorhynchus nerka*) prior to the CA. In addition, section 7 consultation was completed in March 2008 (14420-2007-F-0250) for existing Idaho Bureau LUPs for the 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*). The Bureau's effects determinations for the bald eagle (*Haliaeetus leucocephalus*), Idaho springsnail (*Pyrgulopsis idahoensis*), and Yellowstone Distinct Population Segment of the grizzly bear (*Ursus arctos horribilis*) were also acknowledged within the March 2008 biological opinion, although these species did not have status under the Act at the time consultation was concluded. Similarly, in the March 2008 biological opinion, the Service concurred with the Bureau's determination that the existing LUPs would not adversely affect the

experimental non-essential population of gray wolf (*Canis lupus*) and acknowledged the Bureau's effects determinations for the following candidate species: yellow-billed cuckoo (*Coccyzus americanus*), southern Idaho ground squirrel (*Spermophilus brunneus endemicus*), and Great Basin population of the Columbia spotted frog (*Rana luteiventris*). As these species either have been addressed in previous consultations or the Bureau did not anticipate effects to these species from implementing the four LUPs addressed in this Opinion, they are not considered further here.

1.2.2.2 Bureau Programs and Projects

The Service has completed many consultations under section 7 of the Act for programs and individual actions located in Bureau FOs. Some of these were completed as letters of concurrence/conference reports as they were determined to be unlikely to adversely affect listed/proposed species, including slickspot peppergrass. The Service has also completed formal consultations with the Bureau on a number of actions. For actions that are underway, standing concurrences and consultations will remain in effect as long as the actions are carried out as proposed and no new information surfaces to indicate the species will be affected in unanticipated ways. If applicable, existing conference reports for slickspot peppergrass will need to be converted, at the request of the Bureau, to ensure continued compliance under section 7 of the Act.

1.2.2.3 Future Actions

Programmatic plans are considered permissive in that they allow but do not authorize or approve any site-specific projects or actions. They are much like zoning ordinances under which future decisions are made. Decisions at the LUP level establish goals and objectives, identify the types of activities that are allowed or prohibited in specific areas, may specify management standards and minimum habitat condition goals either unit wide or for specific areas, and may establish a monitoring and evaluation program. This Opinion does not constitute consultation on specific actions (e.g., ongoing and new roads or mines or ongoing, new, or renewed permits) that may be proposed on Bureau lands. Specific project proposals are subject to individual consultation under the Act between the Bureau and the Service. The Service assumes that subsequent consultations on both future Bureau LUP revisions and site-specific projects will be carried out consistent with the section 7 Streamlined Consultation Procedures and actions will incorporate conservation measures as outlined in the CA.

1.3 Consultation History

January 24, 2004: The Service's decision to withdraw the proposal to list slickspot peppergrass as endangered was published in the Federal Register. The species was subsequently dropped from inclusion in the Bureau's efforts to consult on existing 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 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 *Lepidium papilliferum* (LEPA) Technical Team biologists/botanists met in Twin Falls to develop LUP-level draft conservation measures for slickspot peppergrass.
June 19–20, 2006:	The Bureau and Service managers met with LEPA Technical Team biologists/botanists to review and discuss the draft conservation measures for slickspot peppergrass.
July 11, 2006:	The Bureau and Service LEPA Technical Team biologists/botanists met in Boise to update draft conservation measures for slickspot peppergrass.
August 9, 2006:	The Bureau and Service managers met to review and finalize LUP-level conservation measures for slickspot peppergrass.
August 15, 2006:	The Bureau and Service entered into a Consultation Agreement to provide for effective and efficient section 7 consultation for slickspot peppergrass on existing Idaho Bureau LUPs, pursuant to a National Agreement regarding plan and program-level consultations (Bureau and Service 2006, in litt.).
August 22, 2006:	The Bureau and Service entered into a CA to implement the conservation measures for slickspot peppergrass through implementation of LUPs.
Fall 2006:	Multiple meetings were held between Service and Bureau biologists/botanists to develop a biological assessment that addressed the potential effects of Idaho Bureau existing LUPs and ongoing actions on slickspot peppergrass.
January 12, 2007:	The Service's decision to withdraw the proposal to list slickspot peppergrass under the Act is published in the Federal Register, and efforts to complete section 7 consultation on existing LUPs and ongoing actions for 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)).
Winter 2009:	The Service and Bureau met to discuss potential modification to the conservation measures for slickspot peppergrass within the 2006 CA.
July 15, 2009:	Service and Bureau managers and LEPA Technical Team biologists/botanists met to discuss threats to slickspot peppergrass and a strategy for completing section 7 conference for existing LUPs and ongoing actions.

July 17, 2009:	The Bureau developed guidance for LEPA Technical Team biologists/botanists to make effects determinations for individual ongoing livestock grazing permits and rights-of-way permits. The Service approved these guidelines.
July 20–22, 2009:	Service and Bureau LEPA Technical Team biologists/botanists met in Boise to update effects determinations from 2006 section 7 conference efforts for individual ongoing livestock grazing permits and rights-of-way permits.
July 28, 2009:	Service and Bureau LEPA Technical Team biologists/botanists met in Twin Falls to update effects determinations for individual ongoing livestock grazing permits and rights-of-way permits.
August 4–5, 2009:	Service and Bureau LEPA Technical Team biologists/botanists met in Boise to update effects determinations for individual ongoing livestock grazing permits and rights-of-way permits.
August 27, 2009:	The Bureau and Service entered into an updated CA to implement the conservation measures for slickspot peppergrass through implementation of LUPs.
August 31, 2009:	The Service received a preliminary copy of Chapter 3 of a draft biological assessment addressing effects of ongoing land use plan programs on slickspot peppergrass.
September 11, 2009:	Service and Bureau LEPA Technical Team biologists/botanists met in Boise to discuss the most recent version of the draft Assessment of effects to slickspot peppergrass associated with individual ongoing livestock grazing permits and rights-of-way permits.
September 14, 2009:	Upper management for 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 existing LUPs and individual ongoing livestock grazing permits and rights-of-way permits.
September 16, 2009:	In a memorandum transmitting its Assessment, the Bureau requested formal conference with the Service for effects to slickspot peppergrass associated with implementing 4 LUPs and the CA and 91 individual ongoing actions.
October 8, 2009:	The Service's decision to list slickspot peppergrass as threatened under the Act is 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 slickspot peppergrass.

November 2, 2009:	The Service provided this draft Opinion to the Bureau for review and comment.
November 10, 2009:	The Service received an e-mail from the Bureau stating that the draft Opinion met their expectations. The Bureau had no additional comments.

BIOLOGICAL OPINION

CHAPTER 2. DESCRIPTION OF THE FEDERAL ACTIONS—EXISTING LAND USE PLANS

This section describes the proposed Federal actions, including any measures that may avoid, minimize, or mitigate adverse effects to slickspot peppergrass, and the extent of the geographic area affected by the action (i.e., the action area). The term "action" is defined in the implementing regulations for section 7 as "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas" (50 CFR §402.02). The term "action area" is defined in the regulations as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR §402.02)

2.1 Existing Land Use Plans

This Opinion is based on the Assessment developed cooperatively by the Bureau and Service (Bureau 2009) that considers ongoing and future implementation of LUPs; their plan-level programs; and implementation of the CA between the Bureau and Service signed on August 22, 2006, and updated on August 27, 2009. The LUPs analyzed in this Opinion include the 1983 Kuna *Management Framework Plan* (MFP), 1988 Cascade RMP, and 2008 Snake River Birds of Prey NCA RMP in the Four Rivers FO area, and 1987 Jarbidge RMP in the Jarbidge FO area. The Bureau is revising the Jarbidge RMP and preparing the Four Rivers RMP, which will replace the Kuna MFP and Cascade RMP to provide more current direction. The Service has already provided the Bureau with technical assistance regarding these LUPs and will formally consult on these LUPs when they are at the appropriate stage of development. Each FO area boundary may contain a mixture of Bureau, Forest Service, State and privately owned lands. However, this Opinion is relevant only to actions authorized by the Bureau, predominantly on public lands in Ada, Adams, Boise, Canyon, Cassia, Elmore, Gem, Gooding, Owyhee, Payette, Twin Falls, Valley, and Washington Counties in Idaho. A relatively small portion of the Jarbidge FO area is also located within Elko County, Nevada. For additional details regarding the location and description of the FOs and associated LUPs, see the Assessment (Bureau 2009, Chapter 3). Figure 1 illustrates the distribution of slickspot peppergrass within the two FOs addressed in this Opinion.

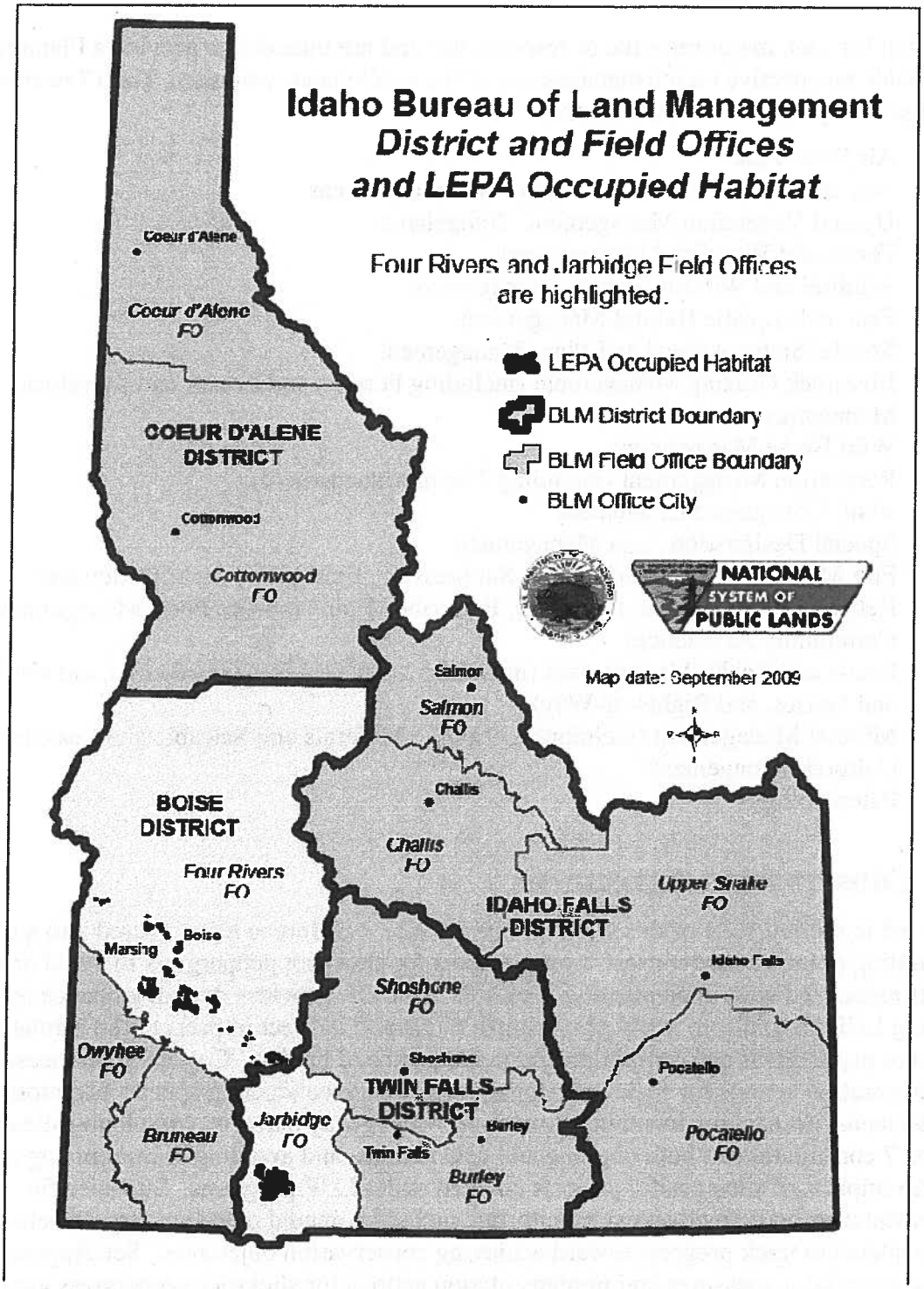

Figure 1. Map showing Bureau of Land Management Field Offices with slickspot peppergrass distribution indicated

The major tool for managing public lands in the Four Rivers FO and Jarbidge FO areas is the application of management direction established in each of the existing LUPs under the framework of 17 resource management programs. These programs provide specific management

direction for each major resource or resource use and are intended to provide a Planning Area (PA)-wide perspective on the management of the public lands resource. The 17 resource management programs are listed below:

- Air Resources
- Soil and Water Resources: Riparian/Wetland Areas
- Upland Vegetation Management: Rangelands
- Forest and Woodland Management
- Wildlife and Wildlife Habitat Management
- Fish and Aquatic Habitat Management
- Special Status Animal and Plant Management
- Livestock Grazing Management (including Permits and Leases and Livestock Management Facilities)
- Wild Horse Management
- Recreation Management (including Travel Management)
- Visual Resource Management
- Special Designation Area Management
- Fire Management (including Fire Suppression, Emergency Stabilization and Rehabilitation, Wildland Fire Use, Prescribed Fire, Non-fire Fuels Management, and Community Assistance)
- Lands and Realty Management (including Land Tenure Adjustment, Land Use Permits and Leases, and Rights-of-Way)
- Mineral Management (including Locatable Minerals and Saleable and Leasable Minerals)
- Cultural Management
- Paleontology

2.2 Conservation Agreement

As noted in section 1.2.1 of this Opinion, the Service and Bureau have entered into a CA, committing to implement conservation measures for slickspot peppergrass to avoid or minimize effects associated with implementing the LUPs. The CA provides overall guidance for the ongoing LUP programs to avoid or minimize direct and indirect impacts to the habitat of slickspot peppergrass and restoration and maintenance of habitat. Conservation measures and implementation actions for 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. See Appendix A to view conservation measures and implementation actions for slickspot peppergrass applicable to existing LUPs evaluated in this consultation.

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 slickspot peppergrass rangewide condition, the factors responsible for that condition, and its survival and recovery needs; (2) the Environmental Baseline, which evaluates the condition of 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 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 slickspot peppergrass; and (4) Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on 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 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 slickspot peppergrass in the wild.

The jeopardy analysis in this Opinion places an emphasis on consideration of the rangewide survival and recovery needs of slickspot peppergrass, and the role of the action area in the survival and recovery of 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

This chapter presents information about the regulatory, biological, and ecological status of slickspot peppergrass and environmental baseline conditions that provide context for evaluating the significance of probable effects resulting from continued implementation of the existing LUPs. The environmental baseline is defined as the current habitat condition for the species, including past and present impacts on the species of all Federal, state, and private actions; other human activities in the action area; the anticipated effects of proposed Federal activities in the action area that have already undergone consultation under section 7 of the Act; and the impacts of non-Federal actions that are contemporaneous with the action considered in this Opinion.

Information pertinent to this consultation has been summarized below with a focus on relevant topics that are subsequently addressed in the Chapter 4. For a full review of slickspot peppergrass' status and environmental baseline conditions, please refer to the Bureau's Assessment (Bureau 2009, pp. II-1--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, 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 slickspot peppergrass: the present or threatened destruction, modification, or curtailment of its habitat or range; disease or predation; and other natural or manmade factors affecting its continued existence.

Primary factors threatening slickspot peppergrass include changes in wildfire regime 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. Refer to the final listing rule for more details on these factors (74 FR 52027–52048, October 8, 2009).

4.1.3 Species Description

Slickspot peppergrass is an intricately branched, tap-rooted plant, averaging 2 to 8 inches (in) (5 to 20 centimeters (cm)) high, but occasionally reaching up to 16 in (40 cm) 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 (3 to 4 millimeters (mm)) in diameter, white, and four petalled. Fruits (siliques) are 0.10 to 0.15 in (3 to 4 mm) 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 Orchard Training Area (OTA), an Idaho Army National Guard (IDARNG) training area on Bureau land, 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 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 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 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, 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 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 (5 cm) of soil (Palazzo et al. 2005, pp. 8, 10), while Meyer and Allen (2005, pp. 6–8) observed the upper 0.08 in (2 mm) as optimal for germination. Deep burial of slickspot peppergrass seeds (average depths greater than 5.5 in (14 cm)) 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) (6.5 to 20 kilometers (km)) between patches of plants) than when pollen from plants within the same patch was used (246 to 330 feet (ft) (75 to 100 meters (m)) 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 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 slickspot peppergrass to be closely related to mountain pepperweed (*Lepidium montanum*), and 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 slickspot peppergrass is a full species distinct from mountain pepperweed. The accepted taxonomy recognizes slickspot peppergrass (Henderson) A. Nels. and J.F. Macbr. as a full species (Taxonomic Serial No. 53383, ITIS 2009). There is some evidence that slickspot peppergrass has reduced genetic variability relative to other native species of *Lepidium*, such as mountain pepperweed, and that smaller populations of slickspot peppergrass have less genetic diversity than larger populations.

Populations of 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 a population on the Owyhee Plateau (Figure 2). The plant occurs at elevations ranging from approximately 2,200 to 5,400 ft (670 to 1,645 m) 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 Element Occurrence (EOs) in the three physiographic regions that collectively comprise approximately 15,801 ac (6,394 ha) of total area broadly occupied by slickspot peppergrass (Cole 2009, threats table). This acreage does not include the 0.5 mi (0.8 km) buffers defined as part of occupied habitat analyzed within the Bureau's Assessment (Bureau 2009). The area actually occupied by slickspot peppergrass is a small fraction of the total acreage, since slickspots occupy only a small percentage of the landscape, and slickspot peppergrass occupies only a fraction of those slickspots (see U.S. Air Force 2002, p. 9). Table 2 presents the distribution and landownership 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 slickspot peppergrass is somewhat naturally fragmented. However, large-scale fragmentation can pose problems for slickspot peppergrass by creating barriers in the landscape that prevent effective genetic exchange between populations. Seed dispersal for 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).

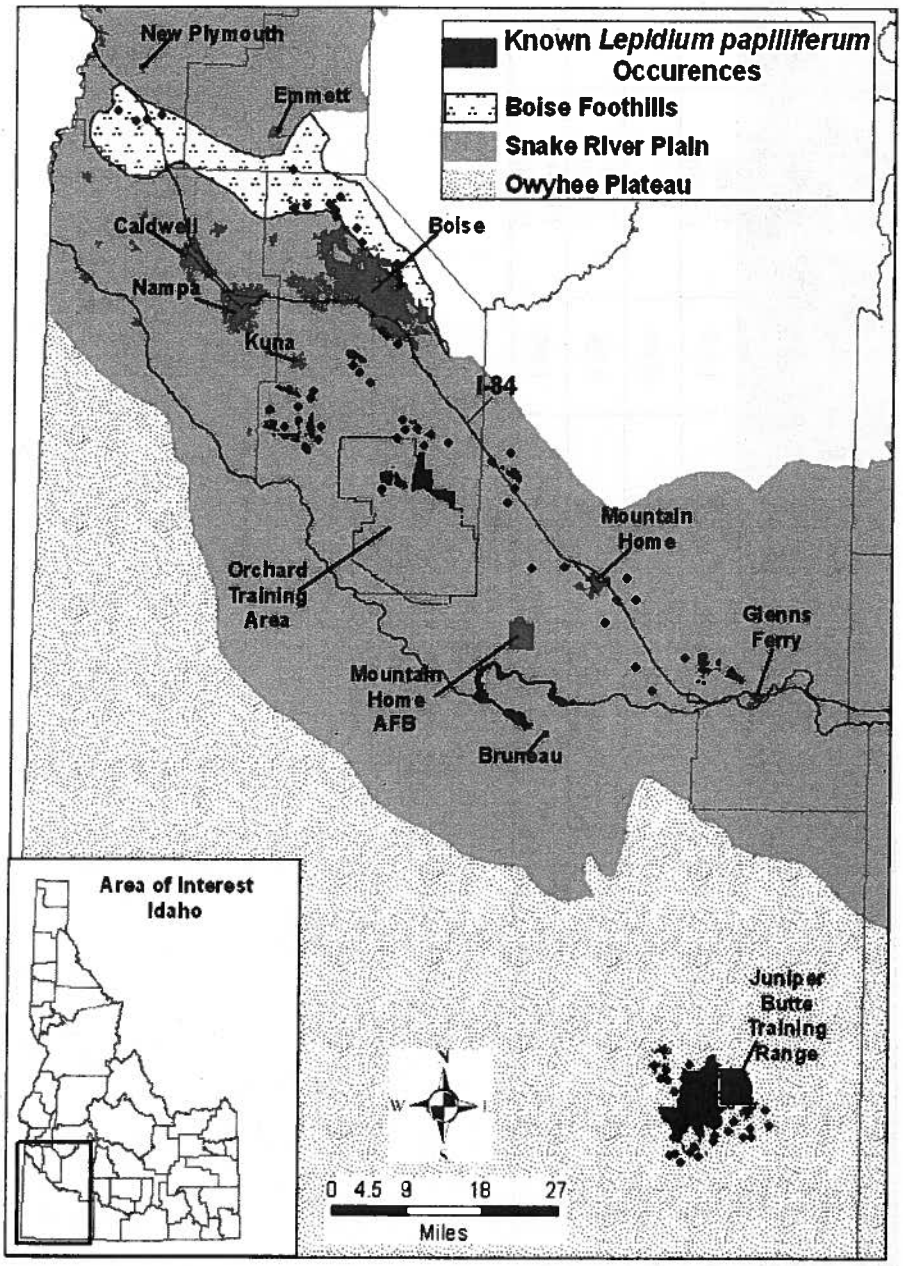

Figure 2. Range of slickspot peppergrass (*Lepidium papilliferum*) in southwest Idaho, showing its distribution in the Snake River Plain, Boise Foothills, and Owyhee Plateau

Table 2. Distribution and landownership of slickspot peppergrass (*Lepidium papilliferum*) Element Occurrences 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 (hectares)	Percent (%)	Acres (hectares)	Percent (%)	Acres (hectares)	Percent	Acres (hectares)	Percent (%)
Snake River Plain	43	54.0	12,754 (5,160)	98.0	55 (22)	0.5	164ac (66 ha)	1.5%	12,980 (5,250)	82.0
Boise Foothills	16	20.0	89 (36)	48.0	0 (0)	0.0	96 ac (39 ha)	52.0%	185 (75)	1.2
Owyhee Plateau	21	26.0	2,636 (1,067)	99.7	7 ac (3 ha)	0.3	0 ac 0 ha	0.0%	2,643 (1,070)	16.8
All Extant EOs	80	100.0	15,479 (6,264)	98.0	62 ac (25 ha)	0.4	260 ac (105 ha)	1.6%	15,801 (6,394)	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 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 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[2] of slickspot peppergrass suggested that populations in the Snake River Plain and Owyhee Plateau "may have reduced genetic diversity" (Larson et al. 2006, p. 17).

Many of the remaining occurrences of 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[3] 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 (500 m) in 78 of the 79 EOs (all except one on the Owyhee Plateau) (Cole 2009, threats table). 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, reduced genetic diversity, and increased inherent vulnerability of small populations to extirpation.

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[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.

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 (*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 off-road vehicle (ORV) use and are subject to damage by fire; recovery from disturbance is possible but occurs very slowly (Johnston 1997, pp. 10–11).

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 lit.). 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 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. 0–2). 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 slickspot peppergrass has apparently been lost, or the active seed bank is no longer present.

Most slickspots are between 10 and 20 square feet (ft^2) (1 and 2 square meter (m^2)) in size although some are as large as 110 ft^2 (10 m^2) (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 slickspot peppergrass.

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 2006, p. 20). For example, in 2002, a complete census of an 11,070-acre (ac) (4,480-hectare (ha)) area recorded approximately 56,500 slickspots (U.S. Air Force 2003, p. 15, in litt.), 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 slickspot peppergrass to identify potential habitat (Colket 2008, p. 1). The Assessment defines potential habitat as areas within the known range of slickspot peppergrass that have certain

general soil and elevation characteristics that indicate the potential for the area to support 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). Slickspot peppergrass has also been surveyed for in eastern Oregon, but the species has never been found there (Findley 2003, p. 1, in litt.). We have no historical records indicating that 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 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: >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 1 km 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 1 km 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 1 km 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 1 km 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 slickspot peppergrass before this project.

As of February 2009, the INHP has ranked 80 extant EO records for slickspot peppergrass based on habitat quality and abundance (Cole 2009, threats table). No A-rank EOs for slickspot peppergrass exist. The most common rangewide EO ranks for 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-rank. Approximately three-quarters of the total EO area in the Snake River Plain is B-rank. The majority of B-rank rangewide EO acreage occurs on the IDANG's OTA. The majority of the total EO area in the Owyhee Plateau physiographic region is also B-rank. In addition, nine EOs are ranked as extirpated or probably extirpated, and seven EOs are considered historical (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 slickspot peppergrass difficult. However, the best available evidence suggests that slickspot peppergrass numbers may be trending downward. The dataset 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 slickspot peppergrass (Sullivan and Nations 2009, p. 38). In addition, we do not have any models for 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 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 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 slickspot peppergrass.

4.1.10 Survival and Recovery Needs

Although recovery planning has not been completed for slickspot peppergrass, the Service anticipates that recovery will entail reducing threats to the long-term persistence of populations and their habitats, allowing for interconnectivity between slickspot peppergrass EOs and providing habitat conditions that allow for the continued existence of a viable seed bank rangewide. The Service anticipates that the following factors will be important for recovery of the species:

- Protect, restore, and maintain suitable habitat conditions for slickspot peppergrass;
- Prevent and reduce negative effects of invasive nonnative plants on slickspot peppergrass;
- Establish vegetation management goals and objectives compatible with slickspot peppergrass recovery;

- Characterize, conserve, and monitor genetic diversity and gene flow among populations of slickspot peppergrass;
- Conduct research and monitoring consistent with an adaptive management approach using feedback from implemented, site-specific recovery tasks to implement and evaluate slickspot peppergrass recovery activities;
- Use all available conservation programs and regulations to protect and conserve slickspot peppergrass and sagebrush-steppe habitats, including slickspot microsites; and
- Assess implementing slickspot peppergrass recovery by management areas, and revise management area objectives based on evaluations.

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. Key to maintaining quality habitat includes protecting existing Wyoming big sagebrush stands from wildfire and invasive nonnative plants, such as cheatgrass and medusahead (*Taeniatherum caput-medusae*). The modified wildfire regime in the Great Basin, and the subsequent proliferation of invasive nonnative plants, have been identified by the Service as the primary threats to the species. Adequate resources should be made available to reduce the risk of wildfire 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 species 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 slickspot peppergrass. Native forb cover should be maintained or restored to levels that would encourage a diversity of insect pollinators available for slickspot peppergrass seed production. Ground disturbance should be avoided or minimized in areas that support slickspot peppergrass, particularly when soils are saturated, to avoid direct effects to plants and seeds and indirect effects associated with creating conditions conducive to invasive nonnative plants within and adjacent to slickspot habitats.

Secondary threats, such as commercial and residential development, livestock grazing, fire rehabilitation activities, military training, and recreational use, 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, these secondary threats may adversely affect individual slickspot peppergrass plants at the physiographic region or localized level. In areas containing high-quality sagebrush-steppe habitats, conservation measures should be taken to avoid or minimize impacts to slickspot peppergrass from habitat loss or ground disturbance and direct impacts associated with recreational use, maintenance activities, or livestock use. Use of pesticides near EOs should also be minimized to avoid impacts to individual slickspot peppergrass plants or insect pollinators.

Warmer temperature regimes associated with global climate change represent another risk factor for slickspot peppergrass. 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. Precipitation patterns may also be altered, resulting in potential decreased survivorship of slickspot peppergrass; although the

projections for future precipitation patterns are less certain. The consequences of climate change, if current projections are realized, are therefore likely to exacerbate the existing primary threats to slickspot peppergrass of frequent wildfire and invasive nonnative plants, particularly cheatgrass. Because the Intergovernmental Panel on Climate Change (IPCC) projects changes to the global climate system in the 21st century will likely be greater than those observed in the 20th century (IPCC 2007, p. 45), we anticipate that these effects will continue and likely increase into the future. The severity and scope of the primary threats to slickspot peppergrass of frequent wildfire and cheatgrass invasion are likely to magnify, depending on the realized outcome of climate change. Habitat conservation and restoration efforts may be complicated by these climatic changes. Additional conservation may be needed to mitigate habitat degradation aggravated by climate change.

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)* with the State of Idaho, Bureau, Idaho Army National Guard, 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 2004); (3) the *Final Integrated Natural Resource Management Plan* (U.S. Air Force 2004); and (4) the *Conservation Agreement for Slickspot Peppergrass* (Lepidium papilliferum*) at the Boise Airport, Ada County, Idaho* (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, pp. 3—17, in litt.). 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 (State of Idaho Candidate Conservation Agreement (CCA), IDARNG Integrated Natural Resource Management Plan (INRMP), U.S. Air Force INRMP, Boise Airport CA, and Hull's Gulch Agreement) to evaluate how many 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 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 slickspot peppergrass or were already known to be implemented and effective in reducing threats to the species. Since that time, we have received additional information from the implementing agencies that describes the status of at least 152 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 pp.1–3, in litt.; Bureau 2007, p. 2–4; CH2MHill 2008a, p. 17; CH2MHill 2008b, pp. 1–6; Quinney 2008 pp.1–3, in litt.; 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 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.

Our latest evaluation of planned future conservation efforts, taking into consideration the most recent information provided by the implementing agencies, concludes that 35 out of roughly 600 individual management actions identified in the 5 formalized conservation plans for slickspot peppergrass are certain to be implemented and effective. However, 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 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 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 slickspot peppergrass will become endangered within the foreseeable future (74 FR 52051, October 8, 2009). However, recovery planning efforts may identify additional conservation measures for slickspot peppergrass and, as new information becomes available, further opportunities for species conservation may be discovered.

4.2 Environmental Baseline of the Action Areas

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

The baseline conditions in the action area, including the status of the species and factors affecting the species, are described below. This description includes the general characteristics applicable to landscape-scale, land use plan analyses. 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 All 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 (5,451 ha)) and all or portions of 69 of the 80 extant EOs. This represents the majority of the slickspot peppergrass range. The EO rankings (discussed in section 3.1.8 above) for slickspot peppergrass located all or partially on Bureau managed lands is shown in Table 3.

Table 3. Count of Element Occurrences all or partially on Bureau managed lands by Element Occurrence rank

EO Rank	B	BC[a]	C	D	E	F	Total
Number of EOs	13	1	27	13	10	5	69
Percentage of Total EOs (%)	19	1	39	19	14	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 3, the majority (66 percent) of EOs on 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.

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. The sagebrush-steppe habitat of the Great Basin where 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 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 cheatgrass and wildfire. Under current climate-change projections, we anticipate that 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. Precipitation patterns may also be altered as a result of climate change, resulting in potential decreased survivorship of slickspot peppergrass; although the projections for future precipitation patterns are less certain. The consequences of climate change, if current projections are realized, are likely to exacerbate the existing primary threats to slickspot peppergrass of frequent wildfire and invasive nonnative plants, particularly cheatgrass. As the IPCC projects changes to the global climate system in the 21st century will likely be greater than those observed in the 20th century (IPCC 2007, p. 45), we anticipate that these effects will continue and likely increase into the foreseeable future. As there is some degree of uncertainty regarding the potential effects of climate change on 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 slickspot peppergrass of frequent wildfire and 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 current threats to the species.

Secondary threats of residential and commercial development, livestock use, wildfire management activities, post-fire stabilization and restoration activities, and military training also

may affect slickspot peppergrass, both directly through the destruction of populations 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, and once lost, slickspots cannot be re-created on the landscape.

For a detailed discussion of these factors, refer to the final listing rule for 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 slickspot peppergrass. New evidence suggests a significant negative association between cover of nonnative plant species and wildfire and the abundance of 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 slickspot peppergrass; however, the best information available was used for developing this Opinion. While science is useful for evaluating alternatives and estimating outcomes, it is not the sole decision-making factor because the state of natural resources is often insufficient to give definitive cause and effect predictions. Unknowns and uncertainties will always be associated with predictions of decision outcomes. Science may reduce but can never completely estimate or eliminate the uncertainty regarding future events (Bureau 2000, p. 3, 5). As stated on page 1–6 of the Endangered Species Consultation Handbook (Service and NMFS 1998), "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." 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 delay this consultation for many years. Thus, the Service has provided the benefit of the doubt to slickspot peppergrass with respect to data gaps regarding the effects of various land use plan programs in our analyses in this Opinion. This subsequent analysis may have minor or major consequences (worst case scenario), depending on the significance of the missing data to the effects determination. This Opinion uses the best information available for analyzing effects of existing land use plan programs on the survival and recovery of slickspot peppergrass.

CHAPTER 5. EFFECTS ANALYSES, DETERMINATIONS, AND CONCLUSION

5.1. Land Use Plan–Level Effects Determinations

For each individual LUP, a single, overall LUP-level effects determination for slickspot peppergrass is provided in this chapter. The overall determination for slickspot peppergrass for the 17 LUP programs is the same as the most severe level of the effects determination for any one LUP program within each of the individual planning areas analyzed. If the analysis resulted in a single program receiving a "may affect, likely to adversely affect" (MA, LAA) determination, the overall LUP received the same determination. Other possible determinations included No Effect (NE) and Not Likely to Adversely Affect (NLAA). This approach considers four primary factors in reaching the programmatic effects determination:

- Uncertainties are associated with evaluating the effects of project-level actions that have not yet been planned.
- All negative impacts cannot likely be avoided in all situations.
- Short-term negative impacts and species "take" may be unavoidable and necessary to achieve long-term species recovery or conservation goals.
- Negative impacts and species "take" may be unavoidable and necessary for some activity- or project-level actions to achieve other public land management objectives.

Please note for the last two bulleted items above, that the "take" restrictions in the Act do not apply to listed plants. The use of the term "take" here only implies that adverse effects to plants may occur which would constitute a "taking" if applied to listed fish and wildlife.

Table 4 lists the results of the effects analyses completed for slickspot peppergrass for all four LUPs. The LUP program-level effects determinations were based on a comparison of the direct, indirect, and cumulative effects of each LUP program against one or more conservation documents. As slickspot peppergrass does not have a published recovery plan, the Bureau's Assessment used the following documents to assist in making effects determinations:

- Provisions and recommendations of CCAs, CAs, and Conservation Strategies for candidate species.
- The Bureau's responsibilities to conserve and recover listed, candidate, and sensitive species contained in Bureau Manual 6840—Special Status Species Management.

5.1.1 Direct and Indirect Effects Analysis Approach

Potential impacts of the LUP programs were identified for slickspot peppergrass. This Opinion does not address the impacts of specific project level actions (e.g., ongoing and new roads or mines or ongoing, new, or renewed permits) that may be proposed on Bureau lands. Specific project proposals are subject to individual consultation under the Act between the Bureau and the Service. The impacts addressed in this Opinion include direct and indirect effects, the effects of interrelated and interdependent actions, and cumulative effects. Direct effects include those that would result from management directions that are the direct result of a program. Direct effects also include those that would result from interrelated management direction (for example,

management direction that is part of the larger management direction and depends on the larger program for its justification) and interdependent actions (those having no independent utility apart from the management program). Indirect effects are caused by or result from the management direction, typically affect the species (i.e., occur) later in time, and are reasonably certain to occur. Differences between direct and indirect impacts are noted where they could be differentiated.

Potential direct and indirect effects are those that might occur as a result of the LUP program implementation. Potential impacts do not consider plan or program direction, stipulations, best management practices (BMPs), or other elements that may be included in the LUP and that are intended to avoid or mitigate potential negative impacts (for example, generic management direction aimed at protecting groups of sensitive wildlife, fish, and plant species). Net impacts consider the potential effects when all program and plan directions, stipulations, BMPs, conservation measures, and other measures in the LUP that are intended to minimize or avoid impacts or promote slickspot peppergrass recovery are considered. Net impacts consider all LUP direction and conservation measures and are the basis of the effects determinations. For a more detailed explanation of the Bureau's effects analyses process, see the Assessment (Bureau 2009, Chapter 3).

5.1.2 Interrelated and Interdependent Actions

Effects from interrelated and interdependent actions may result from Bureau management direction allowable under the LUP. Because of the programmatic nature of the Assessment, potential interrelated and interdependent management direction cannot be separated from management direction allowed under the Bureau programs. Therefore, interrelated and interdependent management directions and effects to slickspot peppergrass are not addressed separately from direct and indirect effects.

5.1.3 Cumulative Effects Analysis Approach

Cumulative effects, for purposes of section 7 of the Act, are defined in CFR 402.02 as "those effects of future State or private activities, not involving Federal actions that are reasonably certain to occur within the action area of the Federal activity subject to consultation". Future Federal actions will be subject to the consultation requirements established in section 7 of the Act and, therefore, are not considered cumulative to the proposed action. Foreseeable State and private actions may provide some insight into the environmental baseline and likely trends that may affect the species. Non-Federal actions that are reasonably expected to occur in the vicinity of the Jarbidge and Four Rivers FOs include activities such as livestock grazing, urban and agricultural development, utility line construction, and recreational use of adjacent State and private lands.

5.2 Four Rivers Field Office

5.2.1 Kuna Management Framework Plan

5.2.1.1 Direct and Indirect Effects of the Kuna Management Framework Plan on Slickspot Peppergrass

Direct and indirect effects from ongoing LUP programs in the Kuna MFP are described in detail in Table 4. The primary direct and indirect effects of ongoing LUP programs on slickspot peppergrass are related to actions with the potential to change vegetation characteristics and distribution and ground-disturbing activities. These actions include forest/vegetation management, noxious weed control, livestock grazing, road construction and maintenance, and some aspects of recreation. Knowledge regarding the distribution of slickspot peppergrass is incomplete as the majority of the plant's population is present in a persistent seed bank. Not all slickspots that support the species contain above-ground plants in any given year, and individual plants may be inadvertently impacted by ground disturbance such as driving through slickspots or trampling during project-related activities. Inadvertent spray drift during herbicide application in areas adjacent to occupied habitat could negatively impact individual plants, and pesticide use may impact the plant's insect pollinators. The modified wildfire regime and invasive nonnative plant cover are the primary threats to the species. The Bureau has limited control over these primary threats under their authority to manage public lands.

The CA implemented in conjunction with the Kuna MFP (Table 4 and Appendix A) provides overall guidance for the ongoing LUP programs to avoid or minimize direct and indirect impacts to the habitat of slickspot peppergrass and restoration and maintenance of habitat. Conservation measures and implementation actions for 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. For example, under the livestock grazing management program, livestock grazing and trailing will be managed to conserve suitable habitat conditions for slickspot peppergrass while implementing rangeland health standards and guidelines. This would include implementation actions such as (1) Delay livestock turnout when soils are saturated as part of range readiness assessments, (2) Minimize gathering livestock in EOs, and (3) Avoid impacts to EOs from herd movement through rested and deferred pastures. Site-specific implementation and effectiveness monitoring, including annual reporting requirements, will also be completed to track progress toward achieving conservation objectives.

All of the conservation measures and implementation actions for slickspot peppergrass in the Kuna MFP that are being implemented under the CA between the Bureau and the Service are specifically directed at, and are expected to provide, long-term benefits to the plant, even though short- or long-term negative impacts from some LUP programs may occur. Ongoing and new Federal actions are required to minimize or avoid negative impacts and, where feasible, promote species recovery. However, because it is highly unlikely that every ongoing and new Federal

action will avoid impacts and promote species recovery, some negative impacts are still possible under 11 of the 17[4] Kuna MFP programs presented in Table 4.

5.2.1.2 Slickspot Peppergrass Cumulative Effects

Future activities on State and private lands that may affect slickspot peppergrass include habitat removal and fragmentation from wildfire, invasive nonnative plants, residential and commercial development and associated infrastructure construction (roads, transmission lines, etc.), and mining activities. Activities on non-Federal lands such as livestock grazing, recreational use, fire management, and revegetation activities could also impact slickspot peppergrass by impacting slickspot habitats through ground disturbance or direct damage to individual plants. Using herbicides on non-Federal lands could also impact individual slickspot peppergrass plants or their insect pollinators. We recognize that some actions on non-Federal lands may have adverse affects at the individual or EO level for slickspot peppergrass. However, because only 2 percent (322 acres) of the total EO acreage occurs on non-Federal lands (Table 2), the Service expects that cumulative effects will be insignificant in terms of affecting the rangewide survival and recovery of slickspot peppergrass.

5.2.2 Cascade Resource Management Plan

5.2.2.1 Direct and Indirect Effects of the Cascade Resource Management Plan on Slickspot Peppergrass

Direct and indirect effects to slickspot peppergrass from ongoing LUP programs for the Cascade RMP are identical to those described for the Kuna MFP (section 5.2.1.1). See Table 4 for specific reasons for the MA, LAA determinations for individual LUP programs for slickspot peppergrass.

The CA implemented in conjunction with the Cascade RMP (Table 4 and Appendix A) provides overall guidance for the ongoing LUP programs to avoid or minimize direct and indirect impacts to the habitat of slickspot peppergrass and restoration and maintenance of habitat. Conservation measures and implementation actions for 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. For example, under the livestock grazing management program, livestock grazing and trailing will be managed to conserve suitable habitat conditions for slickspot peppergrass while implementing rangeland health standards and guidelines. This would include implementation actions such as 1) Delay livestock turnout when soils are saturated as part of range readiness assessments, 2) Minimize gathering livestock in EOs, and 3) Avoid impacts to EOs from herd movement through rested

[4] Although there are 17 programs (i.e., resources or resource uses) are addressed in each of the LUPs, 27 LUP programs are evaluated in Table 4 because some of the programs, such as Fire Management, are broken down into subcategories.

and deferred pastures. Site-specific implementation and effectiveness monitoring, including annual reporting requirements, will also be completed to track progress toward achieving conservation objectives.

5.2.2.2 Slickspot Peppergrass Cumulative Effects

Cumulative effects to the slickspot peppergrass in the Cascade RMP are identical to those described for the Kuna MFP (section 5.2.1.2).

5.2.3 Snake River Birds of Prey National Conservation Area Resource Management Plan

5.2.3.1 Direct and Indirect Effects of the Snake River Birds of Prey National Conservation Area Resource Management Plan on Slickspot Peppergrass

Direct and indirect effects to slickspot peppergrass from ongoing LUP programs for the Snake River Birds of Prey NCA RMP are identical to those described for the Kuna MFP (section 5.2.1.1). See Table 4 for specific reasons for the MA, LAA determinations for individual LUP programs for slickspot peppergrass.

The CA incorporated into the Snake River Birds of Prey NCA RMP (Table 4 and Appendix A) provides overall guidance for the ongoing LUP programs to avoid or minimize direct and indirect impacts to the habitat of slickspot peppergrass and restoration and maintenance of habitat. Conservation measures and implementation actions for 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. For example, under the livestock grazing management program, livestock grazing and trailing will be managed to conserve suitable habitat conditions for slickspot peppergrass while implementing rangeland health standards and guidelines. This would include implementation actions such as 1) Delay livestock turnout when soils are saturated as part of range readiness assessments, 2) Minimize gathering livestock in EOs, and 3) Avoid impacts to EOs from herd movement through rested and deferred pastures. Site-specific implementation and effectiveness monitoring, including annual reporting requirements, will also be completed to track progress toward achieving conservation objectives.

5.2.3.2 Slickspot Peppergrass Cumulative Effects

Cumulative effects to the slickspot peppergrass in the Snake River Birds of Prey NCA RMP are identical to those described for the Kuna MFP (section 5.2.1.2).

5.3 Jarbidge Field Office Effects Determinations

5.3.1 Jarbidge Resource Management Plan

5.3.1.1 Direct and Indirect Effects of the Jarbidge Resource Management Plan on Slickspot Peppergrass

Direct and indirect effects to slickspot peppergrass from ongoing LUP programs for the Jarbidge RMP are identical to those described for the Kuna MFP (section 5.2.1.1). See Table 4 for specific reasons for the MA, LAA determinations for individual LUP programs for slickspot peppergrass.

The CA implemented in conjunction with the Jarbidge RMP (Table 4 and Appendix A) provides overall guidance for the ongoing LUP programs to avoid or minimize direct and indirect impacts to the habitat of slickspot peppergrass and restoration and maintenance of habitat. Conservation measures and implementation actions for 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. For example, under the livestock grazing management program, livestock grazing and trailing will be managed to conserve suitable habitat conditions for slickspot peppergrass while implementing rangeland health standards and guidelines. This would include implementation actions such as 1) Delay livestock turnout when soils are saturated as part of range readiness assessments, 2) Minimize gathering livestock in EOs, and 3) Avoid impacts to EOs from herd movement through rested and deferred pastures. Site-specific implementation and effectiveness monitoring, including annual reporting requirements, will also be completed to track progress toward achieving conservation objectives.

In addition, the Jarbidge RMP, states that "Projects proposed in areas with known threatened, endangered, or sensitive plants will give full consideration to protecting these species, including fencing if necessary. If a proposed action is predicted, through a NEPA Environmental Assessment (EA), to have an adverse effect on threatened, endangered, or sensitive plants, the action will be foregone or redesigned to eliminate such adverse effects." The Service expects that these provisions will provide additional protection for slickspot peppergrass for newly proposed projects. However, we cannot conclude that these protections will minimize effects to an insignificant or discountable level.

5.3.1.2 Slickspot Peppergrass Cumulative Effects

Cumulative effects to the slickspot peppergrass in the Jarbidge RMP are identical to those described for the Kuna MFP (section 5.2.1.2).

Table 4. Slickspot peppergrass Land Use Plan Program Effects Determinations[a] (from the Assessment).

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Special Status Animal and Plant Management *Note: Common to All Programs*	Habitat improvement projects for other special status species may have unintended adverse impacts on plants and habitat because slickspot peppergrass occurs in some areas with other rare Bureau plant species. Since potential habitat has not been surveyed for plant occurrence, it is unknown how often this kind of impact could happen.	None identified.	The conservation measures contained throughout this table implement important elements included in the CA for slickspot peppergrass. The conservation measures reflect the Bureau's commitment to support species conservation. 1) In cooperation with Idaho Department of Fish and Game (IDFG) Conservation Data Center (CDC), U.S. Fish and Wildlife Service (FWS), Idaho Army National Guard (IDARNG), the U.S. Air Force (USAF), and others: a) Develop and use survey protocols consistent with the FWS Rare Plant Survey Guidelines to conduct Stage 1, 2, and 3 surveys (see Figure III.C–1 for the general survey process). 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). 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. d) Participate in research essential to conservation of the species. 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. 3) Ensure that new Federal actions support or do not preclude species conservation in slickspot peppergrass habitat. 4) Implement adaptive management as needed to achieve conservation objectives. 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.	MA, LAA	Many short- and long-term beneficial effects would be expected to result from the implementation actions in Table III.C-1 and from these CMs and those that follow for other programs. Ongoing and new Federal actions would be required to minimize or avoid negative impacts and, where feasible, promote species conservation (implementation actions, (Appendix A, Table III.C-1). However, it is highly unlikely that every ongoing and new Federal action will strictly avoid all potential impacts and promote species conservation. Actions that only minimize negative impacts and do not promote conservation or do so only when feasible may result in negative impacts to slickspots within areas of potential habitat and to slickspot peppergrass, Furthermore, avoidance is defined for this BA as: "To the extent possible do not implement the action indicated. If the action needs to take place, then add stipulations or take additional steps to minimize impacts." Therefore, impacts that cannot be strictly avoided and are only minimized may result in negative effects to the species or habitat. This definition of avoid and the choice of either avoiding or minimizing impacts within the implementation actions is a major factor in the effects determination for this and other LUP programs. Completion of surveys and increased monitoring will further help refine areas of slickspot habitat and occupied habitat to help concentrate species conservation efforts and target management actions to avoid or minimize impacts.

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Air Resources	None identified.	None identified.	None	NE	No direct or indirect program effects have been identified.
Soil and Water Resources: Riparian/Wetland Areas (includes weed management)	None identified because slickspot peppergrass does not occur adjacent to wetlands and riparian areas.	None identified.	None	NE	No direct or indirect program effects have been identified.
Upland Vegetation Management: Rangelands (includes weed management)	Use of chemicals to control nonnative plants may result in impacts to the slickspot peppergrass seedbank as well as impacts to individual plants. Herbicide and pesticide use may also have direct and indirect negative impacts to slickspot peppergrass insect pollinators.	Same as direct and indirect impacts.	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. 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. 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 the Bureau's priorities within the cooperative weed management program is the protection of special status plants on Bureau lands. 4) The Bureau will promote diversity, richness, and health of native plant communities to support pollinators and habitat for slickspot peppergrass.	MA, LAA	The CMs and implementation actions specific to this program would result in short- and long-term beneficial effects. However, it is highly unlikely that every ongoing and new Federal action will avoid all potential impacts and promote species conservation. Actions that only minimize negative impacts and do not promote conservation or do so only when feasible may result in negative impacts to individual slickspot peppergrass plants or populations. Pesticide applications to control Mormon crickets, grasshoppers, or other insects in and adjacent to potential or occupied slickspot peppergrass habitat will include only those methods that minimize impacts to the plant's pollinators. However, only minimizing impacts would not assure that the plant's insect pollinators are not negatively impacted. Because this is an annual plant that requires pollination by insects, failure to set seed in a given year because of too few pollinators, even in a limited area of occupied or potential habitat, would have negative impacts on the species.
Forest and Woodland Management (includes weed management)	None identified because slickspot peppergrass does not occur in or adjacent to forested or woodland areas.	None identified.	None	NE	No direct or indirect program effects have been identified because slickspot peppergrass does not occur in or adjacent to forested or woodland areas.

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Wildlife and Wildlife Habitat Management	Wildlife habitat improvement projects may have unintended adverse impacts on plants and habitat if such projects cause increased weed invasion or if they cause succession to advance at a faster rate. For example, planting certain species of plants for wildlife may be detrimental to slickspot peppergrass habitat or potential habitat.	None identified.	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. 2) Manage facilities installed for wildlife to promote maintenance of slickspot peppergrass habitat. 3) Restore wildlife habitat while promoting slickspot peppergrass conservation.	MA, LAA	Same as **Special Status Animal and Plant Management** program.
Fish and Aquatic Habitat Management	None identified because slickspot peppergrass does not occur in aquatic habitats.	None identified.	None	NE	Slickspot peppergrass does not occur in aquatic habitats. No direct or indirect program effects have been identified.
Livestock Grazing Management: Permits and Leases	Livestock grazing and trampling can cause degradation or loss of habitat, impact the seedbank, crush plants, introduce nonnative plant competitors, degrade the integrity of slickspots, and redistribute organic matter through deposition of feces. The presence of nonnative plants such as cheatgrass increases the likelihood of increased fire frequency, intensity, and size. Increased fire frequency because of the presence of exotic annual grasses may cause this species to decline, particularly if it occurs before this species can set seed and enter dormancy.	Same as direct and indirect impacts.	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. 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 Grazing Adaptive Management Implementation Flowchart (Appendix A, Figure III.C–2) to adjust livestock use as appropriate. 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. 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. 5) The Bureau will work cooperatively with the livestock permittees to promote slickspot peppergrass conservation.	MA, LAA	Same as **Special Status Animal and Plant Management** program. The CMs and implementation actions specific to this program would result in short- and long-term beneficial effects. However. modifying livestock grazing activities to either "avoid or minimize negative impacts" may allow some negative impacts to occur. Implementation actions indicate that "Bureau range staff will conduct pre-season range readiness checks for soil moisture conditions in allotments with occupied habitat." However, these readiness checks are not required in potential habitat that may include slickspots or slickspot peppergrass. Additionally, the nature of compliance inspections indicates that problems related to livestock grazing would be corrected after a negative impact has occurred. The Bureau's CMs also rely on an adaptive management process that goes beyond compliance inspections. Implementing changes in management based on monitoring activities is intended to decrease negative impacts to slickspot peppergrass and its habitat, improve habitat conditions for the benefit of slickspot peppergrass, and provide incremental conservation benefit to the species.

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Livestock Grazing Management: Livestock Management Facilities	Placement of livestock facilities, including salt licks and water troughs, within or near slickspot peppergrass populations or in potential habitat may cause direct habitat loss and attract concentrations of livestock to areas with slickspot peppergrass, resulting in the types of impacts described under **Livestock Grazing Management: Permits and Leases.**	Same as direct and indirect impacts.	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. 2) Manage livestock facilities to promote slickspot peppergrass conservation while implementing rangeland health S&Gs.	MA, LAA	Facilities are required to minimize or avoid negative impacts and, in accordance with CMs for the **Special Status Animal and Plant Management** program, promote species conservation where feasible (implementation actions, Appendix A, Table III.C–1). However, modifying facilities and facility placement to either "avoid or minimize negative impacts" may allow some negative impacts to occur. Implementation actions (Appendix A, Table III.C–1) state: "As appropriate to avoid or minimize negative impacts, modify existing and avoid placement of new livestock facilities in occupied habitat areas." There are no similar provisions for potential slickspot peppergrass habitat.
Wild Horse Management	If the ranges of wild horses and peppergrass overlap potential impacts would be the same as those described for **Livestock Grazing Management: Permits and Leases.**	None identified.	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. 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.	MA, LAA	If the ranges of horses and peppergrass overlap managing wild horses to "minimize conflicts" may allow some negative impacts to occur.
Recreation Management	Habitat degradation and fragmentation and direct loss of slickspot peppergrass could result if recreation activities, including dispersed recreation, causes degradation or loss of habitat, impacts to the seedbank, crushing of plants, reduced slickspot integrity, introduction of nonnative plants, and ignition of fires.	Same as direct and indirect impacts.	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. 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.	MA, LAA	The CMs and implementation actions specific to this program would result in short- and long-term beneficial effects. The CMs and implementation actions in Table III.C–1 (Appendix A) require that new and existing facilities avoid or minimize negative impacts. Negative impacts may occur from some projects and related activities if impacts are only minimized or avoided and not strictly prohibited. CMs (Appendix A, Table III.C–1) also state: "minimize human activity in and adjacent to occupied habitat if negative impacts are occurring." Corrective actions may reduce the potential for future negative impacts but would only occur after negative impacts have been detected.

EUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Recreation Management: Travel Management	Habitat degradation and fragmentation and direct loss of slickspot peppergrass could result from OHV trails and off-road activities within potential and occupied habitat.	Same as direct and indirect impacts.	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. 2) Manage roads, off-highway vehicle (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.	MA, LAA	CMs and implementation actions (Table III.C–1) require the Bureau to "modify roads and routes in and adjacent to slickspot peppergrass habitat if negative impacts are occurring." Such changes would likely reduce the potential for future impacts, but would only occur after negative impacts are detected. CMs and implementation actions (Appendix A, Table III.C–1) require the Bureau to "avoid constructing new roads, trails, routes, and areas if negative impacts are expected." Some negative impacts may occur. CMs and implementation actions (Appendix A, Table III.C–1) require the Bureau to "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." Such an evaluation is not specifically required in areas identified as potential slickspot peppergrass habitat. Therefore, some negative impacts may occur.
Visual Resource Management	None identified.	None identified.	None	NE	No direct or indirect program effects have been identified.
Special Designation Area Management	None identified.	None identified.	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. 2) Explore the potential for new designations that would enhance species conservation.	NE	No direct or indirect program effects have been identified.

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Fire Management: Fire Suppression	Suppression activities include creating fire breaks, fire camps, and staging areas, disturbing shrub-steppe habitat, potentially causing degradation or loss of habitat, impacts to the seedbank, crushing of plants, reduced slickspot integrity, and introduction of nonnative plants. Use of suppression chemicals adds nutrients to slickspot peppergrass habitat and improves conditions for plant competitors.	Same as direct and indirect impacts.	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. 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.	MA, LAA	Occupied habitat areas would not be used for fire suppression activities and support facilities, and fire suppression would protect these areas. However, there may be some instances where suppression activities result in negative impacts. Also, the implementation actions (Appendix A, Table III.C–1) do not include similar restrictions for identified potential slickspot peppergrass habitat.
Fire Management: Emergency Stabilization and Rehabilitation	Emergency stabilization activities may cause degradation or loss of habitat, impacts to the seedbank, crushing of plants, and introduction of nonnative plants.	Same as direct and indirect impacts.	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. 2) Implement Emergency Stabilization and Rehabilitation (ES&R) activities to consider slickspot peppergrass in and adjacent to slickspot peppergrass habitat rehabilitation. 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.	MA, LAA	ES&R activities would protect existing habitat and, in most instances, promote reestablishment of appropriate native species following fires. However, some short-term negative impacts associated with ES&R may occur.
Fire Management: Wildland Fire Use	None identified because wildland fire use projects will not be allowed in slickspot peppergrass habitat.	Same as direct and indirect impacts if wildland fires burn onto private lands.	1) Wildland fire use projects will not be allowed in slickspot peppergrass habitat.	NE	Assuming that the prohibition on Wildland Fire Use "in slickspot peppergrass habitat" includes both occupied and potential habitat, no direct or indirect program effects have been identified.

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Fire Management: Prescribed Fire	Prescribed fires that escape beyond their intended limits have the potential of negatively impacting slickspot peppergrass and its surrounding shrub-steppe habitat matrix.	Same as direct and indirect impacts if prescribed fires burn onto private lands with potential or occupied habitat.	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. 2) Prescribed fire projects will be designed to conserve and enhance slickspot peppergrass habitat.	MA, LAA	Prescribed fire in slickspot peppergrass habitat will only be used as a tool for assisting with species conservation. However, prescribed fires that unintentionally burn beyond intended limits could negatively impact plants or occupied or potential habitat.
Fire Management: Non-fire Fuels Management	Same as **Upland Vegetation Management: Rangelands (includes weed management)** because of unintended but potential negative indirect effects of herbicide use on insect pollinators.	Same as direct and indirect impacts.	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. 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.	MA, LAA	CMs should result in beneficial effects on slickspot peppergrass plants, populations, and habitat. However, some negative impacts associated with non-fire fuels management may occur.
Fire Management: Community Assistance	Same as **Fire Management: Non-fire Fuels Management**	Same as direct and indirect impacts if community assistance, which occurs on non-Bureau lands, affects private lands that support slickspot peppergrass or its habitat.	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. 2) Follow all measures included throughout the **Fire Management** program sections.	MA, LAA	CMs for fire management as they relate to community assistance may result in negative impacts on slickspot peppergrass plants, populations, and habitat similar to those described previously that would pertain to this program.

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	Agricultural conversion, urbanization, and other actions following **Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)** often remove shrub-steppe vegetation and would destroy any potential slickspot peppergrass habitat that was present.	Lands transferred or sold into the private sector have lower likelihood that conservation measures will be strictly followed.	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. 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.	MA, LAA	The CMs and implementation actions (Appendix A, Table III.C–1) only require that the Bureau "avoid the loss of occupied habitat from Federal ownership" but do not require that such a loss be prohibited. The CMs do not require the Bureau to avoid or prohibit the loss of potential slickspot peppergrass habitat from Federal ownership. Therefore, some negative impacts may occur because knowledge of the species' occurrence is incomplete.
Lands and Realty Management: Land Use Permits and Leases	Same direct and indirect effects as **Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)** because of incomplete knowledge of potential habitat distribution and small size of current distribution.	None identified.	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. 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.	MA, LAA	Implementation actions (Appendix A, Table III.C–1) direct the Bureau to avoid but do not prohibit new or re-issued permits in or adjacent to slickspot peppergrass habitat if negative impacts are expected. Implementation actions also require that new or re-issued permits in these habitats include stipulations that support or do not preclude species conservation and that avoid or minimize negative impacts. However, negative impacts may occur in some cases. Implementation actions (Appendix A, Table III.C–1) further state that "If a native species component existed prior to the ground disturbance, then the native species component of the perennial cover should be restored." Restoration of the native species component is not a strict requirement and the use of nonnative species can have unintended negative impacts on the species.
Lands and Realty Management: Rights-of-Way	Same direct and indirect effects as **Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)**. Road blading, right-of-way maintenance, and construction/maintenance of structures disturbs and fragments shrub-steppe habitat.	Rights-of-way across private lands with potential or occupied slickspot peppergrass habitat could have the same effects as on Bureau lands.	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. 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.	MA, LAA	Same as **Lands and Realty Management: Land Use Permits and Leases**.

LUP Programs Evaluated	Potential Direct and Indirect Effects	Potential Cumulative Effects	Conservation Measures	Effects Determination	Basis for Determination
Mineral Management: Locatable Minerals	Mining activities and related actions, including road building, may cause degradation or loss of habitat, impacts to the seedbank, crushing of plants, and introduction of nonnative plants.	Mining on private lands has the same potential for impacting occupied or potential habitat.	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. 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.	MA, LAA	CMs would avoid negative impacts. However, permits and development of locatable minerals are non-discretionary on the Bureau's part and some negative impacts may occur. Additionally, for notice level operations, if a plan of operations is to be approved in or adjacent to high-priority habitat areas, apply stipulations to support or to not preclude species conservation. A notice will require modification by the operator until the Bureau determines that it will not result in undue or unnecessary degradation. The terms "undue or unnecessary degradation" indicate that negative impacts to slickspot peppergrass plants, populations, or habitat may occur.
Mineral Management: Saleable and Leasable Minerals	Same potential direct and indirect impacts as **Mineral Management: Locatable Minerals.**	Same as **Mineral Management: Locatable Minerals.**	1) Activities within the **Mineral Management: Saleable and Leasable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation. 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.	MA, LAA	Implementation actions (Appendix A, Table III.C–1) require the Bureau to avoid development of saleable or leasable minerals in or adjacent to high-priority management areas if negative impacts are expected. However, negative impacts may still occur in some cases.
Cultural Management	Degradation of habitat and loss of individual plants and habitat.	None identified.	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.	MA, LAA	**Special Status Animal and Plant Management** program section CMs and implementation actions (Appendix A, Table III.C–1) require that archeological excavations within slickspot peppergrass habitat minimize or avoid negative impacts. Archeological excavations may result in negative impacts.
Paleontology	Degradation of habitat and loss of individual plants and habitat.	None identified.	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.	MA, LAA	**Special Status Animal and Plant Management** program section CMs and implementation actions (Appendix A, Table III.C–1) require that paleontological excavations within slickspot peppergrass habitat minimize or avoid negative impacts. Paleontological excavations may result in negative impacts.

a. Effects Determination: NE = No Effect; MA = May Affect; LAA = Likely to Adversely Affect; NLAA = Not Likely to Adversely Affect

5.4 Effects Summary

5.4.1 Four Rivers Field Office

5.4.1.1 Kuna Management Framework Plan

The Service anticipates that ongoing implementation of the Kuna MFP will potentially result in some adverse effects to slickspot peppergrass. Conservation measures and implementation actions as described in the CA implemented in conjunction with the Kuna MFP (Table 4 and Appendix A) are expected to reduce impacts to slickspot peppergrass and will benefit the species in the long term.

5.4.1.2 Cascade Resource Management Plan

The Service anticipates that ongoing implementation of the Cascade RMP will potentially result in some adverse effects to slickspot peppergrass. Conservation measures and implementation actions as described in the CA implemented in conjunction with the Cascade RMP (Table 4 and Appendix A) are expected to reduce impacts to slickspot peppergrass and will benefit the species in the long term.

5.4.1.3 Snake River Birds of Prey National Conservation Area Resource Management Plan

The Service anticipates that ongoing implementation of the Snake River Birds of Prey NCA RMP will potentially result in some adverse effects to slickspot peppergrass. Conservation measures and implementation actions described in the CA incorporated into the Snake River Birds of Prey NCA RMP (Table 4 and Appendix A) are expected to reduce impacts to slickspot peppergrass and will benefit the species in the long term.

5.4.2 Jarbidge Field Office

5.4.2.1 Jarbidge Resource Management Plan

The Service anticipates that ongoing implementation of the Jarbidge RMP will potentially result in some adverse effects to slickspot peppergrass. Conservation measures and implementation actions as described in the CA implemented in conjunction with the Jarbidge RMP (Table 4 and Appendix A) are expected to reduce impacts to slickspot peppergrass and will benefit the species in the long term. In addition, the Jarbidge RMP, states, "Projects proposed in areas with known threatened, endangered, or sensitive plants will give full consideration to protecting these species, including fencing if necessary. If a proposed action is predicted, through a NEPA Environmental Assessment (EA), to have an adverse effect on threatened, endangered, or sensitive plants, the action will be foregone or redesigned to eliminate such adverse effects." The Service expects that these provisions will provide additional protection for slickspot peppergrass for newly proposed projects. However, we cannot conclude that these protections will minimize effects to an insignificant or discountable level.

5.5 Conclusion

The Service has reviewed the current status of slickspot peppergrass; the environmental baseline in the action areas; the direct and indirect effects of actions authorized under existing LUPs, inclusive of the conservation measures and implementation actions described in the CA (Table 4 and Appendix A); and insignificant cumulative effects (as discussed in section 5.2.1.2). We conclude that continuing management as directed through the existing LUPs (Kuna MFP, Cascade RMP, Snake River Birds of Prey NCA RMP, and Jarbidge RMP), concurrent with implementing the conservation measures and implementation actions as described in the CA, is not likely to appreciably reduce both the survival and recovery of slickspot peppergrass in the wild by reducing the reproduction, numbers, or distribution of slickspot peppergrass, and is therefore not likely to jeopardize the continued existence of the species. No critical habitat has been designated for slickspot peppergrass, therefore none will be affected.

We have concluded that implementation of the Kuna MFP, in association with conservation measures and implementation actions contained within the CA for the Kuna MFP in the Four Rivers FO area will not cause adverse impacts that would reduce the likelihood of both the survival and recovery of slickspot peppergrass. The Kuna MFP provides overall guidance to minimize direct and indirect threats to the habitat of this species, and restoration and maintenance of habitat and dispersal corridors are features in the conservation measures and implementation actions of the ongoing LUP programs. The Kuna MFP ongoing LUP programs and associated conservation measures and implementation actions do not authorize actions that would reduce reproduction, numbers, or distribution of slickspot peppergrass.

We have concluded that operating under the ongoing Cascade RMP, in association with conservation measures and implementation actions contained within the CA for the Cascade RMP in the Four Rivers FO area will not cause adverse effects that would reduce the likelihood of survival and recovery of slickspot peppergrass. The ongoing action provides overall guidance to minimize direct and indirect threats to the habitat of this species, and restoration and maintenance of habitat and dispersal corridors are features in the conservation measures and implementation actions of the ongoing LUP programs. The Cascade RMP ongoing LUP programs and associated conservation measures and implementation actions do not authorize actions that would reduce reproduction, numbers, or distribution of this species.

We have concluded that operating under the ongoing Snake River Birds of Prey NCA RMP, including the conservation measures and implementation actions contained within this LUP located in the Four Rivers FO area, will not cause adverse effects that would reduce the likelihood of survival and recovery of slickspot peppergrass. The ongoing action provides overall guidance to minimize direct and indirect threats to the habitat of this species, and restoration and maintenance of habitat and dispersal corridors are features in the conservation measures and implementation actions of the ongoing LUP programs. The Snake River Birds of Prey NCA RMP ongoing LUP programs and associated conservation measures and implementation actions do not authorize actions that would reduce reproduction, numbers, or distribution of slickspot peppergrass.

We have concluded that operating under the ongoing Jarbidge RMP, in association with conservation measures and implementation actions contained within the CA for the

Jarbidge RMP will not cause adverse effects that would reduce the likelihood of survival and recovery of slickspot peppergrass. The ongoing action provides overall guidance to minimize direct and indirect threats to the habitat of this species, and restoration and maintenance of habitat are features in the conservation measures and implementation actions of the ongoing LUP programs. The Jarbidge FO ongoing RMP and associated conservation measures and implementation actions do not authorize actions that would reduce reproduction, numbers, or distribution of slickspot peppergrass.

In addition, the Jarbidge RMP states that "Projects proposed in areas with known threatened, endangered, or sensitive plants will give full consideration to protecting these species, including fencing if necessary. If a proposed action is predicted, through a NEPA Environmental Assessment (EA), to have an adverse effect on threatened, endangered, or sensitive plants, the action will be foregone or redesigned to eliminate such adverse effects." The Service expects that these provisions will provide additional protection for slickspot peppergrass for newly proposed projects. However, we cannot conclude that these protections will minimize effects to an insignificant or discountable level.

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 threatened 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 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 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 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.
- 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 habitats within the range of slickspot peppergrass.
- Actively participate in 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.
- Complete consultation for ongoing and new actions in potential habitat for slickspot peppergrass.
- Prioritize fire suppression to protect remaining large sagebrush stands within the range of slickspot peppergrass.
- Avoid or minimize activities that could be ground-disturbing 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-CLOSING STATEMENT

This concludes formal consultation on the effects of the land use plan programs associated with the Jarbidge RMP, the Kuna MFP, the Cascade RMP, and the Snake River Birds of Prey NCA RMP on 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 slickspot peppergrass.

CHAPTER 8. LITERATURE CITED

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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
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Idaho State Office
1387 South Vinnell Way
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208-373-3813

Mark Roberston
U.S. Fish and Wildlife Service
Snake River Fish and Wildlife Office
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X. SIGNATURES

THOMAS H. DYER
State Director
Bureau of Land Management

Date 8/26/09

JEFFERY L. FOSS
Field Supervisor
U.S Fish and Wildlife Service

Date 8/27/09

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
Special Status Animal and Plant Management Note: Common to All Programs	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.	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**.		
	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:	**1)** Following actions to be completed in cooperation with others:	**1)** As stated below:	**1)** As stated below:
	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).	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.	a) BLM State Office (SO), BLM Field Office (FO), USFWS, and CDC	a) SO Due Date (DD) for protocol = February 1, 2007
	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).	b) Surveys, mapping, and data management (refer to Figure III.C-1, *Survey Flowchart for Slickspot Peppergrass,* at the end of this table):	b) FO, with CDC and USFWS	b) Standard operating action (SOA)
		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, *Definitions*). Use current GIS standards for mapping and database management. In	*i)* FO	*i)* Update map annually

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
		cooperation with CDC, maintain a spatial database of species population and habitat information for BLM lands.		
		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.	*ii)* FO	*ii)* SOA, annually
		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.	*iii)* Level 1 Team develops schedule; FO completes Stage 1 surveys	*iii)* Develop schedule for conducting priority Stage 1 surveys by February 1, 2007. Complete all Stage 1 surveys by 2017.
		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.	*iv)* Level 1 Team develops schedule; FO completes Stage 2 surveys c) FO	*iv)* Develop Stage 2 survey schedules annually, beginning in 2007. c) SOA
	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	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		

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
	support pollinators and habitat for slickspot peppergrass.	part of the adaptive management strategy.	*i)* FO, with SO, USFWS, and CDC	*i)* FO DD = 2008
		i) Establish permanent ecological reference areas (ERAs) in selected EOs to evaluate land health conditions associated with slickspot peppergrass.	*ii)* FO	*ii)* SOA
		ii) 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.		
	d) Participate in research essential to conservation of the species.		d) FO and SO, with USFWS (all actions)	d) SOA (all actions)
		d) BLM will participate in research as funding allows. Areas to focus on include, but are not limited to, the following:		
		i) Elimination and control of invasive species.		
		ii) Pollination, forb restoration, and effects of ground disturbance on the species.		
		iii) Determination of specific limiting factors in terms of habitat needs and characteristics.		
	e) Continue to support seed banks in a long-term seed storage facility.		e) SO, with CDC and USFWS	e) SOA
		iv) Population viability analyses.		
	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.	e) As needed, provide funding to a suitable repository to support a seed bank.	f) FO and SO, with CDC and USFWS	f) SOA
		f) Reintroduce slickspot peppergrass at selected experimental reintroduction or historic sites as funding allows.		

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
	2) Ensure that ongoing Federal actions support or do not preclude species conservation in slickspot peppergrass habitat.	2) Ongoing BLM authorized activities: 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. 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. 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.	2) FO (all actions)	2) SOA, annual review
	3) Ensure that new Federal actions support or do not preclude species conservation in slickspot peppergrass habitat.	d) Where slickspot peppergrass habitat exists, BLM will conserve remaining stands of sagebrush and native vegetation in making activity plan and project level decisions. 3) New proposed BLM authorized activities:	3) As listed below: a) FO and USFWS	3) See below: a) SOA

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
	4) Implement adaptive management as needed to achieve conservation objectives.	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 inventory information is not available or adequate. BLM will use the protocols developed in **(1)**(a). 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. c) Where needed, complete section 7 compliance for new activities that may affect this species and its habitat. d) Where slickspot peppergrass habitat exists, BLM will conserve remaining stands of sagebrush and native vegetation in making activity plan and project level decisions.	b) FO c) FO and USFWS d) FO **4)** FO, with USFWS	b) SOA c) SOA d) SOA **4)** SOA
	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.	**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. **5)** Take advantage of opportunities to support conservation of slickspot peppergrass through easements, cooperative management efforts, and other programs. **6)** As a part of management authorizations, require rehabilitation to native vegetation in slickspot peppergrass habitat if trespass or	**5)** FO **6)** FO	**5)** SOA **6)** SOA

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
		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.		
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)	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.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) SO and FO	1) SOA
	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	2) Site-specific stipulations will be developed locally using these criteria: a) 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).	2) FO, with USFWS (all actions)	2) SOA

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
	species will be analyzed at the project level and designed such that pesticide applications will support conservation and minimize risks of exposure.	b) Apply appropriate spatial and temporal buffers to avoid species' exposure to harmful chemicals. c) Explore opportunities to eradicate competing nonnative invasive plants in occupied habitat where slickspots are being invaded by such plants. 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. 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.		
	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.	3) Take advantage of coordination opportunities as they arise.	3) FO	3) SOA
	4) BLM will promote diversity, richness, and health of native plant communities to support pollinators and habitat for slickspot	4) BLM will focus slickspot peppergrass habitat conservation and restoration efforts in or adjacent to occupied habitat to encourage connectivity among populations through the following measures:	4) FO, with USFWS	4) SOA

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
	peppergrass.	a) Where slickspot peppergrass habitat exists, BLM will conserve remaining stands of sagebrush and native vegetation in making activity plan and project level decisions. b) Vegetation treatment projects undertaken in slickspot peppergrass habitat will be compatible with species habitat restoration objectives, as described in item (d) below. 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. 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.		
Forest and Woodland Management (includes weed management)	None	None	None	None
Wildlife and Wildlife Habitat	1) Activities within the **Wildlife and Wildlife Habitat Management** program will implement relevant conservation measures as	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) SO and FO	1) SOA

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
Management	described in the **Special Status Animal and Plant Management** program section to promote conservation. **2)** Manage facilities installed for wildlife to promote maintenance of slickspot peppergrass habitat. **3)** Restore wildlife habitat while promoting slickspot peppergrass conservation.	**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 wildlife facilities in occupied habitat. **3)** Any restoration efforts for wildlife within slickspot peppergrass habitat will be compatible with the species' habitat requirements.	**2)** FO **3)** FO	**2)** SOA **3)** SOA
Fish and Aquatic Habitat Management	None	None	None	None
Livestock Grazing Management: Permits and Leases	**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. **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*	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. **2)** Permit or lease renewal actions and annual authorizations: a) For review of ongoing actions, see **Special Status Animal and Plant Management** program section item **(2)**. b) Schedule surveys in slickspot peppergrass habitat as needed for	**1)** SO and FO **2)** FO (all actions)	**1)** SOA **2)** SOA (all actions)

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
	Grazing Adaptive Management (Figure III.C-2), located at the end of this conservation measures table, to adjust livestock use as appropriate.	S&G assessments associated with permit and lease renewals. Use survey procedures and flowchart (Figure III.C-2, *Implementation of Annual Grazing Adaptive Management*) referenced in **Special Status Animal and Plant Management** program section 1(b). c) For new actions, see **Special Status Animal and Plant Management** program section item (**3**). d) As part of adaptive management to avoid or minimize negative impacts, modify livestock grazing activities as outlined in Figure III.C-2, *Implementation of Annual Grazing Adaptive Management*, located at the end of this conservation measures table. In addition, the following measures will be implemented, as appropriate: *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,		

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
		trailing, or watering herds within 1/2 mile of EOs.		
	3) As part of adaptive management, BLM will conduct scheduled compliance inspections in pastures with occupied habitat as part of BLM range use supervision to minimize impacts.	*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.	3) FO	3) SOA
		vii) No new domestic horse AUMs will be authorized in pastures containing EOs to avoid trampling impacts.		
		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.	a) FO b) SO and USFWS, with FO input	a) SOA b) DD for developing format: February 1, 2007
		a) BLM range staff will conduct pre-season range readiness checks for soil moisture conditions in allotments with occupied habitat.	c) FO	c) SOA
		b) BLM will conduct post-use monitoring for trampling in slickspots within EOs (could be done in conjunction with	d) FO	d) SOA

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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
		utilization compliance checks).		
	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.	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.	**4)** FO	**4)** SOA
	5) BLM will work cooperatively with the livestock permittees to promote slickspot peppergrass conservation.	d) Apply Grazing Adaptive Management Implementation Flowchart as outlined in Figure III.C-2, located at the end of this conservation measures table.	**5)** FO	**5)** SOA
		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.		
		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.		
Livestock Grazing Management: Livestock Management Facilities	**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	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	**1)** SO and FO	**1)** SOA

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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
	conservation. **2)** Manage livestock facilities to promote slickspot peppergrass conservation while implementing rangeland health S&Gs.	**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. a) Within pastures, place water facilities to support slickspot peppergrass conservation: *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. *ii)* 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-	**2)** FO (all actions)	**2)** SOA (all actions)

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
		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. *iii)* 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. b) Placement of new livestock infrastructure will be compatible with slickspot peppergrass habitat conservation. Avoid placement of new fences within EOs.		
Wild Horse Management	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. 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.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. 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.	1) SO and FO 2) FO	1) SOA 2) SOA
Recreation Management	1) Activities within the **Recreation Management** program will implement	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the	1) SO and FO	1) SOA

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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
	relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation.	beginning of this table.		
	2) Developed facilities (paved campgrounds, vault toilets, interpretive kiosks, etc.): Manage existing and new recreation facilities to promote conservation of species habitat.	**2)** Management of existing and new facilities: 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. 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 peppergrass habitat if negative impacts are anticipated. 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.	**2)** FO (all actions)	**2)** SOA (all actions)
	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.	**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.	**3)** FO	**3)** SOA
	4) Commercial and noncommercial recreation		**4)** FO (all actions)	**4)** SOA (all

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
	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.	**4)** Issuance and review of existing and new permits: 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. 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. c) BLM will not authorize organized recreation activities in slickspot peppergrass habitat if negative impacts are anticipated (for example, OHV races, equestrian events, and other events).		actions)
Recreation Management: Travel Management	**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. **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	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. **2)** Review of existing and new roads, OHV routes, and areas and non-motorized trails: a) For existing roads, designated OHV routes and areas, and designated non-motorized trails, see **Special Status Animal and**	**1)** SO and FO **2)** FO and SO (all actions)	**1)** SOA **2)** SOA

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
	ground disturbance resulting from human uses.	**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. 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. 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.		
	3) Perform compliance checks on OHV closures to protect occupied habitat, identify problems as soon as possible, and take immediate corrective measures.	**3)** See **Special Status Animal and Plant Management** program section item **(2)**.	**3)** FO	**3)** SOA
Visual Resource Management	None	None	None	None
Special Designation Area Management	**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.	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	**1)** SO and FO	**1)** SOA

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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
	2) Explore the potential for new designations that would enhance species conservation.	2) Evaluate establishing ACECs for several stronghold populations of slickspot peppergrass during land use plan amendments or revisions.	2) FO	2) SOA
Fire Management: Fire Suppression	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.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) SO and FO	1) SOA
	2) Fire suppression efforts will be conducted, as possible, to protect slickspot peppergrass habitat. Place a high priority on protecting slickspot peppergrass habitat.	2) Fire management activities: a) Fire Management Plans will include Standard Operating Procedures (SOP's) that address conservation of slickspot peppergrass. *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 *ii)* Apply minimum impact suppression tactics (MIST) in	2) As listed below: a) SO in coordination with Fire Management Office (FMO) and FO	2) See below: a) SO DD = 2007

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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
		slickspot peppergrass habitat, as appropriate. Consult with resource advisors to determine where MIST tactics should be applied to avoid or minimize negative impacts. *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. b) Do not locate fire base camps, staging areas, and fueling areas within occupied habitat. 3) Ongoing interagency coordination. 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. 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.	b) FMO and Incident Commander for fire 3) FMO with support from FO resource advisor	b) SOA 3) SOA
	3) As needed, coordinate with appropriate agency personnel regarding fire suppression activities in or adjacent to slickspot peppergrass habitat.			
Fire Management: Emergency	1) Activities within the **Fire Management: Emergency Stabilization and Rehabilitation** program will implement	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) SO and FO	1) SOA

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
Stabilization and Rehabilitation	relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation. 2) Implement Emergency Stabilization and Rehabilitation (ES&R) activities to consider slickspot peppergrass in and adjacent to slickspot peppergrass habitat rehabilitation.	2) The following measures will be applied: a) All wildfires within slickspot peppergrass habitat will be evaluated for ES&R treatments, regardless of size. 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. 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: *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. *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.	2) FO (all actions)	2) SOA (all actions)

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
	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.	*iii)* If native plant materials and seed are not available, non-invasive, nonnative species may be used for stabilization activities in slickspot peppergrass habitat. 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. 3) See **Upland Vegetation Management: Rangelands (includes weed management)** program section.	3) SO and FO	3) SOA
Fire Management: Wildland Fire Use	1) Wildland fire use projects will not be allowed in slickspot peppergrass habitat.	1) When developing wildland fire use plans, do not allow wildland fire use in slickspot peppergrass habitat.	1) SO and FO	1) SOA
Fire Management: Prescribed Fire	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. 2) Prescribed fire projects will be designed to	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. 2) Prescribed fire in slickspot peppergrass habitat will only be used	1) SO and FO 2) FO	1) SOA 2) SOA

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
	conserve and enhance slickspot peppergrass habitat.	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).		
Fire Management: Non-Fire Fuels Management	**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.	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	**1)** SO and FO	**1)** SOA
	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.	**2)** See **Upland Vegetation management: Rangelands (includes weed management)** program section.	**2)** FO	**2)** SOA
	3) Fuels management projects conducted in slickspot peppergrass habitat should have long-term benefits to slickspot peppergrass.	**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. 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. 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: *i)* BLM will evaluate the effectiveness of existing fuel breaks	**3)** FO (all actions)	**3)** SOA (all actions)

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
		(location, dry fuel load, and weed composition) in protecting slickspot peppergrass habitat. *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. *iii)* Consider actions to repair or restore fuel breaks so they 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. 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		

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
		threaten slickspot peppergrass habitat if the benefit of these actions can be demonstrated to outweigh the risks to slickspot peppergrass and its habitat.		
Fire Management: Community Assistance	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. 2) Follow all measures included throughout the Fire Management program sections.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. 2) See actions within Fire Management program sections. Incorporate into community assistance agreements.	1) SO and FO 2) FO	1) SOA 2) SOA
Lands and Realty Management: Land Tenure Adjustment (land sale, exchanges, withdrawals, etc.)	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. 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.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. 2) BLM will opportunistically acquire slickspot peppergrass habitat, particularly occupied habitat, in land exchanges and purchases. 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	1) SO and FO 2) FO 3) FO	1) SOA 2) SOA 3) SOA

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
		early as possible to discuss methods to assure that the proposed land tenure adjustment benefits the species.		
Lands and Realty Management: Land Use Permits and Leases	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. 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.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. 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. a) Conduct periodic project compliance inspections during implementation of projects involving soil disturbance. 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.	1) SO and FO 2) FO (all actions)	1) SOA 2) SOA (all actions)

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
Lands and Realty Management: Rights-of-Way	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.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) SO and FO	1) SOA
	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.	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. 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 cover should be restored.	2) FO	2) SOA
Mineral Management: Locatable Minerals	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.	1) Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	1) SO and FO	1) SOA

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
	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.	**2)** Approval of plans of operations and notice-level operations: 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. 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.	**2)** FO (all actions)	**2)** SOA
Mineral Management: Saleable and Leasable Minerals	**1)** Activities within the **Mineral Management: Saleable and Leasable Minerals** program will implement relevant conservation measures as described in the **Special Status Animal and Plant Management** program section to promote conservation. **2)** Approve development of saleable or	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table. **2)** Approval of saleable and leasable minerals:	**1)** SO and FO **2)** FO	**1)** SOA **2)** SOA

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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
	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.	a) 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. b) 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.		
Cultural Management	**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.	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	**1)** SO and FO	**1)** SOA
Paleontology	**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.	**1)** Apply relevant conservation measures from the **Special Status Animal and Plant Management** program section at the beginning of this table.	**1)** SO and FO	**1)** SOA