From:	Burns, Melissa
To:	Martini, Jay
Cc:	Romin, Laura; Betsy Herrmann; Paul Abate
Subject:	Re: Draft Biological Assessment for Utah GRSG FEIS for staff review; response requested by 3/9
Date:	Friday, March 27, 2015 4:51:05 PM
Attachments:	image002.png image003.png image005.png image004.png image001.png BiologicalAssessment_UtGrsgFEIS_03242015_Burns comments.docx

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Hi Jay,

I am okay with the following determinations: no effect for SWFL; MANLAA for endangered condor (outside of the experimental population), and no jeopardy for the 10j condor population.

I provided a few comments via tracked changes as per your request in the attached document.

I also reviewed the effect determinations for listed fish, assuming Paul was way too busy, and concur with the "no effect" determination for all listed fish.

Let me know if you have any questions once you've had a chance to look over the inline comments.

Best,

Melissa

On Wed, Mar 25, 2015 at 8:31 AM, Martini, Jay <jay_martini@fws.gov> wrote:

> All,
>
> I will compile the comments into one document. As was mentioned in Chris Colt's email below, it will be OK to use "track changes" and comment bubbles to complete this review. We will need to give Laura a chance to review our comments on or before April 9th, so please get me your edits/comments no later than COB April 7. I realize that this is a tight turn around and everyone is really busy. If these dates are not realistic, let me or Laura know.
>
> Thanks
>
> On Wed, Mar 25, 2015 at 8:14 AM, Romin, Laura <laura_romin@fws.gov> wrote:
>
>> I had requested (and thought Chris agreed to) a 3 week review period, so let me know if you need a little more time than his proposed turnaround date of April 9.
>>
>> Laura
>>
>> Laura Romin, Deputy Field Supervisor
>> U.S. Fish and Wildlife Service
>> Utah Ecological Services Field Office
>> 2369 W. Orton Circle
>> West Valley City, Utah 84119

ph: 801-975-3330, ext. 142
cell: 801-554-7660

---------- Forwarded message ----------
From: **Colt, Chris J -FS** <ccolt@fs.fed.us>
Date: Tue, Mar 24, 2015 at 5:39 PM
Subject: Draft Biological Assessment for Utah GRSG FEIS for staff review; response requested by 3/9
To: "laura_romin@fws.gov" <laura_romin@fws.gov>
Cc: "Doug Laye (doug_laye@fws.gov)" <doug_laye@fws.gov>, "Stein, Glen -FS" <gstein@fs.fed.us>, "Dillon, Madelyn -FS" <mdillon@fs.fed.us>, "Bahr, Quincy (qfbahr@blm.gov)" <qfbahr@blm.gov>, "Rodriguez, Ron -FS" <rrodriguez01@fs.fed.us>, "Chi, Renee (rchi@blm.gov)" <rchi@blm.gov>, "Bolander, Ronald (rbolande@blm.gov)" <rbolande@blm.gov>, "Jacobson, Lee -FS" <ljacobson@fs.fed.us>

Laura,

Thanks for the ongoing close coordination of your staff on the sage-grouse Land Use Plan Amendment FEIS section 7 consultation. We have appreciated meeting with them on a regular (usually weekly) basis during this process. Attached is a draft version of the Biological Assessment for the Utah Greater Sage-grouse Land Use Plan Amendment FEIS for the BLM and US Forest Service. We are submitting this informally at the staff to staff level for review prior to our finalizing the assessment and proceeding with formal section 7 consultation. We would appreciate if you would circulate this document to the appropriate staff for their review and provide us comments back by April 9th. We are available to meet with your staff in person or on a conference call to answer any questions. We will take comments in any format, but “track changes” and comment bubbles in Microsoft Word are often the most efficient. Note that there are two documents attached, the biological assessment and an appendix, which contains both the BLM and the Forest Service proposed amendments.

Sincerely,

Chris Colt

Chris Colt
Greater Sage-Grouse Project

Wildlife Biologist

US Forest Service

Intermountain Region (R4)

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Caring for the land and serving people

Link: FS Greater Sage-Grouse Website

--
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--
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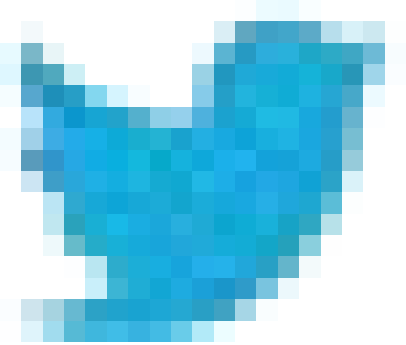

STAGE-GROUSE

CONSERVATION

Biological Assessment for the Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement

Draft

March 23, 2015

[This draft of the Biological Assessment is for review by the U. S. Fish and Wildlife Service at the staff level to review the methodology of our analysis and effects determinations to listed species for the GRSG Land Use Plan Amendments prior to formal submittal of this document. Please return comments to Chris Colt (ccolt@fs.fed.us ; phone: 208-236-7506).]

Table of Contents

INTRODUCTION 5
Background 5
Purpose and Need for GRSG LUP Amendment 6
Description of Planning Area 6
DESCRIPTION OF THE PROPOSED ACTION 10
SPECIES CONSIDERED IN THE ANALYSIS 10
SPECIES INFORMATION AND CRITICAL HABITAT 47
A. Wildlife and Fish 47
Canada lynx (*Lynx canadensis*) - Threatened 47
Utah prairie dog (*Cynomys parvidens*) - Threatened 50
Mexican spotted owl (*Strix occidentalis lucida*) - Threatened 52
California condor (*Gymnogyps californianus*) – Endangered and Experimental/Non-Essential Listings 55
B. Plants 57
Autumn Buttercup (*Ranunculus aestivalis, Ranunculus acriformis* var. *aestivalis*) – Endangered 57
Clay phacelia (*Phacelia argillacea*) – Endangered 58
Clay reed-mustard (*Schoenocrambe argillacea*) – Threatened 60
Last Chance townsendia (*Townsendia aprica*) – Threatened 60
Shrubby reed-mustard (*Schoenocrambe suffrutescens*) – Endangered 62
Uinta Basin hookless cactus (*Sclerocactus wetlandicus*) – Threatened 64
Ute ladies'-tresses (*Spiranthes diluvialis*) - Threatened 65
GENERAL DISCUSSION OF POTENTIAL IMPACTS AND MECHANISMS OF PROGRAM AREAS 66
ANALYSIS OF EFFECTS OF THE PROPOSED ACTION BY SPECIES 70
A. Wildlife and Fish 70
Canada lynx (*Lynx canadensis*) 70
Utah Prairie Dog (*Cynomys parvidens*) - Threatened 73
Mexican Spotted Owl (*Strix occidentalis lucida*) - Threatened 91
California condor (*Gymnogyps californianus*) – Endangered and Experimental/Non-Essential Population 98
B. Plants 99
Autumn Buttercup (*Ranunculus aestivalis*) 99
Clay phacelia (*Phacelia argillacea*) 102
Clay reed-mustard (*Schoenocrambe argillacea*) 104

DRAFT

Last Chance townsendia (*Townsendia aprica*) 107
Shrubby reed-mustard (Schoenocrambe suffrutescens) 109
Uinta Basin hookless cactus (*Sclerocactus wetlandicus*) 112
Ute ladies'-tresses (Spiranthes diluvialis) 114
DETERMINATIONS OF EFFECTS SUMMARY BY SPECIES 118
LITERATURE CITED 133
APPENDIX A: ADDITIONAL RATIONALE BEHIND NO EFFECT DETERMINATIONS FOR SELECT SPECIES OR GROUPS OF SPECIES IN TABLES 1 AND 2 138
Black-footed Ferret 138
Southwestern willow flycatcher 138
Yellow-billed cuckoo 139
Colorado River Fishes (Bonytail chub, Humpback chub, Colorado pikeminnow, Razorback sucker) 139
June sucker 139
Lahontan cutthroat trout 140
Barneby reed-mustard, Barneby ridge cress, Jones cycladenia, Kodachrome bladderpod, Maguire primrose, Pariette cactus, Siler pincushion, Welsh's milkweed, and Winkler cactus 140
Deseret milkvetch 143
Heliotrope milkvetch 143
Heliotrope milkvetch Designated Critical Habitat 143
Maguire primrose 143
San Rafael cactus 144
Wright fishhook cactus 145
APPENDIX B: BUREAU OF LAND MANAGEMENT PLAN COMPONENTS 145
APPENDIX C: FOREST SERVICE PLAN COMPONENTS 147
APPENDIX D: EXISTING CONSERVATION MEASURES 148
Dixie National Forest 149
Species: Last Chance townsendia 149
Fishlake National Forest 150
Species: Last Chance townsendia, Ute ladies'-tresses 150
Grand Staircase-Escalante National Monument 151
Species: Ute ladies'-tresses 151
Kanab Field Office 153
Species: Autumn buttercup (Suspected) 153
Manti-La Sal National Forest 155

DRAFT

Species: Clay phacelia (Suspected) 155
Price Field Office 157
Species: Last Chance townsendia 157
Richfield Field Office 159
Species: Last Chance townsendia 159
Salt Lake Field Office 162
Lands Program 162
Pony Express Management Plan ROD 1990 162
Uinta National Forest (USDA Forest Service 2003) 163
Species: Clay phacelia, Maguire primrose, Ute ladies'-tresses 163
Vernal Field Office 165
Species: Clay reed-mustard, shrubby reed-mustard, Uinta Basin hookless cactus, Ute ladies'-tresses 165
Wasatch-Cache National Forest (USDA Forest Service 2003) 167
Species: Clay phacelia, Ute ladies'-tresses 167

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INTRODUCTION

Background

The Bureau of Land Management (BLM) and the US Forest Service (USFS) have prepared amendments to their respective Land Use Plans (LUP)/Final Environmental Impact Statements (EIS) to provide direction for the conservation of greater sage-grouse (*Centrocercus urophasianus*) in the following plans in Utah: Cedar City Field Office, Fillmore Field Office, Grand Staircase/Escalante National Monument, Kanab Field Office, Price Field Office, Richfield Field Office, Salt Lake Field Office, Vernal Field Office, Ashley National Forest, Dixie National Forest, Fishlake National Forest, Manti-La Sal National Forest, and Uinta-Wasatch-Cache National Forest and analyze the environmental effects that could result from implementing the proposed action. A Draft LUP/EIS was published in August 2013. The Proposed Land Use Plan (LUP) amendment, scheduled for publication in March 2015, is a refinement of the Preferred Alternative (Alternative D) from the Draft LUP, with consideration given to public comments, comments from the State of Utah, corrections made where necessary, and rewording for clarification.

The purpose of this Biological Assessment (BA) is to review the Proposed LUP amendments to determine the extent that implementation of these amendments may affect proposed, threatened and endangered species and proposed or designated critical habitat within the planning area. Because the LUP is a planning document, this BA focuses on the effect of management actions to be implemented as a part of this planning effort.

Under provisions of the US Endangered Species Act (ESA) of 1973, as amended (16 USC Section 1531, et seq.), federal agencies are directed to conserve threatened and endangered (T&E) species and the habitats in which these species are found. Section 7(a)(1) states that all federal agencies shall "utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species…." Thus, the conservation and recovery of threatened and endangered species is not simply the responsibility of the US Fish and Wildlife Service (USFWS), but of all federal agencies. In order to meet this requirement, the BLM and USFS would implement management actions, standards and guidelines, protective stipulations, conditions of approval (COA), conservation measures, required design features, best management practices, mitigation, habitat restoration, and protections afforded through the land use plan.

Section 7(c) of the ESA requires the BLM to complete a BA to determine the effects of implementing the RMP on listed species, based on compliance with Section 102 of NEPA. Federal agencies are required to consider, avoid or prevent adverse impacts to fish and wildlife species. Federal agencies are also required to ensure that actions they authorize, fund or carry out are not likely to jeopardize the continued existence of T&E species or their critical habitat. The ESA requires action agencies, such as BLM and USFS, to not only consult or confer with the USFWS when there is discretionary federal involvement or control over the action, but also to ensure that resources are afforded adequate consideration and protection. Formal consultation becomes necessary when the action agency requests consultation after determining that the proposed action is likely to adversely affect listed species or critical habitat, or the aforementioned federal agencies do not concur with the action agency's finding (USFWS 1998).

This programmatic BA provides documentation and analysis for the proposed action to meet the federal requirements and agreements set forth among the federal agencies. It addresses proposed and federally listed threatened and endangered species, and proposed or designated critical habitat, and it has been prepared

under the 1973 ESA Section 7 regulations, in accordance with the 1998 procedures set forth by USFWS and the National Marine Fisheries Service (NMFS). The BLM and USFS in coordination with the USFWS conducted an analysis regarding the effects of the proposed LUP amendments on listed species.

Purpose and Need for GRSG LUP Amendment

The BLM and Forest Service have prepared Land Use Plan amendments with associated EISs for LUPs containing GRSG habitat. This effort responds to the need to inform USFWS's March 2010 "warranted, but precluded" ESA listing petition decision. Inadequacy of regulatory mechanisms was identified as a significant threat in the USFWS finding on the petition to list the GRSG. The need is to ensure that the BLM and Forest Service have adequate regulatory mechanisms in its LUPs for consideration by USFWS a year in advance of its anticipated 2015 listing. USFWS identified the principal regulatory mechanisms for the BLM and the Forest Service as conservation measures embedded in LUPs. Changes in management of GRSG habitats are necessary to avoid the continued decline of populations that are anticipated across the species' range. These LUP amendments will focus on areas affected by threats to GRSG habitat identified by USFWS in the March 2010 listing decision.

The purpose for the LUP amendments is to identify and incorporate appropriate conservation measures in LUPs to conserve, enhance, and/or restore GRSG habitat by reducing, eliminating, or minimizing threats to that habitat. Because the BLM and the Forest Service administer a large portion of GRSG habitat within the affected states, changes in the BLM and Forest Service management of GRSG habitats are anticipated to have a considerable beneficial impact on present and future GRSG populations and could reduce the need to list the species as threatened or endangered under the ESA.

Description of Planning Area

The Utah Sub-region includes BLM- and Forest Service-administered lands in Utah (Figure 1). The specific field offices and national forests included in the planning area are: Cedar City Field Office, Fillmore Field Office, Grand Staircase/Escalante National Monument, Kanab Field Office, Price Field Office, Richfield Field Office, Salt Lake Field Office, Vernal Field Office, Ashley National Forest, Dixie National Forest, Fishlake National Forest, Manti-La Sal National Forest, and Uinta-Wasatch-Cache National Forest. A portion of the Ashley National Forest considered in this analysis is in Wyoming (Figure 1).

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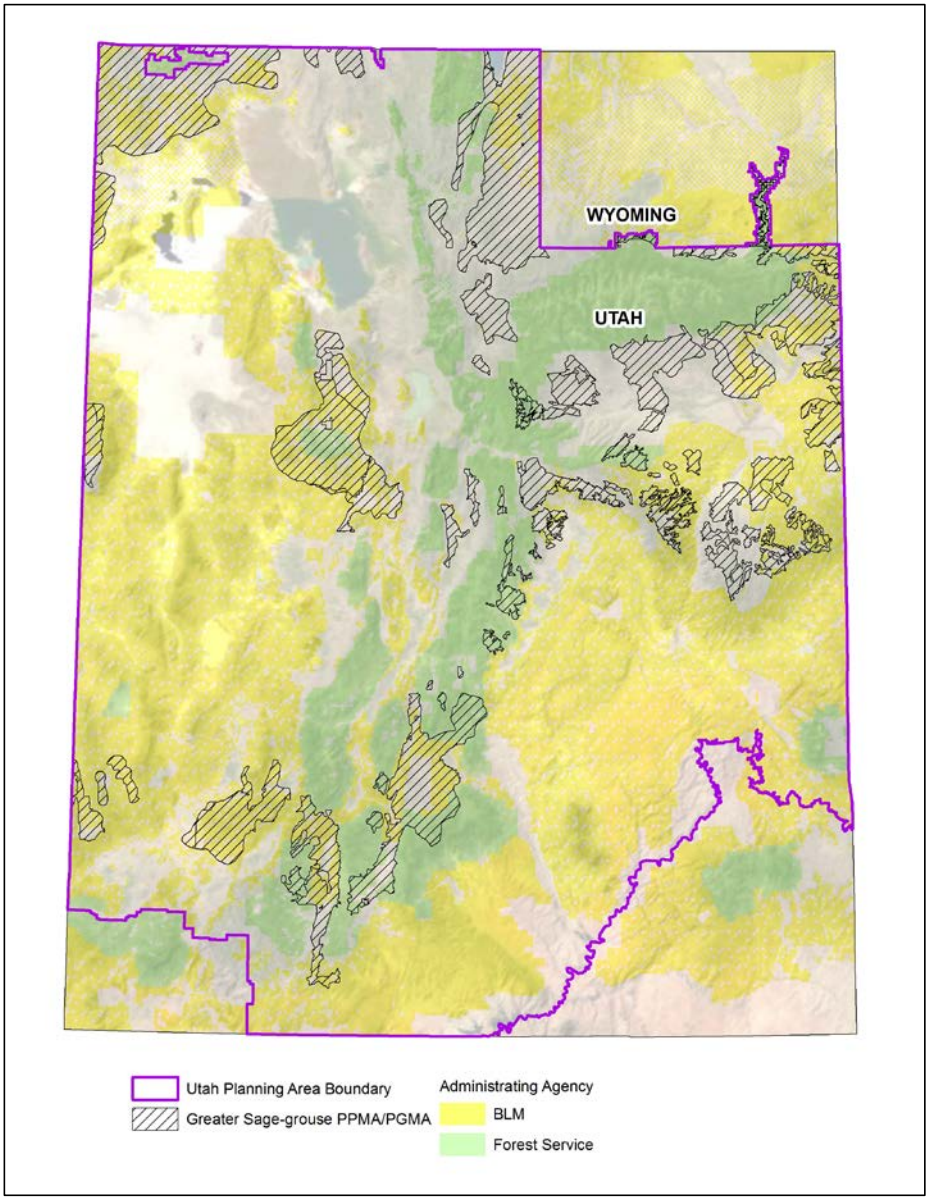

Figure 1. Utah GRSG EIS planning area boundaries.

Preliminary priority management areas (PPMAs) and preliminary general management areas (PGMAs) have been delineated as defined by BLM IM No. 2012-043 for Utah. Although slightly different processes were used to delineate these areas, the habitat described is analogous and will be discussed in conjunction for the purposes of analysis.

The distribution of GRSG is closely aligned with the distribution of sagebrush-dominated landscapes (Schroeder et al. 2004). In the sub-region, large expanses of sagebrush still occur in portions of southwestern and south-central Idaho, in association with the Great Basin Core population shared with Nevada, Oregon, and Utah, as well as in portions of the Snake-Salmon-Beaverhead population north of the Snake River.

At broad scales, PPMA and PGMA encompass areas of intact sagebrush, suitable for GRSG habitat needs. PPMA and PGMA may also contain inclusions of conifer encroachment and perennial grass dominated areas, generally occupied by GRSG or potentially suitable for future restoration. At finer scales, PPMA and PGMA encompass areas of intact suitable sagebrush habitat that is generally occupied by GRSG, as well as areas of conifer expansion and perennial grassland potentially suitable for future restoration.

Ownership acres as well as acres of GRSG habitat by ownership within the planning area boundary are shown in Table 1. The planning area encompasses a total area of approximately 48 million acres, of which 12.7 million acres (26%) are under BLM ownership and 13.9 million acres (28%) are under USFS ownership. Mapped PPMA and PGMA sage-grouse habitats occur predominately on BLM lands (approximately 7 million acres), with lesser amounts occurring on USFS lands (approximately 814,400 acres).

The decision area includes lands within the planning area for which the BLM and Forest Service have authority to make management decisions. The BLM and Forest Service have jurisdiction over all BLM-administered and National Forest System lands, respectively. In addition the BLM has jurisdiction over federal minerals on National Forest System lands and in some areas where the surface is owned by a non-federal entity. The decision area for this project includes all GRSG mapped occupied habitat administered by BLM or Forest Service including non-federal lands where there are federal mineral interests. For the purpose of this planning process lands with federal mineral interests refers to areas with state, private, or tribal surface estate with federal mineral estate. In total, there are 4,008,600 acres in the decision area. Tribal surface estate with Tribal mineral estate is not considered part of the decision area, despite the fact that the BLM has responsibility for reviewing Applications for Permits to Drill (APD) in these areas.

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Table 1. Acres of Greater Sage-Grouse mapped occupied habitat by land ownership

Population Area Name	Total Mapped Occupied Habitat	BLM Surface	Forest Service Surface	Total Decision Area[1]
Bald Hills	347,900	267,500	0	274,050
Box Elder	1,020,900	413,100	0	514,800
Carbon	497,800	125,100	49,700	307,870
Emery	96,200	100	87,600	93,000
Hamlin Valley	143,200	101,000	0	107,530
Ibapah	85,200	57,100	0	57,770
Lucerne	37,600	0	2,300	11,500
Panguitch	343,900	163,000	58,600	252,900
Parker Mountain	792,500	226,200	305,600	613,300
Rich	1,226,000	166,200	15,200	323,250
Sheeprocks	836,300	423,500	92,400	556,100
Strawberry	181,300	0	40,200	40,680
Uintah	1,557,300	556,600	86,000	779,030
Wyoming-Blacks Fork	54,800	0	54,800	54,800
Wyoming-Uinta	22,000	0	22,000	22,000
	7,242,900	**2,499,400**	**814,400**	**4,008,580**

[1] Decision area includes BLM and Forest Service surface and split-estate lands.

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DESCRIPTION OF THE PROPOSED ACTION

There are two selected actions, which are very similar; one for BLM administered lands and one for Forest Service administered lands. The BLM plan is presented in Appendix B and the Forest Service plan is in Appendix C, which accompany this document. These selected actions (Land Use Plan amendments) are excerpts from chapter 2 of the FEIS. Please see this section of the FEIS for full details.

SPECIES CONSIDERED IN THE ANALYSIS

This BA provides detailed analyses of all federally listed (endangered or threatened) species, proposed species, and designated or proposed critical habitat that may be affected by the actions proposed in the Utah Greater Sage-grouse LUP Amendments document. Development of this BA was guided by the regulations on Interagency Cooperation (Section 7 of the ESA) in 50 CFR Part 402 and BLM Manual 6840.

The USFWS list of threatened, endangered, or proposed (TEP) species is composed of plants, birds, mammals, amphibians, fish, and invertebrates. We conducted a review of those species or critical habitat that may occur in the action area or be affected by activities associated with the Preferred Alternative in the FEIS.

Table 2 and Table 3 list USFWS Threatened, Endangered or Proposed species that may be present or are known within the planning area, and designated or proposed critical habitat for those species. The species and critical habitat in Table 2 and Table 3 were considered in this analysis and compared to the seven criteria listed below. The criteria were used to identify species or proposed or designated critical habitat that would experience “no effect” from the implementation of the action alternatives and could therefore be eliminated from detailed analysis. These numerical categories below are referred to in Table 2

1. Action area is outside species’ range.
2. Potential habitat for the species does not exist within greater sage-grouse habitat (sagebrush-steppe) or is outside the elevation range of the greater sage-grouse.
3. The type or intensity of the activity in the proposed action is expected to have no impact/effect on these species or their habitat.
4. Individual animals may be accidental, dispersing, migrating, happenstance, vagrant, nomadic or opportunistic visitors to the habitat(s) impacted by the proposal, but no affiliation or dependence upon these habitat(s) has been shown.
5. The associated conservation design or mitigations eliminate any potential for impact to the species.
6. No overlap between critical habitat polygons and PPH and/or PGH.
7. Critical habitat polygons may overlap with PPH and/or PGH, but primary constituent elements (PCEs) do not overlap; no “essential features” of critical habitat will be affected.

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Species with a NE initial biological determination could be affected by site-specific projects occurring in or near occupied or unoccupied suitable habitat. Analysis for potential effects to all species should be conducted for any project that could potentially affect any of the species listed in Table 2.

Table 2. USFWS endangered and threatened species listed as potentially occurring on lands administered by the BLM in the analysis area and that may be influenced by the preferred alternative and will be further analyzed in this document.

Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Mammals											
Black-footed ferret (Exp.) *Mustela nigripes*	Black-footed ferret habitats are directly associated with the presence of prairie dog colonies. Grassland plains are the predominant habitats associated with both the ferret and the prairie dog. There is some overlap between the Coyote Basin Reintroduction Area and mapped GSG habitat.	NP	NP	NP	NP	NP	NP	NP	D	3	No Effect (See Appendix A)

[2] E = Endangered; E-exp. = Endangered Experimental Population; T = Threatened; P-T = Proposed Threatened; P-E = Proposed Endangered
[3] Sources include: Agency Resource Specialist Review ;
FO = Field Office; NF = National Forest; S = Species is Suspected within planning unit; D = Presence of species within the planning unit has been Documented; X = Either Documented or Suspected; X1: These species do not occur in the planning area, but water depletions may affect the species and/or critical habitat in downstream reaches, GSENM = Grand Staircase/Escalante National Monument. NP = Not Present; Findings: LAA, NLAA, NE

Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Canada lynx (T) *Lynx Canadensis*	Core habitat is dense and continuous spruce/fir forests and lodgepole pine forests with snowshoe hare populations, and includes designated Lynx Analysis Units. Secondary habitat is a mosaic of shrublands and/or mixed conifer forests adjacent to core habitat. May include linkage corridors. Two linkage zones overlap with PPMA in the Vernal Field Office. Salt Lake FO.	NP	NP	NP	NP	NP	NP	S	S	NA	See detailed analysis below
Canada lynx (T) *Lynx Canadensis* Designated Critical Habitat		NP	NP	NP	NP	NP	NP	NP	NP	6	No Effect

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Utah prairie dog (T) *Cynomys parvidens*	Occur in semiarid shrub-steppe and grassland habitats. Currently limited to the central and southwestern quarter of Utah in Beaver, Garfield, Iron, Kane, Piute, Sevier, and Wayne Counties [6,200 ft (1,890 m) to 9,180 ft (2,800 m)]. Overlap occurs with GRSG habitat in Cedar City, Kanab, and Richfield FOs.Historical habitat only in Fillmore FO..	D	S	NP	D	NP	D	NP	NP	NA	See detailed analysis below
Birds											
California condor (E) *Gymnogyps californianus*	Nest sites include: caves, cliffs, or a crevice among boulders on a steep slope. Regular sightings occur in southern Utah, particularly in the vicinity of Zion National Park/Kolob Canyons. Possible foraging overlap with GSG habitats.	D	NP	NP	NP	NP	S	NP	NP	NA	See detailed analysis below

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
California condor (Exp) *Gymnogyps californianus*	Nest sites include: caves, cliffs, or a crevice among boulders on a steep slope. Nesting documented in Bryce Canyon NP. Possible foraging overlap with GSG habitats.	D	NP	D	S	NP	NP	NP	NP	NA	See detailed analysis below
Mexican spotted owl (T) *Strix occidentalis lucida*	A habitat specialist that roosts and nests in late seral forests or rocky canyon habitats that include desert scrub and riparian vegetation. Occurs in in AZ, CO, NM, TX and in the southern and eastern portions of Utah in the following counties: Duchesne, Emery, Grafield, Grand, Iron, Kane, San Juan, Uintah, Washington and Wayne. No documented occurrences in GRSG mapped habitats on BLM or split estate lands . However, there is some overlap of modeled potential habitat and GSG mapped habitat.	D	S	D	D	D	D	NP	S	NA	See detailed analysis below

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Mexican spotted owl (T) *Strix occidentalis lucida* Designated Critical Habitat	Designated Critical on lands administered by the Price, Cedar City, GSENM, Kanab, and Richfield Field Offices. Approximately 10,482 acres of overlap with PPMA on BLM lands and 998 acres on Price FO only.	P	NP	P	P	P	P	NP	NP	NA	See detailed analysis below
Southwestern willow flycatcher (E) *Empidonax traillii extimus*	Summer breeder in AZ, CA, CO, NV, NM, TX and southern UT in Emery, Garfield, Grand, Iron, Kane, San Juan, Washington and Wayne Counties. Requires dense riparian habitats (cottonwood/willow and tamarisk vegetation), saturated soils, standing water, or nearby streams, pools, or cienegas for nesting (< 8,500 ft.). No overlap between documented breeding or other occurrences and GSG mapped habitat on BLM or split estate lands in all FOs.	D	NP	D	D	D	D	NP	D	3	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Southwestern willow flycatcher (E) *Empidonax traillii extimus* Designated Critical Habitat	Designated critical habitat occurs only in the Grand Staircase-Escalante National Monument FO and is located more than 20 miles from GSG mapped habitat. No overlap between critical habitat and GSG mapped habitat on BLM or split estate lands.	NP	NP	D	NP	NP	NP	NP	NP	6	No Effect
Yellow-billed cuckoo (T) *Coccyzus americanus*	Requires large blocks of riparian woodlands (50 acres/20 hectares or more) within low to moderate elevation arid to semiarid landscapes. Reported occurrences in Utah are primarily associated with larger rivers. No known recent occurrences within GSG mapped habitats on BLM or split estate lands within the past 19 years.	NP	NP	D	S	S	D	S	D	3	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Yellow-billed cuckoo *Coccyzus americanus* Proposed designated critical habitat	Proposed critical habitat occurs within the Vernal, Ritchfield, and Moab FOs. No overlap between known occurrences and GSG mapped habitats on BLM or split estate lands. lands.	NP	NP	NP	NP	NP	NP	NP	NP	6	No Effect
Invertebrates											
Kanab ambersnail (E) *Oxyloma haydeni kanabensis*	Occurs in springs and seeps at base of sandstone or limestone cliffs. In Utah, it is on private land near Kanab, Utah around several spring fed ponds named Three Lakes. No overlap between known occurrences and GSG mapped habitats on BLM or split estate lands.	NP	NP	D	D	NP	NP	NP	NP	2	No Effect
Fish											

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Bonytail chub (E) *Gila elegans*	Adapted to mainstem rivers of the Colorado River Basin where it has been observed in pools and eddies. Based on available distribution data, flooded bottomland habitats are likely important growth and conditioning areas for bonytail, particularly as nursery habitats for young.	NP	NP	D	NP	D	NP	NP	D	1, 3	No Effect (See Appendix A)
Bonytail chub (E) *Gila elegans* Designated Critical Habitat	Critical habitat includes the 100-year floodplain of the Colorado River. PCEs include water of sufficient quality and quantity, appropriate physical habitat (river channels, these areas also include bottom lands, side channels, secondary channels, oxbows, backwaters, and other areas in the 100-year flood plain) supporting all life stages and biological environment (food supply for all life stages, competition and predation). No overlap of critical habitat and GSG mapped habitats on BLM or split estate lands.	NP	NP	D	NP	D	NP	NP	D	6	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Colorado pikeminnow (E) *Ptychocheilus lucius*	Inhabit a variety of habitats, by life stage, in warm-water reaches of the Colorado River mainstem and larger tributaries, and require uninterrupted stream passage for spawning migrations and dispersal of young.	NP	NP	D	NP	D	NP	NP	D	1, 3	No Effect (See Appendix A)
Colorado pikeminnow (E) *Ptychocheilus Lucius* Designated Critical Habitat	See critical habitat description above for bonytail chub (same for Colorado pikeminnow).	NP	NP	D	NP	D	NP	NP	D	6	No Effect (See Appendix A)
Greenback cutthroat trout (T) *Oncorhynchus clarki stomias*	Habitat is restricted to La Sal Mountains east of Moab. Does not occur in GRSG habitat on Forest Service lands within the planning area.	NP	NP	NP	NP	NP	NP	NP	NP	1, 3	No Effect
Humpback chub (E) *Gila cypha*	Live and complete their entire life cycle in canyon-bound reaches of the Colorado River mainstem and larger tributaries characterized by deep water, swift currents and rocky substrates.	NP	NP	D	NP	D	NP	NP	D	1, 3	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Humpback chub (E) *Gila cypha* Designated Critical Habitat	See critical habitat description above for bonytail chub (same for humpback chub).	NP	NP	D	NP	D	NP	NP	D	6	No Effect (See Appendix A)
June sucker (E) *Chasmistes liorus*	Native range includes Utah Lake and the adjacent Provo River, Utah. Refuge populations have been established in protected locations throughout Utah. A refuge population (lake habitat) overlaps GRSG habitat on Split Estate land in Box Elder County.	NP	NP	NP	NP	NP	NP	D	NP	3	No Effect (See Appendix A)
June sucker (E) *Chasmistes liorus* Designated Critical Habitat	Constituent elements include one to three feet of high quality water flowing over a clean, unsilted gravel substrate in the Provo River. No overlap of critical habitat and GSG mapped habitat on BLM or split estate lands.	NP	NP	NP	NP	NP	NP	NP	NP	6	No Effect

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Lahontan cutthroat trout (T) *Oncorhynchus clarkii ssp. henshawi*	Occurs in CA, NV, OR and UT. Inhabits both lakes and streams, but is an obligatory stream spawner in habitat that is characterized by well-vegetated and stable streambanks, stream bottoms with relatively silt-free gravel/rubble substrate, cool water, and pools in close proximity to cover and velocity breaks. Known occurrences overlap GSG mapped habitat on BLM and Split Estate lands on Salt Lake FO.	NP	NP	NP	NP	NP	NP	D	NP	3	No Effect (See Appendix A)
Razorback sucker(E) *Xyrauchen texanus*	Inhabits different habitats of the Colorado River Basin seasonally and by life stage.	NP	NP	D	NP	D	NP	NP	D	1, 3	No Effect (See Appendix A)
Razorback sucker(E) *Xyrauchen texanus* Designated Critical Funding	Critical habitat: Colorado River, Rifle west, Yampa River, Gunnison River. See critical habitat description above for bonytail chub (same for razorback sucker).	NP	NP	D	NP	D	NP	NP	D	6	No Effect (See Appendix A)
Plants											

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Autumn Buttercup (E) (*Ranunculus aestivalis*)	Narrowly distributed to 2 populations in the upper Sevier River Valley, north of Panguitch, Found on islands of drier peaty hummocks in perennial wet meadows (1938-1965 m). Blooms August-September. Populations are entirely on private lands, so occurrences do not overlap the action area, but are within 0.2 miles of PHMA on BLM lands. Unsurveyed habitat may exist on these nearby BLM lands.	NP	NP	NP	D[1]	NP	NP	NP	NP		See detailed analysis below. Autumn buttercup has been documented within the boundaries of the Kanab FO, but not on BLM administered lands.
Barneby reed-mustard (E) (*Schoenocrambe barnebyi*)	Endemic to the canyonlands of south-central Utah, Emery and Wayne counties, where it grows in mixed desert shrub communities on sparsely vegetated sites on steep, eroding north to northeast facing slopes at 4,800 - 6,500 ft (1460-1985 m). Blooms May-June. Barneby reed-mustard occurs over 22 miles from the nearest PHMA/GHMA.	NP	NP	NP	NP	D	NP	NP	NP	2	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Barneby ridge-cress (E) *Lepidium barnebyanum*	Found only in Indian Canyon in Duchesne County on limestone outcrops within mixed desert shrub and pinyon/juniper woodlands. Very localized and occurs on poorly developed soils derived from marly shales in a zone of interbedding geologic strata from the Uinta and Green River Formations (6,200 - 6,500 ft, 1890 -1985 m.) Barneby ridge-cress occurs over 8 miles from the nearest PHMA/GHMA.	NP	NP	NP	NP	NP	NP	NP	D	2	No Effect (See Appendix A)
Clay phacelia (E) *Phacelia argillacea*	Steep sparsely vegetated slopes among mountain brush and pinyon/juniper, on clayey substrates derived from shale of the Green River Formation. Grows at elevations ranging from 6,000-7,000 ft (1,829-2134 m). Suitable (modeled) habitat for clay phacelia does not overlap PHMA/GHMA, but does occur within about 1.5 miles of PHMA. Known sites also do not overlap GRSG habitats, and are about 2 miles from PHMA.	NP	NP	NP	NP	NP	NP	D	NP		See detailed analysis below.

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Clay reed-mustard (T) *Schoenocrambe argillacea*	Restricted distribution in Uintah County within mixed desert shrub communities on steep slopes at 4,600-5,900 foot (1,402-1,798m) elevation. Blooms June-July. Occurrences do overlap GHMA in the Willow Creek area.	NP	NP	NP	NP	NP	NP	NP	D		See detailed analysis below.
Deseret milk-vetch (T) *Astragalus desereticus*	Occurs in one location on steep, highly erosive, sandy slopes in a sagebrush-juniper community near Birdseye in Wasatch County at 5,320-5,780 foot (1,621-1,762m) elevation. Blooms May-June. The known population and its habitat occurs over 3 miles from PHMA/GHMA.	NP	NP	NP	NP	NP	D	NP	NP	2	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Heliotrope milk-vetch (T) *Astragalus montii*	Alpine species found in openings in spruce-fir forests on plateaus in the Manti-LaSal National Forest (Sanpete and Sevier counties), 11,000-11,300 foot (3,353-3,444m) elevation. Restricted to subalpine mixed grass-forb cushion plant communities on level to gently sloping pavement surfaces of limestone (Flagstaff Limestone); shale barrens. Blooms July-August. Habitat for this species does not occur on BLM lands.	NP	NP	NP	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)
Heliotrope milk-vetch (T) *Astragalus montii* critical habitat	Critical habitat occurs only on the Manti-LaSal National Forest, and is 3.9 miles from PHMA and 6.5 miles from GHMA.	NP	NP	NP	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Jones cycladenia (T) *Cycladenia humilis* var. *jonesii*	Occurs in desert shrub in the canyonlands section of the Colorado Plateau in southeastern Utah and in northern Arizona. Grows on barren gypsiferous clay hills that form the steep sides and lower slopes of mesas (FR 1986). Restricted to soils with a narrow range of morphological and physical properties, but not an obligate gypsophile. Documented between 4,600 and 6,600 ft (1,400-2,000 m). Known occurrences are over 25 miles from PHMA.	NP	NP	D	NP	D	D	NP	NP	2	No Effect (See Appendix A)
Kodachrome bladderpod (E) *Lesquerella tumulosa*	Restricted to one population of scattered occurrences in the Kodachrome Flats area of the Paria River Drainage in Kane Co., UT. Grows on white, bare shale knolls derived from the Winsor member of the Carmel geologic formation. This plant is restricted to very xeric shale outcrops at about 1,740 meters (5,700 feet). Associated with scattered Utah juniper within a *Bouteloua* (grama grass) grassland. Known occurrences and habitats are about 13 miles from PHMA.	NP	NP	D	NP	NP	NP	NP	NP	2	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Last Chance townsendia (T) *Townsendia aprica*	Known from Emery, Sevier, and Wayne counties in Utah, at 6,100-9,100 ft. (1,859-2,774m) in elevation. It generally occurs with galleta and salt desert shrubs in small barren openings of pinyon/juniper communities on barren soils of the Mancos Shale Formation. This plant's habitat is an inclusion within a larger matrix of greater sage-grouse habitat. Known occurrences overlap PHMA in the Lower Last Chance Creek area, on the Fishlake NF.	NP	NP	NP	NP	D	D	NP	NP		See detailed analysis below
Maguire primrose (T) *Primula maguirei*	A narrow endemic of Logan Canyon in Cache County, Utah, that is found on damp ledges, crevices, and over-hanging rocks along canyon walls. Almost always on north-facing, moss covered limestone cliffs at or near the canyon bottom in shallow dolomitic soils of the Laketown and Fish Haven geologic formations (4,429-5,577 ft, 1350-1700 m). This species does not occur on BLM administered lands. Occurrences on FS lands are over 9 miles from PHMA.	NP	NP	NP	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Pariette cactus (T) *Sclerocactus brevispinus*	Restricted to fine soils in clay badlands derived from the Uinta formation, Duchesne and Uintah Counties, Utah. Habitat is sparsely vegetated desert shrubland dominated by *Atriplex*, *Chrysothamnus*, and *Tetradymia* species (4,593-4,921 ft. 1400-1500 m). This species is geographically restricted to Pariette Draw. PHMA occurs about 5 miles from Pariette Draw cactus habitats.	NP	NP	NP	NP	NP	NP	NP	D	2	No Effect (See Appendix A)
San Rafael cactus (E) *Pediocactus despainii*	Known from only 2 populations in Emery County with a total of about 6,000 individuals. Occurs on hills, benches and flats, of open, semi-arid grassland with scattered junipers and pinyon pines. No overlap is present between greater sage-grouse habitats and San Rafael cactus locations. The closest occurrences are about 1 mile from PHMA near South Horn Mountain.	NP	NP	NP	NP	D	D	NP	NP	2	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Shrubby reed-mustard (E) *Schoenocrambe suffrutescens*	Occurs along semi-barren, white-shale layers of the Evacuation Creek member of the Green River Formation in the Uinta Basin of eastern Utah in Duchesne and Uintah counties. Habitat includes disjunct knolls and benches resembling small extremely dry desert islands surrounded by mixed desert shrub and pinyon/juniper woodland (1,555 -1,981 m, 3,000 - 5,200 feet elevation). Occurrences overlap GHMA, in the Johnson Draw area.	NP	NP	NP	NP	NP	NP	NP	D		See detailed analysis below.
Siler pincushion cactus (T) *Pediocactus sileri*	Distribution is limited to southwestern Utah and northwestern Arizona, where it is ecologically restricted to Moenkopi Formation gypsum and salt-rich soil in a variety of plant communities from low elevation (approx. 2,789 ft., 850 m) Mohave Desert scrub up to conifer woodlands and grasslands at 5,413 ft. (1650 m). Siler pincushion on the Kanab Field Office occurs over 22 miles from the nearest PHMA/GHMA.	NP	NP	NP	D	NP	NP	NP	NP	2	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Uinta Basin hookless cactus (T) *Sclerocactus wetlandicus*	Endemic to the Uinta Basin, Duchesne and Uintah Counties, in northeast Utah. Found on coarse soils derived from cobble and gravel river and stream terrace deposits, or rocky surfaces on mesa slopes at 1,350 - 1,900 m (4,400 to 6,200 ft) in desert shrub communities and pinon-juniper woodlands. One occurrence overlaps GHMA near Ninemile Canyon, on the Vernal Field Office.	NP	NP	NP	NP	D	NP	NP	D		See detailed analysis below.
Ute ladies'-tresses (T) *Spiranthes diluvialis*	Occurs in Colorado, Idaho, Montana, Nebraska, Nevada, Utah, Washington, and Wyoming. Found in moist meadows associated with perennial stream terraces, floodplains and oxbows seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels and valleys, lakeshores; and human-modified wetlands (720-7,000 ft. 2,134 m). No overlap, but a few occurrences are just over 0.1 mile from PHMA and others are close to GHMA. Some habitat likely is within PHMA/GHMA.	NP	NP	D	NP	NP	NP	S	D	.	See detailed analysis below.

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Welsh's milkweed (T) *Asclepias welshii*	Occurs in Coral Pink sand dunes in sagebrush, juniper, and ponderosa pine communities at (5,577 – 6,234ft., 1,700 – 1,900 m). Known from only four locations in Kane County, Utah and Navajo Nation lands in Arizona. Known occurrences and habitats are about 6 miles from PHMA.	NP	NP	NP	D	NP	NP	NP	NP	2	No Effect (See Appendix A)
Welsh's milkweed (T) *Asclepias welshii* Designated critical habitat	Does not overlap with sage grouse habitat; closest critical habitat area is over 5.5 miles from PHMA.	NP	NP	NP	D	NP	NP	NP	NP	6	No Effect (See Appendix A)
Winkler cactus (T) *Pediocactus winkleri*	Endemic to a small area of south-central Utah. The species is restricted to a specific, alkaline soil type in salt desert shrub communities, characterized by drought-tolerant shrubs and grasses with ephemeral forbs (4,757 – 6,890 ft., 1,450 -- 2,100 m). Known occurrences and habitats are about 11 miles from PHMA.	NP	NP	NP	NP	D	D	NP	NP	2	No Effect (See Appendix A)

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Species (Status[2])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area[3]								Evaluation Criteria	Initial Biological Determination
		Cedar City FO	Fillmore FO	GSENM FO	Kanab FO	Price FO	Richfield FO	Salt Lake FO	Vernal FO		
Wright fishhook cactus (E) *Sclerocactus wrightiae*	Occurs in barren, alkaline soils with widely scattered shrubs, perennial herbs, bunch grasses, or scattered pinyon and juniper (4,790 – 6,119 ft.; 1,460-1,865 m). Endemic to east-central Utah in western Emery County and southeastern Sevier County, central Wayne County. Although there is no overlap, the nearest occurrence is about 1 mile from PHMA. Due to the barren nature of Wright fishhook cactus habitat, it does not likely overlap with greater sage-grouse habitats.	NP	NP	NP	NP	D	D	NP	NP	2	No Effect (See Appendix A)

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Table 3. USFWS endangered and threatened species listed as potentially occurring on national Forest Service administered lands in the analysis area and that may be influenced by the preferred alternative and will be further analyzed in this document.

Species (Status[4])	Habitat Description and Range	Units in which the species is known or suspected to be present in the action area, and/or containing suitable or critical habitat in the action area					Evaluation Criteria	Initial Biological Determination
		Ashley NF	Dixie NF	Fishlake NF	Manti-LaSal NF	Uinta-Wasatch-Cache NF		
Mammals								
Black-footed ferret (Exp.) *Mustela nigripes*	Historically found throughout the Great Plains, mountain basins, and semi-arid grasslands of North America wherever black-tailed, Gunnison's or white-tailed prairie dogs occurred. Known current ferret populations in WY, SD, MT, UT, CO, AZ, KS, NM, Canada and Mexico are all the result of reintroduction efforts. The only population in UT is the Coyote Basin population established in 1999.	NP	NP	NP	NP	NP	1	No Effect

[4] E = Endangered; E-exp. = Endangered Experimental Population; T = Threatened; P-T = Proposed Threatened; P-E = Proposed Endangered

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Canada lynx (T) *Lynx canadensis*	Montane and subalpine coniferous forests above 4,000 feet; lodgepole pine, subalpine fir and Engelmann spruce. Core habitat is dense and continuous spruce/fir forests and lodgepole pine forests with snowshoe hare populations, and includes designated Lynx Analysis Units. Secondary habitat is a mosaic of shrublands and/or mixed conifer forests adjacent to core habitat. May include linkage corridors. Overlap between lynx secondary habitat and GSG mapped habitat on about 42,400 acres.	D	NP	NP	NP	S	NA	See detailed analysis below
Canada lynx *Lynx canadensis* Critical Habitat	No designated critical habitat occurs within the planning area.	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)
Utah prairie dog (T) *Cynomys parvidens*	Occur in semiarid shrub-steppe and grassland habitats. Currently limited to the central and southwestern quarter of Utah in Beaver, Garfield, Iron, Kane, Piute, Sevier, and Wayne Counties 6,200 ft to 9,180 ft. Overlap of Utah prairie dog Management Units and GSG mapped habitat on the Dixie and Fishlake NFs.	NP	D	D	NP	NP	NA	See detailed analysis below
Birds								

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California condor (E) *Gymnogyps californianus*	Nest sites include: caves, cliffs, or a crevice among boulders on a steep slope. Regular sightings occur in southern Utah, particularly in the vicinity of Zion National Park/Kolob Canyons. Possible foraging overlap with GSG habitats. .	D	D	S	S	NP	NA	See detailed analysis below
California condor (Exp 10J) *Gymnogyps californianus*	Nest sites include: caves, cliffs, or a crevice among boulders on a steep slope. Nesting documented in Bryce Canyon NP. Possible foraging overlap with GSG habitats	D (10 J)	D (10 J)	S (10 J)	NA	NP	NA	See detailed analysis below
Mexican spotted owl (T) *Strix occidentalis lucida*	A habitat specialist that roosts and nests in late seral forests or rocky canyon habitats that include desert scrub and riparian vegetation. Occurs in in southern and eastern portions of Utah in the following counties: Duchesne, Emery, Grafield, Grand, Iron, Kane, San Juan, Uintah, Washington and Wayne.	NP	D	D	D	NP	NA	See detailed analysis below
Mexican spotted owl (T) *Strix occidentalis lucida* Designated Critical Habitat	No overlap of MSO designated critical habitat and GSG mapped habitats on National Forest lands.	NP	D	D	NP	NP	6	No Effect (See Appendix A)

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Southwestern willow flycatcher (E) *Empidonax traillii extimus*	Summer breeder in AZ, CA, CO, NV, NM, TX and southern UT in Emery, Garfield, Grand, Iron, Kane, San Juan, Washington and Wayne Counties. Requires dense riparian habitats (cottonwood/willow and tamarisk vegetation), saturated soils, standing water, or nearby streams, pools, or cienegas for nesting (< 8,500 ft.). No overlap between documented breeding or other occurrences and GSG mapped habitat on FS lands..	NP	NP	NP	D	NP	3	No Effect See Appendix A
Southwestern willow flycatcher (E) *Empidonax traillii extimus* Designated Critical Habitat	No designated critical habitat occurs on National Forest lands.	NP	NP	NP	NP	NP	6	No Effect See Appendix A
Yellow-billed cuckoo (T) *Coccyzus americanus*	Requires large blocks of riparian woodlands (50 acres/20 hectares or more) within low to moderate elevation arid to semiarid landscapes. Reported occurrences in Utah are primarily associated with larger rivers. No known recent occurrences within GSG mapped habitats on FS lands within the past 15 years	D	S	S	D	D	3	No Effect See Appendix A
Yellow-billed cuckoo (P-T) *Coccyzus americanus* Proposed Critical Habitat	No overlap of proposed critical habitat and National Forest lands.	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)
Invertebrates								

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Kanab ambersnail (E) *Oxyloma haydeni kanabensis*	Occurs in springs and seeps at base of sandstone or limestone cliffs. In Utah, it is on private land near Kanab, Utah around several spring fed ponds named Three Lakes. No overlap of species occurrence and National Forest lands.	NP	NP	NP	NP	NP	1	No Effect
Fish								
Bonytail chub (E) *Gila elegans*	Critical habitat includes the Colorado River, Yampa River, Dinosaur National Monument west, Ruby Canyon west (not in planning area).	NP	NP	NP	NP	NP	1, 3	No Effect (See Appendix A)
Bonytail chub (E) *Gila elegans* Designated Critical Habitat	Critical habitat includes the 100-year floodplain of the Colorado River. PCEs include water of sufficient quality and quantity, appropriate physical habitat (river channels, these areas also include bottom lands, side channels, secondary channels, oxbows, backwaters, and other areas in the 100-year flood plain) supporting all life stages and biological environment (food supply for all life stages, competition and predation). No overlap of critical habitat and GSG mapped habitats on National Forest lands.	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)
Colorado pikeminnow (E) *Ptychocheilus lucius*	Occurs in the upper Colorado River Basin. No known occurrences on National Forest lands since 1961.	NP	NP	NP	NP	NP	1, 3	No Effect (See Appendix A)

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Colorado pikeminnow (E) *Ptychocheilus lucius* Designated Critical Habitat	See critical habitat description above for bonytail chub (same for Colorado pikeminnow). No overlap of designated critical habitat and National Forest lands within the planning area.	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)
Greenback cutthroat trout (T) *Oncorhynchus clarki stomias*	Habitat is restricted to La Sal Mountains east of Moab. Does not occur in GRSG habitat on Forest Service lands within the planning area.	NP	NP	NP	D	NP	3	No Effect
Humpback chub (E) *Gila cypha*	Live and complete their entire life cycle in canyon-bound reaches of the Colorado River mainstem and larger tributaries characterized by deep water, swift currents and rocky substrates. No known occurrences on National Forest lands since 1961.	NP	NP	NP	NP	NP	1,3	No Effect (See Appendix A)
Humpback chub (E) *Gila cypha* Designated Critical Habitat	See critical habitat description above for bonytail chub (same for Colorado pikeminnow). No overlap of designated critical habitat and National Forest lands within the planning area.	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)
June sucker (E) *Chasmistes liorus*	Native range includes Utah Lake and the adjacent Provo River, Utah. Refuge populations have been established in protected locations throughout Utah.	NP	NP	NP	NP	S	3	No Effect See Appendix A

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June sucker (E) *Chasmistes liorus* Designated Critical Habitat	Constituent elements include one to three feet of high quality water flowing over a clean, unsilted gravel substrate in the Provo River. No overlap of critical habitat and GSG mapped habitat on National Forest lands.	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)
Lahontan cutthroat trout (T) *Oncorhynchus clarkii ssp. henshawi*	Occurs in CA, NV, OR and UT. Inhabits both lakes and streams, but is an obligatory stream spawner in habitat that is characterized by well-vegetated and stable streambanks, stream bottoms with relatively silt-free gravel/rubble substrate, cool water, and pools in close proximity to cover and velocity breaks.	NP	NP	NP	NP	NP	1,3	No Effect
Razorback sucker(E) *Xyrauchen texanus*	Inhabits different habitats of the Colorado River Basin seasonally and by life stage.	NP	NP	NP	NP	NP	1,3	No Effect See Appendix A
Razorback sucker(E) *Xyrauchen texanus* Designated Critical Habitat	Critical habitat: Colorado River, Rifle west, Yampa River, Gunnison River. See critical habitat description above for bonytail chub (same for razorback sucker).	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)
Plants								
Autumn Buttercup (E) *Ranunculus aestivalis*	Narrowly distributed to 2 populations in the upper Sevier River Valley, north of Panguitch, Found on islands of drier peaty hummocks in perennial wet meadows (1938-1965 m). Blooms August-September. Because GRSG utilize wet meadows, there may be limited overlap with GRSG.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)

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Barneby reed-mustard (E) *Schoenocrambe barnebyi*	Endemic to the canyonlands of south-central Utah, Emery and Wayne counties, where it grows in mixed desert shrub communities on sparsely vegetated sites on steep, eroding north to northeast facing slopes at 4,800 - 6,500 ft (1460-1985 m). Blooms May-June. Barneby reed-mustard occurs over 22 miles from the nearest PHMA/GHMA.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)
Barneby ridge-cress (E) *Lepidium barnebyanum*	Found only in Indian Canyon in Duchesne County on limestone outcrops within mixed desert shrub and pinyon/juniper woodlands. Very localized and occurs on poorly developed soils derived from marly shales in a zone of interbedding geologic strata from the Uinta and Green River Formations (6,200 - 6,500 ft, 1890 -1985 m). Barneby ridge cress occurs over 8 miles from the nearest PHMA/GHMA.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)
Clay phacelia (E) *Phacelia argillacea*	Grows at elevations ranging from 6,000-7,000 ft. Found on steep hillsides of shaley clay colluvium on an extremely limited band of soil derived from an upper member of the Green River geologic formation called Green River Shale in Utah County, Utah. Suitable (modeled) habitat for clay phacelia does not overlap PHMA or GHMA, but does occur within 0.85 miles of PHMA, and within 0.4 miles of GHMA. Known sites also do not overlap GRSG habitats, and are about 1.5 miles from PHMA.	NP	NP	NP	S	D	2	See detailed analysis below

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Clay reed-mustard (T) Schoenocrambe argillacea	Restricted distribution in Uintah County within mixed desert shrub communities on steep slopes at 4,600-5,900 foot (m) elevation. Blooms June-July. Occurrences do overlap GHMA in the Willow Creek area (BLM).	NP	NP	NP	NP	NP	1	No Effect (FS units) See detailed analysis below for BLM units
Deseret milk-vetch (T) *Astragalus desereticus*	Occurs on steep, highly erosive, sandy slopes in a sagebrush-juniper community near Birdseye in Wasatch County at 5,320-5,780 foot (m) elevation. Blooms May-June. The known population and its habitat occurs over 3 miles from PHMA/GHMA.	NP	NP	NP	S	S	2	No Effect (See Appendix A)
Heliotrope milk-vetch (T) *Astragalus montii*	Alpine species found in openings in spruce-fir forests on plateaus in the Manti-LaSal National Forest (Sanpete and Sevier counties), 11,000-11,300 foot elevation. Restricted to subalpine mixed grass-forb cushion plant communities on level to gently sloping pavement surfaces of limestone (Flagstaff Limestone); shale barrens. Blooms July-August.	NP	NP	NP	D	NP	2	No Effect (See Appendix A)
Heliotrope milk-vetch (T) (*Astragalus montii*) Designated Critical Habitat	Designated critical habitat occurs on the Manti-LaSal National Forest, but is 3.9 miles from PHMA and 6.5 miles from GHMA.	NP	NP	NP	D	NP	6	No Effect (See Appendix A)

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Jones cycladenia (T) *Cycladenia humilis* var. *jonesii*	Occurs in desert shrub in the canyonlands section of the Colorado Plateau in southeastern Utah and in northern Arizona. Grows on barren gypsiferous clay hills that form the steep sides and lower slopes of mesas (USFWS 1986). Restricted to soils with a narrow range of morphological and physical properties, but not an obligate gypsophile (Boettinger 1997). Documented between 4,600 and 6,600 ft (1,400 – 2,000 m). Known occurrences are over 25 miles from PHMA.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)
Kodachrome bladderpod (E) *Lesquerella tumulosa*	An endemic found only in Kane County, Utah. Restricted to one population of scattered occurrences in the Kodachrome Flats area of the Paria River Drainage. Grows on white, bare shale knolls derived from the Winsor member of the Carmel geologic formation. Kodachrome bladderpod is restricted to very xeric shale outcrops at about 1,740 meters (5,700 feet). Occurs on extremely dry, sparsely vegetated, white shale knolls with thin soils derived from the Windsor Member of the Carmel Formation. Associated with scattered Utah juniper within a *Bouteloua* grassland. Known occurrences and habitats are about 13 miles from PHMA.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)

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Last Chance townsendia (T) *Townsendia aprica*	Known from Emery, Sevier, and Wayne counties in Utah, at 6,100-9,100 feet in elevation. It generally occurs with galleta and salt desert shrubs in small barren openings of pinyon—juniper communities on barren soils of the Mancos Shale Formation. This plant's habitat is an inclusion within a larger matrix of greater sage-grouse habitat. Known occurrences overlap PHMA in the Lower Last Chance Creek area, on the Fishlake NF.	NP	D	D	NP	NP		See detailed analysis below
Maguire primrose (T) *Primula maguirei*	A narrow endemic of Logan Canyon in Cache County, Utah, that is found on damp ledges, crevices, and over-hanging rocks along canyon walls. Almost always on north-facing, moss covered limestone cliffs at or near the canyon bottom in shallow dolomitic soils of the Laketown and Fish Haven geologic formations (1350-1700 m). Occurrences are mapped within PHMA/GHMA, but the moist cliff habitat of this species is not a target for greater sage-grouse conservation actions.	NP	NP	NP	NP	D	2	No Effect (See Appendix A)
Pariette cactus (T) *Sclerocactus brevispinus*	Restricted to fine soils in clay badlands derived from the Uinta formation, Duchesne and Uintah Counties, Utah. Habitat is sparsely vegetated desert shrubland dominated by *Atriplex*, *Chrysothamnus*, and *Tetradymia* species (1400-1500 m). This species is geographically restricted to Pariette Draw. PHMA occurs about 4 miles from Pariette Draw.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)

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San Rafael cactus (E) *Pediocactus despainii*	Known from only two populations in Emery County with a total of about 6000 individuals. Occurs on hills, benches and flats, of open, semi-arid grassland with scattered junipers and pinyon pines. No overlap is present between greater sage-grouse habitats and San Rafael cactus locations. The closest occurrences are about 1 mile from PHMA near South Horn Mountain.	NP	NP	D	NP	NP	1	No Effect (See Appendix A)
Shrubby reed-mustard (E) *Schoenocrambe suffrutescens*	Occurs along semi-barren, white-shale layers of the Evacuation Creek member of the Green River Formation in the Uinta Basin of eastern Utah in Duchesne and Uintah counties. Habitat includes disjunct knolls and benches resembling small extremely dry desert islands surrounded by mixed desert shrub and pinyon-juniper woodland (1,555-1,981 m, 3,000- 5,200 feet elevation). Occurrences do overlap GHMA, in the Johnson Draw area, on BLM lands. The species is not suspected of occurring on National Forest lands.	NP	NP	NP	NP	NP	1	No Effect (FS units) (See Appendix A)
Siler pincushion cactus (T) *Pediocactus sileri*	Distribution is limited to southwestern Utah and northwestern Arizona, where it is ecologically restricted to Moenkopi Formation gypsum and salt-rich soil in a variety of plant communities from low elevation (approx. 850 m) Mohave Desert scrub up to conifer woodlands and grasslands at 1650 m. Siler pincushion occurs over 22 miles from the nearest PHMA/GHMA.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)

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Uinta Basin hookless cactus (T) *Sclerocactus wetlandicus*	Endemic to the Uinta Basin, Duchesne and Uintah Counties, in northeast Utah. Found on coarse soils derived from cobble and gravel river and stream terrace deposits, or rocky surfaces on mesa slopes at 1,350 - 1,900 m (4,400 to 6,200 ft) in desert shrub communities and pinon-juniper woodlands. One occurrence overlaps GHMA near Ninemile Canyon, BLM. It is not suspected of occurring on National Forest lands.	NP	NP	NP	NP	NP	1	No Effect (FS units) See detailed analysis below for BLM units
Ute ladies'-tresses (T) *Spiranthes diluvialis*	Occurs in Colorado, Idaho, Montana, Nebraska, Nevada, Utah, Washington, and Wyoming. Found in moist meadows associated with perennial stream terraces, floodplains, and oxbows; seasonally flooded river terraces; sub-irrigated or spring-fed abandoned stream channels and valleys; lakeshores; and human-modified wetlands (720-7,000 feet). No overlap, but a few occurrences are just over 0.1 mile from PHMA and others are close to GHMA. Some habitat likely is within PHMA/GHMA.	NP	NP	S	NP	D		See detailed analysis below
Welsh's milkweed (T) *Asclepias welshii*	Occurs in Coral Pink sand dunes in sagebrush, juniper, and ponderosa pine communities at (1,700 - 1900 m). Known from only four locations in Kane County, Utah and Navajo Nation lands in Arizona. Known occurrences and habitats are about 6 miles from PHMA.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)
Welsh's milkweed (T) *Asclepias welshii* Designated Critical Habitat	Does not overlap with sage grouse habitat; closest critical habitat area is over 5.5 miles from PHMA.	NP	NP	NP	NP	NP	6	No Effect (See Appendix A)

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Winkler cactus (T) *Pediocactus winkleri*	Endemic to a small area of south-central Utah. The species is restricted to a specific, alkaline soil type in salt desert shrub communities, characterized by drought-tolerant shrubs and grasses with ephemeral forbs (1,450 - 2,100 m). Known occurrences and habitats are about 11 miles from PHMA.	NP	NP	NP	D	NP	1	No Effect (See Appendix A)
Wright fishhook cactus (E) *Sclerocactus wrightiae*	Occurs in barren, alkaline soils with widely scattered shrubs, perennial herbs, bunch grasses, or scattered pinyon and juniper (1,460-1,865 m). Endemic to east-central Utah in western Emery County, southeastern Sevier County, central Wayne County, and a small strip within Garfield County. Although there is no overlap, the nearest occurrence is about 1 mile from PHMA. Due to the barren nature of Wright fishhook cactus habitat, it does not likely overlap with greater sage-grouse habitats.	NP	NP	NP	NP	NP	1	No Effect (See Appendix A)

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SPECIES INFORMATION AND CRITICAL HABITAT

A. Wildlife and Fish

Canada lynx (*Lynx canadensis*) - Threatened

Species / Habitat Description

The Canada lynx (*Lynx canadensis*) occurs across the boreal forests of Canada and Alaska into isolated spruce, fir and lodgepole pine forests of the northern United States including Washington, Montana, Wisconsin, Michigan, New England and Maine. Isolated and/or dispersing populations are thought to occur in northeastern Oregon, Wyoming, Utah and Colorado (USFWS 2003c). Lynx are generally found in the northern boreal forest in association with snowshoe hare habitat or habitat of other suitable prey species. Early successional stands with high densities of shrubs and seedlings are optimal for hares, and subsequently provide important habitats for lynx foraging activities. Mature forest stands are used for denning, cover for kittens, and as well as linkage areas, which consist of habitat that provides landscape connectivity between blocks of lynx habitat (Ruggiero et al. 1999).

Life History

The lynx is a medium-sized cat with long legs; large, well-furred paws; long tufts on the ears; and a short, black-tipped tail (McCord and Cardoza 1982). Adult males average 10 kg (22 lbs) in weight and 85 cm (33.5 inches) in length from head to tail, and females average 9 kg (19 lbs) and 81 cm (32 in) in length from head to tail (Quinn and Parker 1987). The lynx's long legs and large feet make it highly adapted for hunting in deep snow.

Lynx use large woody debris, such as downed logs and windfalls, to provide denning sites with security and thermal cover for kittens (McCord and Cardoza 1982, Koehler 1990, Koehler and Brittell 1990, Organ, USFWS 1999). For lynx den sites, the age of the forest stand does not seem as important as the amount of downed, woody debris available.

The size of lynx home ranges varies by the animal's gender, abundance of prey, season, and the density of lynx populations (Hatler 1988, Koehler 1990, Poole 1995). Documented home ranges vary from 8 to 800 km² (3 to 300 mi²) (Saunders 1963, Brand et al. 1976, Mech 1980, Koehler and Aubry 1994). Preliminary research supports the hypothesis that lynx home ranges at the southern extent of the species' range are generally large compared to those in the northern portion of the range in Canada (Koehler and Aubry 1994).

Lynx are highly specialized predators whose primary prey is the snowshoe hare (*Lepus americanus*), which has evolved to survive in areas that receive deep snow (Bittner and Rongstad 1982). Snowshoe hares use forests with dense understories that provide forage, cover to escape from predators, and protection during extreme weather (Wolfe et al. 1982, Monthey 1986, Hodges 1998, 1999). Generally, earlier successional forest stages have greater understory structure than do mature forests and therefore support higher hare densities (Hodges 1998, 1999). However, mature forests can also provide snowshoe hare habitat as openings develop in the canopy of mature forests when trees succumb to disease, fire, wind, ice, or insects, and the understory grows. Lynx

concentrate their hunting activities in areas where hare activity is relatively high (Koehler and Aubry 1994, Ward and Krebs 1985). Lynx also prey opportunistically on other small mammals and birds, particularly when hare populations decline (Nellis et al. 1972, Brand et al. 1976; McCord and Cardoza 1982).

Status and Distribution

The Canada lynx is federally listed as Threatened by the USFWS. In the contiguous U.S., overall numbers and range are substantially reduced from historical levels. At present, numbers have not recovered from overexploitation by both regulated and unregulated harvest that occurred in the 1970s and 1980s. Forest management practices that result in the loss of diverse age structure, fragmentation, road construction, urbanization, agriculture, recreational developments, and unnatural fire frequencies have altered suitable habitat in many areas. As a result, many states may have insufficient habitat quality and/or quantity to sustain lynx or their prey. Human access into habitat has increased dramatically over the last few decades contributing to direct and indirect mortality and displacement from suitable habitat. Although legal take is highly restricted, existing regulatory mechanisms may be inadequate to protect small, remnant populations or to conserve habitat. Competition with bobcats and coyotes may be a concern in some areas.

In 1994, the USFWS (FR, 26 August 1994) found that federal listing of the North American population of Canada Lynx may be warranted and initiated a formal status review. In 1997, the USFWS (FR, 27 May 1997) determined that listing of the contiguous U.S. population is warranted but precluded by other higher priority actions. In 1998, the USFWS (FR, 8 July 1998) proposed listing the U.S. lower 48 population segment as threatened. In 1999, the USFWS (FR, 8 July 1999) extended for not more than six months a decision to list the contiguous United State population segment as a threatened species; this extension was made to allow time to resolve a dispute over the status of the U.S. lower 48 lynx population. In 2000, the USFWS determined threatened status for the contiguous U.S. distinct population segment of *L. canadensis*.

In 2006, the USFWS designated critical habitat for the contiguous U.S. distinct population segment. In total, approximately 4,768 km² (1,841 mi²) fall within the boundaries of the critical habitat designation, in three units in the States of Minnesota, Montana and Washington (FR, 9 November 2006). No designated critical habitat exists within the state of Utah.

In the summer of 2004, two radio-collared male Lynx from the experimental-nonessential Colorado transplant population were detected in Utah. One lynx crossed through the Wasatch-Cache National Forest while traveling northward along the Wasatch Front. It continued to head north out of the Forest into Idaho or Wyoming. The other lynx, after crossing the Uinta Mountains, headed southward towards Panguitch (E-mail from Richard Williams, Wasatch-Cache National Forest Biologist, September 28, 2004). In addition, there is one report of a lynx trapped in Cache County in 1991 (Ruggiero et al. 1999). In December 2006 two lynx were trapped after being treed by dogs and tranquilized (as per conversation with Brian Maxfield of UDWR, 2007). A female was caught on the north end of the Book Cliffs near Argyle Canyon. The other, a male, was caught in the Mineral Mountains between Beaver and Milford, Utah. It is believed that both lynx migrated from the San Juan Mountains in Colorado where Colorado state wildlife officials started an experimental population in 1999, and both lynx were relocated back into the release area in Colorado in December of 2006. The Utah population is isolated and considered to be comprised of dispersing rather than breeding individuals. Although there may be some individual

lynx moving through the VFO area, no known resident populations of lynx have been documented within the VPA.

Ashley NF, Uinta-Wasach-Cache NF

There are 10 specimens of lynx that have been reliably traced to the Uinta Mountains, with collection dates ranging from 1916 to 1972. According to a completed biological assessment, lynx occur rarely, if at all in the Uintas. The Ashley National Forest began hair snare surveys in the fall of 1999 as part of the National Lynx Detection Protocol. In 1999, several hair samples were collected and results from the Rocky Mountain Research lab indicated no positive Canada lynx hair samples. Hair samples from the 2000 and 2001 field seasons also resulted in no positive Canada lynx hair samples (USDA Forest Service 2006b).

Between February of 1999 and March of 2007, twenty-two lynx (7 females: 15 males) from the experimental releasing in Colorado have been located at least once in Utah. Use-density of these locations indicates the primary area of use is in the Uinta Mountains, with the majority of use on the Wasatch-Cache NF and a somewhat lesser degree of use on the Ashley NF. Although potential for future residency of lynx in the Uinta Mountains is possible, these individual lynx were transient. Prior to these recent lynx occurrences, the last confirmed occurrence of lynx in the Uinta Mountains was in 1972. (Shenk T. M., USDA Forest Service 2006b)

Photographic bait stations were placed on the Vernal District in 2005, in the Yellowstone drainage of the Roosevelt/Duchesne District in 2006, and in the Pole Creek (Roosevelt/Duchesne District) and Whiterocks (Vernal District) drainages in 2009. The photographic bait stations were an effort to sample the Uintas for the presence of lynx and wolverine. To date, there have been no detections of lynx at these bait stations. Additionally in the winter of 2010 an effort was made (surveying 161 miles of forest roads) to look for lynx and wolverine tracks on the Forest (including the Rock Creek drainage), but no lynx tracks were detected (Dzaliak 2005, Evans 2006, Watt 2009, USDA Forest Service 2010).

In 2007, the Final Environmental Impact Statement for the Northern Rockies Lynx Management Direction (NRLMD) was released (USDA Forest Service 2007). The Ashley National Forest was included in the analysis and subsequently incorporated NRLMD direction as a Forest Plan amendment. The Ashley National Forest is considered “unoccupied” by lynx under the NRLMD.

While Canada lynx are not known to occur on BLM or Forest Service administered lands within the planning area, suitable habitat and lynx analysis units (LAUs) have been mapped on the Ashley National Forest as well as the Uinta-Wasatch-Cache National Forest. Approximately 39,839 acres of lynx suitable habitat overlaps with PPMA/***PGMA*** on the forests listed above. Lynx habitat overlap consists of both primary and secondary classifications.

Threats

In determining threatened status for the contiguous U.S. distinct population segment, USFWS (2000b) cited the inadequacy of existing regulatory mechanisms. "Current USFS and BLM LUPs include programs, practices, and activities within the authority and jurisdiction of federal land management agencies that may threaten lynx or lynx habitat. The lack of protection for lynx in these plans render[s] them inadequate to protect the species" (USFWS 2000b). Past extensive logging that eliminated habitat for lynx and snowshoe hare was detrimental. Habitat has been lost

due to suppression of forest fires and ecological succession to habitats that no longer support snowshoe hare and lynx. Fragmentation, due to forestry, agriculture, and roads, and the subsequent isolation of suitable habitat is a concern. Lack of immigration from Canadian lynx populations is an important factor in some regions. Past excessive trapping of lynx (as recently as the 1970s and 1980s) depressed populations and may have been detrimental to local lynx populations in Washington and elsewhere. Road construction causes habitat fragmentation and allows increased human access into lynx habitat; this may increase lynx mortality by facilitating access to hunters and trappers (although there is no legal harvest except for two lynx per year in Montana); incidental harvest of lynx in the course of legal trapping/hunting for other species may be a problem in some areas. Increased winter recreation (snowmobiles, ski area development) may be causing displacement and/or incidental mortality of lynx. Habitat changes and increased access into lynx habitats has resulted in increased competition and displacement of lynx by bobcat and coyote in some areas.

Utah prairie dog (*Cynomys parvidens*) - Threatened

Species/Habitat description

Utah prairie dogs occupy grasslands and open shrubland habitat with low shrubs on sites with well-drained soils at elevations ranging from 6,200 to 9,180 feet above sea level (USFWS 2012a). Five factors have been identified as influencing the suitability of prairie dog habitat: soils, vegetative height and density, vegetative moisture availability, vegetation quantity, and vegetation quality. Deep, well-drained soils provide protection from predators and extreme temperatures, and reduce the risk of drowning (Toombs 2007, 72 FR 7843-7852). Suitable sites include flat or gentle slopes with soil that can support burrowing (Toombs 2007). Open, grassy sites are preferred for foraging, as prairie dogs can communicate and detect predators better when vegetation is low or sparse enough to see through. Water is obtained from eating moisture-rich vegetation; sufficient succulent forage must be available to survive drought conditions (Toombs 2007, 72 FR 7843-7852).

Life history

Utah prairie dogs live in groups or families. They are social and maintain family unity through physical contact. The species forms colonies and spend much of its time in underground burrows, often hibernating in the winter. The life span of the Utah prairie dog ranges from 5 to 8 years.

The species breeds in the spring, and young can be seen above ground in early June. The Utah prairie dog is sexually mature after their first winter and breeding occurs in March. Gestation period lasts 34-35 days with litter sizes ranging from 1 to 6 pups. The pups remain underground for their first 6 weeks of life.

Predators include badgers, weasels, ferrets, coyotes, bobcats, foxes, hawks, man, eagles, and some snakes. In an established prairie dog colony, predators do not make a significant impact; conversely they have a huge impact on translocation sites where an established social system or burrow system is not present.

Prairie dogs forage primarily on grasses and forbs, and tend to select those with higher moisture content (Crocker-Bedford 1976). They often select colony sites in swales where the vegetation

can remain moist even in drought conditions (Collier 1975, Crocker-Bedford and Spillet 1981). Vegetation must be short stature to allow the prairie dogs to see approaching predators as well as have visual contact with other prairie dogs in the colony (Collier 1975; Crocker-Bedford and Spillet 1981). Soils need to be well drained for burrow sites. Burrows must be deep enough to protect the prairie dogs from predators as well as environmental and temperature extremes.

Status and distribution

By the 1960s, distribution of the Utah prairie dog was greatly reduced due to disease (sylvatic plague), poisoning, drought, shooting, and human-related habitat alteration resulting from cultivation and poor grazing practices. The Utah prairie dog was first federally listed as an endangered species (38 FR 14678, June 4, 1973), but was later down-listed to its current federal listing status as a threatened species (49 FR 22330, May 29 1984), due to the improved status and increased population numbers seen on private lands since 1976. It was once widely distributed throughout southern Utah. The Utah prairie dog, which now occurs in the southwestern part of the state (Beaver, Garfield, Iron, Kane, Millard, Piute, Sanpete, Sevier, and Wayne Counties), is one of three prairie dog species found in Utah. The species is not found anywhere else in the world, making it the only non-fish vertebrate endemic to Utah (Biological and Conservation Database 2002). The population declined from an estimated 95,000 animals in 1920, to less than 3,500 in 1976. No critical habitat has been designated for the Utah prairie dog.

The Utah Prairie Dog Recovery Plan (USFWS 1991) identified three areas in Utah for recovery of the species: West Desert (primarily in eastern Iron County with a few isolated colonies in western Iron and southern Beaver Counties); Pansaugaunt Area (along the East Fork and main stem of the Sevier River, in western Garfield County); and Awapa Plateau (portions of north-central Garfield, western Wayne, eastern Piute, and southeastern Sevier Counties). The goal of the recovery plan was to establish three populations on public lands, one in each of the three identified recovery areas with a minimum population of 813 animals in each population sustained for five consecutive years.

In 1997, the Utah Prairie Dog Recovery Implementation Team completed the Utah Prairie Dog Interim Conservation Strategy (Ritchie et al. 1997). The team determined that the existing Utah Prairie Dog Recovery Plan did not consider the latest scientific information for the species and that new recovery strategies needed to be considered. The team also recognized that existing conservation and recovery criteria for the Utah prairie dog were not working and that the information necessary to define new and better criteria was not available. The resulting Interim Conservation Strategy identified an interim management strategy that focuses on: 1) habitat improvement, 2) research, and 3) public involvement. An instruction memorandum from the BLM State Director formalized implementation of the Utah Prairie Dog Interim Conservation Strategy on BLM-managed lands in Utah, and directed that all actions related to the management of the Utah prairie dog be guided by this strategy (IM No. UT 2002-040, dated March 13, 2002).

In 1972, the UDWR initiated a transplant program to move animals from private agricultural lands to areas of historical occupancy on public lands. Over a 31-year period from 1972 to 2002, over 19,561 Utah prairie dogs were translocated to public land sites (Bonzo 2003). Although initial survival has been limited, the number of Utah prairie dog colonies on public lands has increased (Bonzo 2002). Increases in the known number of active colonies on public land can be attributed to a combination of factors including the translocation program, natural increases, flea dusting, and

distribution from existing sites, and discovery of previously unrecorded colonies. However, approximately 74% of Utah prairie dogs still occur on private and other non-federal lands.

Utah prairie dog suitable habitat and distribution includes public lands managed by the BLM and Forest Service in Utah within the planning area.

Threats

Utah prairie dog populations are susceptible to sylvatic plague (*Yersinia pestis*), a bacterium introduced to the North American continent in the late 1800s (Cully 1993). There is a limited understanding of the variables that determine when sylvatic plague will impact prairie dog populations. Fleas are the vectors that spread the disease and can be brought into the vicinity of a prairie dog colony by a suite of mammals. Plague outbreaks generally occur when populations increase to high densities causing increased stress among individuals and easier transmission of disease between individuals.

Threats to the species include intentional poisoning, urban development, shooting, diseases such as plague, habitat loss and degraded habitat quality, and environmental conditions such as vegetation changes and drought (Crocker-Bedford 1975, Stoddart et al. 1975, Collier and Spillett 1975; USFWS 1991). Factors leading to degraded habitat quality arise from land ownership and management practices, including overgrazing and fire suppression recreation, OHVs, energy exploration and development. Overgrazing has lead to vegetation changes from grass to shrub; erosion of the swales that were historically occupied by Utah prairie dogs; and lowered water tables which in turn reduces the amount of moisture available for palatable grasses and forbs that supply summer food for Utah prairie dogs (Crocker-Bedford 1975). Habitat loss and poor habitat quality are immediate concerns for the remaining Utah prairie dogs. Most of the species distribution occurs on private lands which are or will be largely developed for agricultural production or housing (USFWS 1991).

Mexican spotted owl (*Strix occidentalis lucida*) - Threatened

Species / Habitat description

The Mexican spotted owl is one of three subspecies of spotted owl recognized by the American Ornithologists' Union (AOU 1957:285). The other two subspecies are the northern (*S. o. caurina*) and the California spotted owl (*S. o. occidentalis*). The Mexican subspecies is geographically isolated from both the California and northern subspecies.

Steep-walled rocky canyonlands provide typical owl habitat within the Richfield planning area. Canyon habitat is used by owls for nesting, roosting, and foraging and includes landscapes dominated by vertical walled rocky cliffs within complex watersheds, including many tributary side canyons. Rock walls must include caves, ledges, and fracture zones that provide protection for nesting and roosting sites. Although it is difficult to rely upon vegetation alone to identify canyon habitat, these areas frequently contain small clumps or stringers of mixed-conifer, ponderosa pine, pine-oak, pinyon-juniper, and/or riparian vegetation (69 FR 53181). Willey (1998) documented owl use in Utah to include canyon bottoms and adjacent rims.

Life history

Mexican spotted owls breed sporadically and do not nest every year (Ganey 1988). In good years, most of the population will nest, whereas in other years only a small proportion of pairs will nest successfully (Fletcher and Hollis 1994).Breeding sites are located below canyon rims; however, it is known that owls use areas outside of the canyons (i.e., rims and mesa tops). Within the planning area owls nest and roost primarily on cliff faces using protected caves and ledges, and forage in canyon bottoms, on cliff faces and benches, and along canyon rims and adjacent lands.

Courtship begins in March and eggs are laid in late March or early April. Incubation begins shortly after the first egg is laid, and is performed entirely by the female. During incubation, the female leaves the nest only to defecate, regurgitate pellets, or receive prey delivered by the male, who does most or all of the foraging. The eggs usually hatch in early May (Ganey 1988). Females brood their young almost constantly, leaving their nests for only brief periods during the night. Nestling owls, in most cases, fledge from early to mid-June in most cases (Ganey 1988). Owlets often leave the nest before they can fly, simply jumping from the nest onto surrounding tree branches or the ground. Within a week after leaving the nest, most owlets can make short, clumsy flights. Three weeks after leaving the nest owlets can hold and tear up prey on their own, and by late July most have become proficient at pouncing on crawling insects (Forsman et al. 1984). The young depend on their parents for food during the summer and will eventually disperse out of the natal area in the fall.

Mexican spotted owls appear to use a wider variety of cover types for foraging than for roosting or nesting. Radio-marked owls in Arizona foraged more than expected (in relation to its proportion on the landscape) in unlogged forest. However, owls forage in a variety of habitats: managed and unmanaged forests, pinyon-juniper woodlands, mixed-conifer and ponderosa pine forests, cliff faces and terraces between cliffs, and riparian zones (Ganey and Balda 1994, Willey 1998a,b; Ganey et al. 2003, Willey and Van Riper 2007).

Status and distribution

The Mexican spotted owl (Strix occidentalis lucida) was listed as a threatened species on March 16, 1993 (58 FR 14248).

Although the Mexican spotted owl's entire range covers a broad area of the southwestern United States and Mexico, the Mexican spotted owl does not occur uniformly throughout its range. Instead, it occurs in disjunct localities that correspond to isolated forested mountain systems, canyons, and in some cases steep, rocky canyon lands. Surveys have revealed that the species has an affinity for older uneven-aged forests in a large portion of its range, but also is known to inhabit a physically diverse canyon landscape in the southwestern United States and Mexico. Owls should be found in forested mountains and canyons from southern Utah and Colorado to the mountains of Arizona, New Mexico, west Texas, and into the mountains of northern and central Mexico.

On August 31, 2004, the USFWS designated approximately 8.6 million acres of critical habitat in Arizona, Colorado, New Mexico, and Utah, on Federal lands (69 FR 53181). Approximately, 1,928,878 acres of designated critical habitat exist within the planning area under all ownerships. Approximately 10,481 acres of critical habitat overlap with PPMA/PGMA on FS and BLM lands

within the Price Field Office and Manti-Lasal National Forest, and an additional 998 acres overlap with PPMA/PGMA on split-estate lands within the Price Field Office boundary.

The primary constituent elements of the critical habitat designation include those physical and biological features that support nesting, roosting, and foraging. Primary constituent elements related to critical habitat in Utah include one or more of the following: (1) presence of water (often providing cooler temperatures and higher humidity than the surrounding areas); (2) clumps or stringers of mixed conifer, pine-oak, pinyon-juniper, and/or riparian vegetation; (3) canyon walls containing crevices, ledges, or caves; and (4) high percent of ground litter and woody debris. The primary constituent elements provide a qualitative description of those physical and biological features necessary to ensure the conservation of the owl in Utah (69 FR 53181). The mixed-conifer, pine-oak communities and canyon habitat appear to be the most frequently used communities throughout most portions of the subspecies' range, however owls primarily utilize canyon habitats in Utah (USFWS 2012b).

The Mexican spotted owl Recovery Plan was finalized in 1995 and revised in 2012. Six Recovery Units in the United States were identified based on similarities, or obvious dividing lines, between the following: physiographic provinces, biotic regimes, perceived threats to habitat or individual birds, administrative boundaries, and owl distribution. Suitable habitat and designated critical habitat on public lands managed by the BLM and Forest Service in Utah occur within the planning area (USFWS 2012b).

Threats

Two primary reasons were cited for the original listing of the Mexican spotted owl in 1993: historical alteration of its habitat as the result of timber-management practices; and, the threat of these practices continuing as evidenced in existing national forest plans. The danger of stand-replacing wildland fire was also cited as a threat at that time. The primary threats to its population in the U.S. have since transitioned from timber harvest to an increased risk of stand-replacing wildland fire. Recent forest management now emphasizes sustainable ecological function and a return toward pre-settlement fire regimes, both of which are more compatible with maintenance of spotted owl habitat conditions than the even-aged management regime practiced at the time of listing. Conversely, southwestern forests have experienced larger and more severe wildland fires from 1995 to the present than previous to 1995. Climate variability combined with current forest conditions may also synergistically result in increased loss of habitat from fire. The intensification of natural drought cycles and the ensuing stress placed upon forested habitats could result in even larger and more severe wildland fires in owl habitat (USFWS 2012b).

Other threats to the species and its habitat include recreation, grazing, oil and gas exploration and development, road improvement and development within canyons; and increased predation associated with habitat fragmentation (USFWS 1995).

California condor (*Gymnogyps californianus*) – Endangered and Experimental/Non-Essential Listings

Species / habitat description

California condors are primarily a cavity nesting species and typically nest in cavities located on steep rock formations or in the burned out hollows of old-growth conifers. Less typical nest sites include cliff ledges, cupped broken tops of old-growth conifers, and in several instances, nests of other species (USFWS 2013e). They are obligate scavengers that feed only on carrion. Typical foraging behavior includes long-distance reconnaissance flights, lengthy circling over a carcass, and hours of waiting at a perch or on the ground near a carcass, possibly watching for predators. Condors maintain wide-ranging foraging patterns throughout the year, an important adaptation for a species with unpredictable food supplies. Condors at interior locations in California feed on mule deer, Tule elk, pronghorn antelope, feral hogs, domestic ungulates, and smaller mammals.

Currently, California condors predominately forage in open terrain of foothill grassland and oak savanna habitats, and at coastal sites in central California, but have also been observed feeding in more wooded areas, though this is less common. Condors repeatedly use roosting sites on ridgelines, rocky outcrops, steep canyons, and in tall trees or snags near foraging grounds. While at a roost, condors devote considerable time to preening, sunning, and other maintenance activities. Similar to other vulture species, condor roosts also may serve in social interaction and as assembly points for group activities; it is common for two or more California condors to roost together and leave the roost at the same time. Cliffs and tall trees, including dead snags, are generally utilized by breeding pairs as roosting sites in nesting areas (USFWS 2013e).

Since reintroduction began in 1992, causes of California condor mortality have been closely documented. While not all have been identified, the great majority of deaths in the reintroduced population have been anthropogenic. Records from 1992 – 2012 show that cause of condor mortality in nearby Arizona was predominately lead exposure (USFWS 2013e). Other less prevalent mortality factors have included (in order of frequency) predation, starvation, shooting, and powerline collision. Some of these factors may have contributed to the species' decline prior to extirpation, but it is difficult to determine to what extent the current limitations on the population were a factor in the decline. These recent causes of mortality provide a better understanding of current limitations on the reintroduced populations and species recovery. However some factors, such as predation and starvation, are likely the result of the challenges of reintroducing captive-bred individuals into the wild (which has been a necessary step towards reestablishing wild populations), rather than factors that will have a large effect on a self-sustaining population (USFWS 2013e).

Comment [MLB1]: This entire paragraph is repeated in the "Threats" section on pages 56-57. We recommend deleting the entire highlighted paragraph.

Life history

Condors reach sexual maturity by 5 to 6 years of age and breeding occurs between 6 and 8 years of age. Courtship and nest site selection occurs from December through the Spring (USFWS 1996). Nest sites include: caves, cliffs, or a crevice among boulders on a steep slope. Breeding California condors normally lay a single egg between late January and early April, every other year (USFWS 1996). The condor provides an extensive amount of parental care and the average incubation period for a condor egg is about 56 days (USFWS 1996). Both parents share responsibilities for feeding the nestling. Fledging occurs at six months of age; however, juvenile condors may be

dependant on their parents for more than a year. The California condor life span is unknown, but may possibly extend up to 60 years (San Diego Zoo 2005).

Status and distribution

The California condor (*Gymnogyps californianus*) was listed as endangered on March 11, 1967. The main reason for the decline of the condors is an unsustainable mortality rate of free-flying birds combined with a naturally low reproductive rate.

Comment [MLB2]: The species name is already provided in a previous section. Recommend deleting "(*Gymnogyps californianus*)."

Despite intensive conservation efforts, the wild California condor population declined steadily until 1987, when the last free-flying individual was captured. During the 1980s, captive condor flocks were established at the San Diego Wild Animal Park and the Los Angeles Zoo, and the first successful captive breeding was accomplished at the former facility in 1988. Following several years of increasingly successful captive breeding, captive-produced condors were first released back to the wild in California in early 1992.

On October 6, 1996, the Service announced its intention to reintroduce California condors into northern Arizona and southern Utah, and designate the released birds as a nonessential, experimental population (NEP) under Section 10(j) of the Endangered Species Act. On October 29, 1996, six California condors were released at the Vermilion Cliffs in Coconino County of northern Arizona. Since then, additional birds have been released. The designated experimental population area (ExPA) includes remote federal (BLM, USFS, and NPS) and Native American Reservation lands, and some private lands in northern Arizona, southern Utah and southeastern Nevada. The primary release site and current nesting sites occur at Grand Canyon National Park and Vermillion Cliffs, Arizona.

The California condor may occur throughout southern Utah in a variety of habitats in the planning area. Although most of the time the condors will occur within the designated ExPA condors can have also been observed north of the ExPA boundary. Within the Utah portion of the ExPA, nesting has recently been documented in Zion National Park. Condors have been documented in Utah as far north as Flaming Gorge Reservoir; regular sightings occur in southern Utah, particularly in the vicinity of Zion National Park/Kolob Canyons.

Because the planning area includes habitat that contains both the experimental population (Areas South of I-70), and habitat that could be occupied by California condors in non-experimental areas (North of I-70), two determinations are made in the analysis portion of this report. One analysis includes the endangered California condor that may migrate North of I-70 and one analysis is made to determine effects on the experimental population South of I-70.

Threats

Since reintroduction began in 1992, causes of California condor mortality have been closely documented. While not all have been identified, the great majority of deaths in the reintroduced population have been anthropogenic. Records from 1992 – 2012 show that cause of condor mortality in nearby Arizona was predominately lead exposure (USFWS 2013e). Other less prevalent mortality factors have included (in order of frequency) predation, starvation, shooting, and powerline collision. Some of these factors may have contributed to the species' decline prior to extirpation, but it is difficult to determine to what extent the current limitations on the population were a factor in the decline. These recent causes of mortality provide a better

understanding of current limitations on the reintroduced populations and species recovery. However some factors, such as predation and starvation, are likely the result of the challenges of reintroducing captive-bred individuals into the wild (which has been a necessary step towards reestablishing wild populations), rather than factors that will have a large effect on a self-sustaining population (USFWS 2013e).

B. Plants

Autumn Buttercup (*Ranunculus aestivalis, Ranunculus acriformis* var. *aestivalis*) – Endangered

Habitat Description

Plants inhabit the transition zone between wet, sedge-dominated, spring-fed meadows and dry, upland meadows. Within this transition zone, the plants occupy raised hummocks of soil which are presumed to be formed from livestock trampling (USFWS 2011a). Juvenile plants are strongly associated with hummocks, which are drier than the surrounding soil within the Preserve. We do not know if hummocks occurred prior to livestock grazing nor do we know the habitat conditions prior to livestock grazing. Habitat consists of small peaty hummocks on a low knoll surrounded by fresh water marsh. The knoll may be the result of a raised peat bog uplifted by the upwelling waters of a spring which surrounds it. The overflow channel of a nearby spring-fed stock water pond also runs past the knoll (FR 1989). The most common species in the vicinity of autumn buttercup were blue-eyed grass (*Sisyrinchium demissum*), wiregrass (*Juncus arcticus*), scratchgrass (*Muhlenbergia asperifolia*), and other autumn buttercup plants.

Status and Distribution

There is uncertainty about the taxonomy of autumn buttercup, with some authorities considering it to be a separate species and some considering it a subspecies or variety of *Ranunculus acriformis*. Autumn buttercup was listed as endangered in 1988 after experiencing a 90 percent decline in population numbers in the five years prior to listing. In 1988 The Nature Conservancy (TNC) bought the property supporting the occurrence known at the time and removed grazing. The population of autumn buttercup on the Preserve is comprised of two subpopulations. A second population (Dale Ranch) occurs on private property and contains several hundred plants. There is little data to assess stability of the Dale Ranch population; ranch owners have not shown interest in formal conservation efforts, but population numbers on the ranch appear to be fairly stable. Periodic monitoring has shown that numbers of plants increased to around 1,000 in 1992 and have since declined to several hundred in the Dale Ranch population and fewer than 20 in the TNC population (USFWS 2011a). Two reintroductions were performed at the Preserve in 2007 and 2010 to avoid the possibility of extinction in the wild and to work toward meeting recovery plan criteria. The two reintroduction efforts were unsuccessful, with 100% mortality of reintroduced plants as of the fall of 2010, apparently due to small mammal herbivory. The plant has apparently been extirpated from the type locality; the current occurrences are about a mile north of the original occurrence. No critical habitat has been designated.

The USFWS initiated a 5-year review of autumn buttercup in 2011. At that time the plant was considered to have a high degree of threat and a low potential for survival.

The species is endemic to saline wet meadows in the upper Sevier River Valley at elevations between 6,374 and 7,000 ft. in western Garfield County, Utah. It is not known to occur on any BLM or USFS administered lands, but is near the BLM Kanab Field Office.

Life History

Autumn buttercup appears to be a short-lived herbaceous perennial that reproduces only by seed (USFWS 2013a). Seeds require an exposure to cold temperatures before they germinate. At maturity, plants are between 1 to 2 feet tall. Most of the simple but deeply palmately divided leaves are clustered at the base. The stems and leaves are covered with fine hairs. The plant flowers from July to early October. There are typically six to ten flowers per plant and each flower is approximately 1/2 inch in diameter. The flowers have five yellow petals and produce twenty to forty small, dry, one seeded fruits clustered at the center of the flower.

Threats

Any disturbance is likely to increase the chances of extinction of the species. The species may be dependent on specific hydrologic conditions but the plant's hydrologic requirements have not been studied. Autumn buttercup is highly palatable to livestock and small mammals. Livestock grazing is generally considered a threat to the plant, but the population on private land continues to support several hundred plants despite grazing while the population fenced from grazing supports fewer than 20 plants. Small mammals appear to be an important threat and were apparently responsible for the failure of reintroductions (USFWS 2013a). Other threats to the known occurrences have not been identified, but if the species or habitat is found on BLM administered lands, other threats could be present. Potential threats could include oil and gas development and off-road vehicle use.

Clay phacelia (*Phacelia argillacea*) – Endangered

Habitat Description

Clay phacelia has blue to violet flowers and stands 4–14 inches tall. It is found on steep hillsides of shaley clay colluvium on an extremely limited band of soil derived from an upper member of the Green River geologic formation called Green River Shale. Occupied sites are xeric with steep slopes and southeast- to west-facing aspects. Vegetation that grows with clay phacelia includes the yellow-flowered buckwheat (*Eriogonum brevicaule*), serviceberry (*Amelanchier alnifolia* Nutt.), Gambel oak (*Quercus gambelii* Nutt.), Indian ricegrass (*Stipa hymenoides*), and houndstongue (*Cynoglossum officinale*). Additional associated species include sparse stands of pinyon-juniper or mountain brush. Clay phacelia does not do well competing with other vegetation, and the habitat of actively eroding shale slopes likely discourages the growth of competitors.

Status and Distribution

Clay phacelia was listed as endangered in 1978. At the time of listing, the species was known from a single population containing nine individuals (USFWS 1978). In 1980 a second population was discovered bringing the total number of individuals to approximately 200 (USFWS 1982). The range of clay phacelia extends along a 7.5 mile stretch of Highway 6 in Spanish Fork Canyon in Utah County, Utah. Today, three population centers are known to exist: Water Hollow-Garner Canyon, Tie Fork (an introduced population), and Tucker-Clear Creek. The species occurs on

lands managed by the Forest Service (Uinta NF), BLM (SLFO), and The Nature Conservancy, as well as private lands. Accurate population estimates or trends are not available (USFWS 2013b).

Potentially suitable habitat has been modeled, and represents the best estimate of the extent of suitable habitat at this time. This potentially suitable, modeled habitat is not present within PHMA or GHMA, but it does occur within about 1.5 miles of PHMA near Starvation Creek. The nearest known occurrences are about 2 miles from PHMA.

Life History

Germination occurs in late summer and early autumn, and basal rosettes form in October. The first of the season's flowers begin opening by late May, full bloom is reached in late June or early July, and the last of the season's flowers are seen in October. Clay phacelia was formerly considered a winter annual but new data supports the idea that clay phacelia is instead a true biennial. The life history of a biennial includes seedling emergence in the spring, growth of a rosette in the summer, vernalization during the following winter, and flowering, seed set, and death the second summer. Germination seems to be triggered by late summer or early autumn storms and two rain events per summer seem to be critical for survival. The species harbors an extended seed bank, and one successful recruitment event every 10-15 years, coupled with high seed output, may be enough for the species survival through time. Seeds produced in one year germinate over the course of several years thus ensuring a robust seedbank that can withstand stochastic events.

The following native bee species may be clay phacelia pollinators: *Dialictus perdifficilis*, *D. sedi*, *Evylaeus pulveris*, *Andrena walleye*, *A. pronorum* and *Halictus rubicundus* (USFWS 1994a). These species are small to medium-sized, mostly solitary bees and have been seen in the vicinity of clay phacelia.

Threats

The greatest current threats to this species are transportation and transmission line development and maintenance and herbivory. Invasive plants are considered a moderate threat (USFWS 2013b). U.S. Highway 6 is a major transportation route that bisects the largest population and has affected the westernmost population. Threats may also come from increased railway traffic and dust and disturbance associated with transportation and transmission line development and maintenance. Herbivory has affected the species survival and abundance over a period of many years. Herbivory, especially by deer, elk, and rabbits on clay phacelia occurs heavily in the winter and spring preventing wintering rosettes from becoming flowering adults in summer. Livestock grazing and other herbivory has been reduced on some private land sites by fencing, but may still occur on other public and private lands, but the overall threat level is considered low (USFWS 2013b). Invasive, exotic species are a moderate threat and may become a larger threat in the future (USFWS 2013b). The species is particularly vulnerable because there are few small populations and the species is extremely restricted by climatic and edaphic factors (NatureServe 2014).

Clay reed-mustard (*Schoenocrambe argillacea*) – Threatened

Habitat Description

Clay reed-mustard occurs in desert shrub plant communities in association with shadscale, Indian ricegrass, pygmy sagebrush, western wheatgrass, Salina wildrye, and *Ephedra* species. It grows on gypsum-rich clay soils overlain with sandstone talus resulting from a mixture from the zone of contact between the Uinta and Green River formations (USFWS 1992). Its elevation range is between 4,800 and 5,640 feet. Mapping suitable habitat for this species is problematic because it grows on steep, inaccessible slopes and the habitat is not well defined (USFWS 2011b).

Status and Distribution

Clay reed-mustard was listed as a threatened species in 1992. There are six known populations of clay reed-mustard, all located in Uintah County, Utah (USFWS 2011b). The entire species range stretches approximately 13 miles from Green River to Willow Creek. There are approximately 6,000 plants total (USFWS 1994b), and this remains the best estimate of the rangewide population size (USFWS 2011b). It occurs on the Vernal Field Office, but no other BLM areas or National Forests. Known occurrences do not overlap PHMA, but they do overlap GHMA in the Willow Creek area, where 10 of 77 documented sites are within GHMA.

Life History

Flowering occurs from April to May with fruit ripening in May to June. The plant reproduces by seed, and the pollinators are as yet unknown (USFWS 2011b). However, ground nesting, solitary bees pollinate the closely related *S. suffrutescens* (shrubby reed-mustard), that grows in nearby habitats (USFWS 1994b), and it is likely that clay reed-mustard pollinators are similar.

Threats

Existing threats to clay reed-mustard include oil and gas exploration, oil-shale mining, stone quarrying, and off-road vehicle (ORV) use. All known populations are found on Federal lands leased for oil and gas energy reserves. Additionally, this species' range is underlain by oil shale, which may be mined when economic conditions for oil extraction become favorable (USFWS 1994b). Oil and gas development remains the most significant threat to clay reed-mustard (USFWS 2011b).

Historical sheep and cattle grazing use may have impacted clay reed-mustard on BLM lands. However current grazing levels are not believed to pose a serious threat (USFWS 2011b). Although invasive species such as cheatgrass are present in clay reed-mustard habitat, they have not been identified in high numbers or densities, and they are not currently considered a threat to clay reed-mustard (USFWS 2011b).

Last Chance townsendia (*Townsendia aprica*) – Threatened

Habitat Description

Last chance townsendia is a low-growing perennial, herbaceous plant in the composite family (Asteraceae). The species is stemless, with its narrow leaves and orange-yellow (apricot-colored)

flowers borne at ground level. Populations of last chance townsendia occur on a variety of geologic substrates and the majority of populations are found on soils within the Moenkopi Formation, Morrison Formation, Mancos Shale Group, and the San Rafael Group. However, the species appears to be restricted to fine-textured shale soils within each formation (USFWS 2013c).

Status and Distribution

Last chance townsendia was listed as threatened in August, 1985. Critical habitat has not been proposed. The range of the species extends across Capitol Reef, Fishlake National Forest (documented), Dixie National Forest (documented), and BLM land managed by the Price and Richfield field offices (documented). BLM land contains the most occupied habitat for last chance townsendia with approximately 4,830 acres, followed by the USFS with 2,620 acres and Capitol Reef with 2,390 acres (USFWS 2013c). The latest range-wide estimate for the total population of last chance townsendia is 6,848 individuals.

In the Lower Last Chance Creek area, Fishlake National Forest, two of the 68 documented sites are within PHMA. No known occurrences overlap PHMA or GHMA on BLM-managed lands. In the Price Field Office, last chance townsendia habitat does not overlap sage grouse habitat. In the Richfield Field Office, there is some overlap of habitats between Last Chance townsendia and PHMA/GHMA.

Life History

Last chance townsendia reproduces by seed. The plants flower from late April to early June, and seeds mature from May to June. The species only rarely self-pollinates, so cross-pollination is accomplished by several species of solitary bees: eight species of metallic blue and green inegachilid bees in the genus *Osinia*, and the anthophorid bee *Tetralonia fulvitarsis*. A few species of flies also visit the flowers. Seed set seems frequently to be pollinator-limited. Lack of pollination may result from various causes including low pollinator numbers, inclement weather affecting pollinator flight activity, and possibly other unidentified factors.

Threats

Overall abundance of last chance townsendia has declined over the last thirteen years; climate conditions (drought) are believed to be the primary cause of the decline (USFWS 2013c).

The USFWS (2013c) concluded that livestock grazing poses a threat to last chance townsendia at the present time because of the rangewide scope of the threat and the apparent vulnerability of the species to low frequency trampling events. They also concluded that energy and mineral related development (coal, oil and gas, uranium) as well as wild horses and burros pose a moderate threat to the species, and that OHV use and range improvements are low threats to the species.

Coal development and related activities may result in increased surface disturbance, increased foot and vehicle traffic, vegetation disturbance, removal of top soil and overburden, and localized ground subsidence. Coal development is considered a low threat at this time, based upon the present localized scope of underground coal mining, conservation measures protecting the species from direct impacts, and the nonimminent threat of strip mining within the range of Last Chance townsendia. This threat may increase to moderate if coal development expands within the range of the species (USFWS 2013c).

Oil and gas development is a moderate threat based upon the imminent and future immediacy of development activities, the moderate scope, and moderate to high exposure of the activities within Last Chance townsendia's range. While conservation measures are in place to avoid directly impacting individual plants, oil and gas development is still considered a threat because of indirect impacts such as habitat degradation and loss, and the loss of unoccupied, suitable habitat that could limit potential expansion and recovery of the species.

The overall threat of uranium mining to the species is moderate at this time. The threat is not imminent but alteration and destruction of the habitat from historic mining use needs to be assessed.

Cattle trampling and compaction of the soil and trampling of individual plants is a threat because Last Chance townsendia, like many small herbaceous plants, can be severely damaged in heavily travelled areas, such as around watering areas, fences, and along trails. (Lots of related ecosystem damages) The grazing of palatable forbs that flower at the same time as Last Chance townsendia, such as *Phlox austromontana*, may indirectly affect Last Chance townsendia pollinator abundance and the species' seed production. Livestock grazing is considered a moderate overall threat for based upon the rangewide scope, the immediacy of the threat, and the small exposure of the threat. Range improvements are considered a low threat to the species (USFWS 2013c).

Wild horses and burros are considered a moderate threat to the species. While the exposure of the threat is small, the intensity of the threat is equivalent to that of livestock grazing and trampling (USFWS 2013c).

The overall threat of OHV use to the species is low at this time. The current threat of direct impacts to the species is not imminent now that vehicles are restricted to designated routes throughout a moderate portion of the species range.

Shrubby reed-mustard (*Schoenocrambe suffrutescens*) – Endangered

Habitat Description

Shrubby reed-mustard grows in an extremely limited band of soil derived from an upper member of the Green River geologic formation (USFWS 1994b). This habitat is a disjunct white shale layer resembling small, dry desert islands on level to moderate slopes (USFWS 1994b).

Status and Distribution

Shrubby reed-mustard was listed as an endangered species in 1987, under the name of toad-flax cress (*Glaucocarpum suffrutescens*). In 1985, the genus was formally changed from *Glaucocarpum* to *Schoenocrambe* (Welsh and Chatterley 1985), and the species' common name was also changed from toad-flax cress to shrubby reed-mustard.

Shrubby reed-mustard occurs in three areas and seven populations in Uintah and Duchesne counties: Gray Knolls, with two populations; Pack Mountain, with four populations; and Badlands Cliff, with one population. The total number of plants is currently estimated at about 3,000 individuals (USFWS 2010a). No overlap occurs with PHMA, but 7 of 63 documented sites are within GHMA. Except for one, the remaining 56 sites are all within 1 mile of GHMA on BLMs

lands. This species is documented on the Vernal Field Office, but it is not suspected to occur on National Forest System lands, or any other BLM Field Offices.

Life History

Shrubby reed-mustard is a perennial plant that grows in clumps from a branched, slightly woody stem. Flowering occurs in April to May and fruiting occurs May to June. It reproduces by seed and the species is capable of self-pollination; however, seed set is lower in individuals that self-pollinate compared to individuals that are fertilized by pollen from another plant. The following native bee species may be shrubby reed-mustard pollinators: *Dialictus perdifficilis*, *D. sedi*, *Evylaeus pulveris*, *Andrena walleye*, *A. prunorum* and *Halictus rubicundus* (USFWS 1994b). These species are small to medium-sized, mostly solitary bees.

Threats

The primary threat to shrubby reed-mustard is currently from energy development (USFWS 2010a), with associated direct damage to individuals and habitat, as well as effects from habitat fragmentation, increased dust, and pollinator disturbance. The entire range of this species is leased for oil and gas development and is underlain by oil shale deposits (USFWS 1987, USFWS 1994b). Oil and gas development poses a significant threat to shrubby reed-mustard populations and habitat because all known populations of shrubby reed-mustard that occur on Federal lands are leased for oil and gas development (USFWS 1994b). The underlying oil shale may also be mined when economically favorable (USFWS 1994b).

In the listing and recovery plan for shrubby reed-mustard, removal of building stone and localized grazing were associated with the decline in this species (USFWS 1987, USFWS 1994b). Building stone mining can directly disturb individual plants and their habitat, with other effects similar to oil and gas development, including habitat fragmentation, increased dust, and pollinator disturbance. Today, building stone mining is only a substantive issue on private land (USFWS 2010a). At this time, effects from grazing and trampling are not considered meaningful factors impacting the viability of shrubby reed-mustard (USFWS 2010a). Although invasive species such as cheatgrass are present in shrubby reed-mustard habitat, they have not been identified in high numbers or densities, and they are not currently considered a threat to shrubby reed-mustard (USFWS 2010a).

DRAFT

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*) – Threatened

Habitat Description

Uinta Basin hookless cactus is generally found on coarse soils derived from cobble and gravel river terrace deposits, or rocky surfaces on mesa slopes at 4,400 – 6,200 feet in elevation (USFWS 2012a). It is most abundant on south facing exposures and on slopes to about 30 percent grade. It can be found growing with other common desert shrubland plants including shadscale, black sagebrush, and galleta grass. It is usually a drier habitat than the sagebrush chaparral preferred by greater sage-grouse.

Status and Distribution

Uinta Basin hookless cactus was listed as a threatened species under the combined taxa name *Sclerocactus glaucus* in 1979. In 2009, the USFWS recognized and maintained threatened status for three distinct species that were formerly considered *Sclerocactus glaucus*, including *Sclerocactus wetlandicus*, Uinta Basin hookless cactus. Uinta Basin hookless cactus is known to occur in Uintah County, Utah, along the Green River and its tributaries, and also occurs in Carbon and Duchesne Counties, Utah. The species is known from the Vernal and Price field offices; it is not known or suspected on National Forest System lands. Of the thousands of specific locations documented, only one is within GHMA. Additional habitat for Uinta Basin hookless cactus likely occurs in GHMA in this area.

Life History

Uinta Basin hookless cactus is a perennial plant which presumably reproduces by seed. A broad assemblage of native bees and possibly other insects, including ants and beetles, pollinate Uinta Basin hookless cactus.

Threats

At the time of the original listing of the Uinta Basin hookless cactus complex, ongoing and foreseeable threats included mineral and energy development, illegal collection, recreational off-road vehicle use, and grazing. Energy development remains one of the largest threats to this species through direct loss of habitat (USFWS 2010b). Livestock grazing can result in mortality when livestock trample individual cacti plants, and invasive species establishment may be enhanced by grazing activities. Off-highway vehicle use also threatens this species with habitat damage and mortality from direct contact. New threats identified since original listing include climate change, parasitism by the cactus-borer beetle, and invasive weeds.

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Ute ladies'-tresses (*Spiranthes diluvialis*) - Threatened

Habitat Description

When Ute ladies'-tresses was listed in 1992 it was known primarily from moist meadows associated with perennial stream terraces, floodplains, and oxbows at elevations between 4,300-6,850 feet (1310-2090 meters). Surveys since 1992 have expanded the number of vegetation and hydrology types occupied by Ute ladies'-tresses to include seasonally flooded river terraces, subirrigated or spring-fed abandoned stream channels and valleys, and lakeshores. In addition, 26 populations have been discovered along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs, and other human-modified wetlands.

Status and Distribution

Ute ladies'-tresses was listed as threatened in 1992. In 2004, the USFWS issued a petition to delist the species and initiate a 5-year review. The review is ongoing. Occurrences are present on the Uinta-Wasatch-Cache National Forests, the Grand Staircase-Escalante NM, the Vernal Field Office and suspected on the Salt Lake Field Office and the Fishlake National Forest. Although no Ute ladies'-tresses occurrences are mapped as overlapping PHMA or GHMA, several occurrences on BLM lands occur just outside PHMA. Those occurrences are along drainages, and it is possible that sage-grouse would use the areas during breeding and nesting season.

Life History

Ute ladies'-tresses is a long-lived perennial forb that probably reproduces exclusively by seed (USFWS 2014). As with other orchid species, Ute ladies'-tresses seeds are microscopic, dust-like, and readily dispersed by wind or water. It is hypothesized that germinated seedlings must quickly establish a symbiotic relationship with mycorrhizal soil fungi in order to survive. The absence or rarity of appropriate fungal symbionts in the soil may be a major factor limiting the establishment of new Ute ladies'- tresses populations. New vegetative shoots are produced in October and persist through the winter as small rosettes. These resume growth in the spring and develop into short-stemmed, leafy, photosynthetic plants. Depending on site productivity and conditions, vegetative shoots may remain in this state all summer or develop inflorescences. Vegetative individuals die back in the winter to subterranean roots or persist as winter rosettes. Across its range Ute ladies'-tresses blooms from early July to late October. Flowering typically occurs earlier in sites that have an open canopy and later in well-shaded sites. Bees are the primary pollinators of Ute ladies'-tresses, particularly solitary bees in the genus *Anthophora*, bumblebees (genus *Bombus*), and occasionally non-native honeybees (*Apis mellifera*) (Sipes and Tepedino 1995). Of these species, *Anthophora terminalis* is apparently the most effective pollinator.

Threats

Threats include competition from invasive species, vegetation succession, construction, hydrologic changes, grazing, recreation, urbanization, flooding, haying/mowing, natural herbivory, loss of pollinators, and drought (Fertig 2005).

GENERAL DISCUSSION OF POTENTIAL IMPACTS AND MECHANISMS OF PROGRAM AREAS

Actions Evaluated and General Effects

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to any threatened, endangered or proposed species (listed species). The environmental baseline is set by the existing conditions, including the current authorized activities and programs already analyzed and for which there has been consultation within the jurisdiction of each Land Use Plan. Various activities, including grazing, mining, recreation, travel management, invasive species control, and others are already analyzed at the Land Use Plan level. Each activity may also have been assessed for environmental impacts through their project-level, site-specific NEPA analysis. Examples of these are Allotment Management Plans, Noxious Weed Control Plans, or Travel Management Plans. All of their associated conservation measures concerning listed species would still be valid.

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. Decision at the Land Use Plan 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 Biological Assessment does not analyze site-specific actions (e.g., ongoing and new roads or other disturbances or ongoing, new, or renewed permits). Effects determinations made in this document should not be assumed to relate to site-specific projects. In the future, during project-level environmental planning and analysis, site-specific actions will continue to be analyzed to identify possible effects to listed species. Site-specific analysis of such actions may identify potential effects to listed species even when this programmatic assessment determines no effect. As part of any future project-level environmental analysis, specific conservation measures and strategies to alleviate any potential adverse effects may be developed as the details of the future proposed actions become available.

The proposed actions were evaluated for possible indirect effects to listed plants. Many of the amendment actions are restrictive of anthropogenic disturbances for the benefit of greater sage-grouse, reducing the potential impacts from various activities on greater sage-grouse and its habitats. Some examples of restrictive actions are to avoid construction of new recreation facilities (e.g., campgrounds, trails, trailheads, staging areas) within PHMA and sagebrush focal areas unless the development would have a net conservation gain to ~~to~~ greater sage-grouse habitat, or unless required for visitor safety (BLM MA-REC-2 and FS GRSG-R-GL-002-Guideline), to co-locate new road rights-of-way (ROW) (BLM MA-LAR-3) and new infrastructure (e.g., high-voltage transmission lines, major pipelines, roads, distribution lines, and cellular towers) (FS GRSG-LR-SUA-ST-008-Standard) within or as close as possible to existing sites in PHMA, to establish PHMAs as avoidance areas for new linear and site type ROWs, except for within designated ROW corridors (BLM MA-LAR-2), to not exceed a 3 percent disturbance cap in PHMA at the scales of biologically significant units and the proposed project analysis area (BLM Objective GRSG-3 and FS GRSG-GEN-ST-001-Standard), and all of the energy and minerals conservation measures. No adverse effects to listed plants are expected from these types of actions because the measures would reduce potential impacts to greater sage-grouse habitats (mostly

within PHMA), and these same measures could also benefit listed plants by reducing potential impacts in those areas. These possible benefits would occur in the future as individual projects are proposed or leases and permits are re-issued, and so the benefits would not be contemporaneous with the Land Use Plan Amendments.

Many other proposed management actions for greater sage-grouse establish guidance for resource management planning and establish priority and emphasis for sound greater sage-grouse habitat management. One example is stated in BLM MA-FIRE-7: *Fire fighter and public safety are the highest priority. GRSG habitat in PHMA will be prioritized commensurate with property values and other critical habitat to be protected, with the goal to restore, enhance, and maintain areas suitable for GRSG. PHMA will be viewed as more valuable than GHMA when priorities are established. When suppression resources are widely available, maximum efforts will be placed on limiting fire growth in GHMA polygons as well.* This is an action that prioritizes the implementation of an existing program. Critical habitat for threatened and endangered species already has a priority for protection in wildfire suppression below firefighter and public safety and property protection. This measure says to include greater sage-grouse (currently a candidate species) at the same priority level as critical habitat for threatened and endangered species. Management actions that establish guidance are not likely to affect listed species in any predictable manner because no site-specific effects can be reasonably estimated.

Some proposed management actions for greater sage-grouse are more directive in nature, presenting somewhat specific actions to benefit greater sage-grouse. One such action, to "*work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation*" (BLM MA-LAR-5) has potential to impact listed plants from personnel and vehicles accessing the towers, if the plants are present in the ROW corridors where retrofit activities are needed. This action is reasonably certain to occur, and disturbances to vegetation would be from vehicle access along the right-of-way roads, possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, listed plants may be damaged by the crushing action of vehicle tires and foot traffic. The effects from such actions are discountable based on extremely small likelihood that they would occur; however, the potential for impact does exist.

Restrictions for off-road vehicle use may provide a benefit to listed plant species by reducing impacts from this activity. BLM MA-TTM-2 states: *PHMAs and GHMAs that do not have designated routes in a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use).* Where travel management planning has not been completed and listed plant habitats are present, there may be a reduction of impacts from off-road vehicle use. Restricting motorized travel as described above would occur immediately following the decision to amend Land Use Plans, and so this possible benefit would be contemporaneous with the decision action.

There is also potential for further specific actions to be proposed when implementing GRSG conservations measures, but at this planning level, these actions are too speculative at this time to allow any meaningful analysis of effects. For example, a portion of BLM MA-VEG-1 states: *In PHMA, where necessary to meet GRSG habitat objectives, treat areas to maintain and expand healthy GRSG habitat (e.g., conifer encroachment areas, annual grasslands).* BLM MA-VEG-2 directs the agency to "*remove conifers encroaching into sagebrush habitats"* with considerations

for priority treatments areas. Future projects resulting from implementation of BLM MA-VEG-1 or BLM MA-VEG-2 are extremely speculative. BLM MA-VEG-11 states: *Monitor and control invasive vegetation post-wildfire for at least 3 years*. BLM MA-GRA-6 states "*In PHMA, implement management actions (e.g., allotment management plans, term permit renewals, other agreements) necessary to meet land health standards and to conserve, enhance or restore GRSG habitat through specific objectives (Objective GRSG-2). If an effective grazing system that meets specific GRSG habitat is not already in place, consider singly, or in combination, changes in the following: 1. Rotation systems; 2. Season or timing of use; 3. Distribution of livestock use; 4. Intensity of use; 5. Type of livestock; 6. Class of livestock; 7. Duration of grazing use and rest periods; 8. Stocking rates* (a similar measure, FS GRSG-LG-GL-001-Guideline, applies for Forest Service lands). Changes in livestock grazing may or may not occur, depending on whether current management is meeting or making progress toward greater sage-grouse habitat objectives. Therefore it is not known whether such modifications would take place, and if so, it is not known when, where, or how modifications would occur. Beneficial effects, such as reduced impacts from grazing and invasive species, are possible from these actions, but the extent of benefit and likelihood of occurrence are too speculative to quantify. Although there is also potential for some adverse effects to listed species from additional proposed actions, significant effects would be highly unlikely due to avoidance or other mitigations based on current laws, agency regulations, and other conservation measures in place to protect them.

Because many activities would be restricted or not allowed in GRSG habitats, there is potential for an increase of the restricted activities in other plant communities nearby. Of the most concern is energy exploration and development and other infrastructure, but other activities such as off-road/off-trail vehicle use may also increase in areas remaining open to their particular uses. These potential shifts in activities are also speculative at this time, and the activities would still be required to comply with existing restrictions of authorized use. Furthermore, any future proposals for specific activities would still be required to undergo site-specific environmental analysis to determine effects of the actions on listed plant species and other resources.

Adaptive Management

The proposed plans establish soft and hard triggers for both GRSG populations and habitat. The specific triggers and additional detail on the management responses are identified in Appendix B and Appendix C (the BLM and FS proposed plans, respectively).

If a soft trigger is met, the BLM and/or Forest Service will determine the specific cause or causes that are contributing to the decline. If it is determined that the decline is related to a natural variation in the population, no specific management actions would be required. However, if agency management actions are determined to be the cause or contribute to the decline, the agency would apply measures within their implementation-level discretion to mitigate the decline of populations and /or habitat. These measures would apply more conservative or restrictive implementation-level conservation conditions, terms, or decisions within the agency's discretion to mitigate the decline.

If monitoring indicates a hard trigger is met, immediate action is necessary to stop a severe deviation from greater sage-grouse conservation objectives. The larger deviation from natural variation associated with a hard trigger would necessarily correspond with a greater change in management. Upon reaching a hard trigger, a more restrictive alternative, or an appropriate

component of a more restrictive alternative analyzed in the environmental impact statement will be implemented without further action by the agency involved. The agency will review available and pertinent data, in coordination with greater sage-grouse biologists from multiple agencies to determine the causal factor(s) and implement a corrective strategy. The final strategy could also include the need to further amend Land Use Plans to address the situation and modify management accordingly.

More restrictive or conservative management of GRSG habitat is the expected result from implementing adaptive management, and these changes would reduce potential effects to listed plants from program area activities. Any additional corrective actions needing further Land Use Plan amendment would be analyzed for effects to listed plant species during the additional Land Use Plan amendment process.

Regulatory Mechanisms

Ground-disturbing activities could lead to modification of habitat and/or loss of individuals, depending on the amount of area disturbed, nature of the disturbance, the species affected, and the location of the disturbance. The proposed Land Use Plan Amendments would not take the place of site-specific environmental analysis required for any new ground-disturbing actions that may arise from implementing the proposal. Current regulatory mechanisms in place include a thorough analysis at the appropriate scale of the presence and possible effects to TEP species as required by NEPA and consultation with the USFWS as required by the ESA. In addition, conservation measures for TEP species are required by each management unit. Documents used by the management units are listed below with summaries of their included conservation measures.

The BLM is mandated to ensure that Special Status Species are protected, by virtue of the Endangered Species Act of 1973 (ESA); by agency policy, as described in the Special Status Species Management Manual (Manual 6840) (BLM 2008); by the BLM Land Use Planning Handbook (H-1601-1) (BLM 2005a), and management direction in Resource Management Plans produced by BLM Field Offices. The Forest Service is also subject to requirements of the ESA. The Forest Service Handbook, the Forest Service Manual, and the Land and Resource Management Plans for National Forests provide direction to be used in all ground-disturbing projects to protect threatened and endangered species.

All BLM and USFS units have resource management plans in place: All units are subject to national and local guidance related to invasive species management. In general, newer and proposed plans provide more specific management direction for federally listed, proposed, and candidate plant species.

Federal legislation and agency regulations direct agencies to avoid jeopardizing the continued existence of any federally listed species, or species proposed for listing; to actively promote species recovery; and to improve the status of candidate species. If a federally listed species may be affected by a proposed land use allocation or management action, consultation with the USFWS pursuant to Section 7 of ESA would occur.

Existing Conservation Measures

Management direction for TEP species on the eight BLM and five NFS units considered in this analysis is listed in Appendix D. Direction specific to a certain species is listed in the analysis of effects for that species.

ANALYSIS OF EFFECTS OF THE PROPOSED ACTION BY SPECIES

A. Wildlife and Fish

Canada lynx (*Lynx canadensis*)

Canada lynx is not known to occur on BLM or Forest Service administered lands within the planning area. However, suitable habitat and lynx analysis units (LAUs) have been mapped on the Ashley National Forest as well as the Uinta-Wasatch-Cache National Forest. Approximately 39,839 acres of lynx suitable habitat overlaps with PPMA/PGMA on the forests listed above. Lynx habitat overlap consists of both primary and secondary classifications (Table 4). Closer inspection shows that vegetation cover types where overlap with primary lynx habitat occurs are areas of non-habitat for sage-grouse consisting predominately spruce-fir, mixed conifer, and conifer-aspen forests. Vegetation in areas of overlap with lynx secondary habitat consists primarily of aspen, aspen-conifer, Douglas-fir, and lodgepole pine habitats. Forested lynx suitable habitat included in mapped PPMA and PGMA often occurs where forest patches and stringers are interspersed with grass/forb/shrub openings. Locations of lynx suitable habitat and GSG mapped habitat overlap are shown in Figure 2.

Utah GSG habitat mapping was conducted at a broad scale in order to include all seasonal habitat and potential movement areas important for each population and include known use areas, historic use areas, as well as areas of non-habitat (DEIS, Appendix N). It is expected that the maps will be refined as more information is gained and much of this refinement is likely to be completed by individual Field Offices and National Forests at a unit-wide scale, or during project-level analysis. Further mapping refinement is also expected to identify forested lynx suitable habitats as unsuitable for sage-grouse unless they provide a benefit to sage-grouse such as facilitating movement between areas of suitable habitat. On the rare occasion that suitable lynx habitat also functions as beneficial for sage-grouse, some effect to lynx may result from accommodating sage-grouse needs, but the effect is unlikely to be adverse because site-specific analysis and mitigation would occur at the project level.

Table 4. Overlap Between Lynx Suitable and Mapped GSG Habitats

National Forest	Lynx Habitat	
	Primary (ac)	Secondary (ac)
Ashley	1,281	4,411
Uinta-Wasatch-Cache	8,686	25,460
Total	9,967	29,871

There is also overlap between areas identified as providing linkage of suitable lynx habitat and mapped GSG habitats (Figure 2) on the Salt Lake, Vernal, and Price FOs and split-estate lands as well as the Ashley and Uinta-Wasatch-Cache National Forests.

No direct effects to Canada lynx from the proposed Land Use Plan Amendments would occur. Negative indirect impacts resulting from the proposed action are highly unlikely, due to the project focus on protection and enhancement of greater sage-grouse habitats, the lack of known occurrences in the project area, and the fact that additional site-specific analysis and mitigation would occur at the project level if ground disturbing actions are proposed in the future. Where PPMA and PGMA overlap with lynx linkage areas, elements provided in the proposed action that would maintain or enhance sage-grouse habitats are compatible with maintenance of lynx linkage characteristics in shrub-steppe habitats. Conservation elements provided in the proposed action that address sagebrush retention may in fact benefit lynx connectivity at the landscape scale by retaining or promoting intact shrub communities.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PPMA and PGMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Canada Lynx

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Canada lynx because negative impacts to suitable habitat are unlikely for the Ashley and Uinta-Wasatch-Cache National Forests. Where PPMA and PGMA overlap lynx linkage areas on the Salt Lake, Vernal, and Price Field Offices and Split-estate lands, and the Ashley and Uinta-Wasatch-Cache National Forests may be beneficial due to retention of intact shrub communities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

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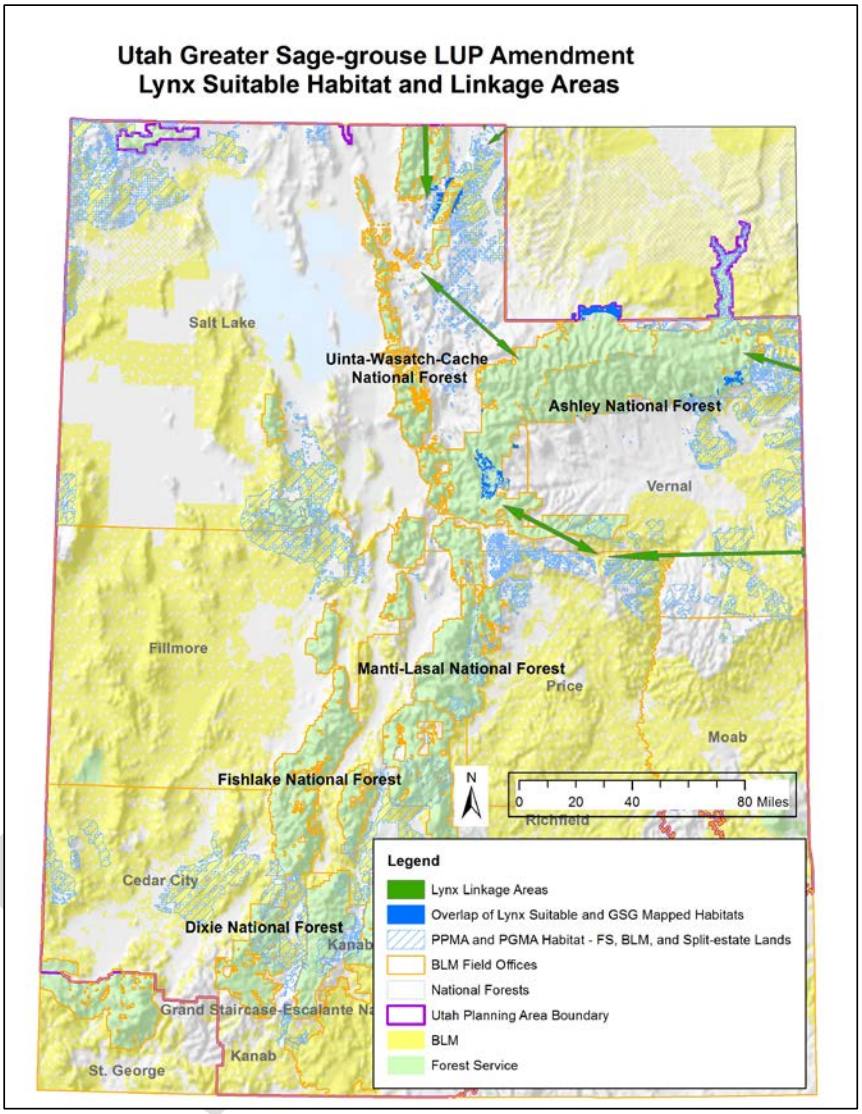

Figure 2. Locations of Lynx Suitable Habitat and GSG Mapped Habitat Overlap

Utah Prairie Dog (*Cynomys parvidens*) - Threatened

Utah prairie dog (UPD) species and management unit (UPDRIP 2013, 2014) distribution is relatively narrow (Figure 3). A total of 40 UPD management units (MUs) encompass approximately 342,258 acres located in only 3 counties within Utah. The species represents the only vertebrate non-fish endemic to the State. UPD MUs occur within portions of the Cedar City, Kanab, and Richfield Field Offices and in parts of the Dixie and Fishlake National Forests.

UPD MUs overlap with GRSG mapped habitats to a substantial degree (Figure 3). On all ownerships, UPD MUs coincide with priority and general sage-grouse habitats on 87.6 percent of all MU acreage. In contrast, UPD MUs encompass a relatively small portion of GRSG mapped habitats in Utah; about 4.1 percent of all priority and general habitat in the State. On BLM, Forest Service, and Split-estate lands, UPD MU overlap with GRSG mapped habitats totals 267,853 acres. UPD MU overlap with GRSG mapped habitats on BLM, FS, and split-estate lands is 81 percent (Table XX).

Table XX. UPD MU and GRSG Mapped Habitat Overlap

Administrating Agency or Land Status	UPD MU Overlap with Agency or Split-estate lands acres	UPD MU Overlap with GSG Mapped Habitat acres (%)
BLM	132,360	121,482 (92%)
USFS	92,085	84,005 (91%)
Split-estate	43,408	11,153 (26%)
Totals	267,853	216,640 (81%)

Relative to management for UPD, the Recovery Plan (USFWS 2012a) identifies the following recovery actions relative to effects generated by this and other projects conducted at the unit-level planning scale:

> **Conserve sufficient acreages and distribution of occupied Utah prairie dog habitat on Federal, State, Tribal, and private lands.**
>
> **2.1.** Prioritize Utah prairie dog habitat for protection and management.
>
> **2.3.** Manage and improve Utah prairie dog habitat on Federal lands.
>
> Continuing to maintain and improve habitat for Utah prairie dogs on Federal lands is a critical priority for the species. Habitat improvement projects may consist of increasing plant diversity with warm and cool season grasses, forbs, and shrubs, and altering ground cover and canopy cover to ensure optimum foraging and visual surveillance conditions. These activities also coincide with the goals of the translocation program.
>
> > **2.3.1.** Plan and implement vegetation treatments in strategic locations (including translocation sites) that benefit Utah prairie dogs and their habitat.

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Currently occupied as well as historic Utah prairie dog habitat can be improved with vegetation treatments such as thinning of dense sagebrush via mechanical or other methods and reseeding with seed mixes beneficial to Utah prairie dogs. Both the USFS and BLM have completed several projects of this kind that focus on benefiting Utah prairie dogs.

2.3.2. Develop and implement guidelines to minimize adverse impacts to Utah prairie dogs and their habitat from various activities on Federal lands.

Multiple uses on public lands need to be balanced with minimizing adverse effects to Utah prairie dogs and their habitat. This goal can be accomplished via established guidelines for project proposals that can be incorporated into project descriptions and Section 7 consultations.

2.3.3. Amend or update Federal land use plans to include these guidelines when appropriate.

Incorporating guidelines that minimize adverse impacts to Utah prairie dogs into Federal land use plans is key to demonstrating that regulatory mechanisms are in place to conserve the species after delisting.

Effects of the Action

Management direction under both the BLM proposed plan and the Forest Service proposed action contain elements that pertain to vegetation management (e.g., pinyon-juniper removal), wildland fire suppression, and fuels management that may generate effects to UPD; however, the BLM proposed plan contains a management action statement that considers and allows for UPD habitat management in GRSG habitats. In addition, both plans contain management direction associated with avoidance of high voltage transmission line rights-of-way within GRSG habitats that may shift impacts to other species and their habitats including Utah prairie dogs for a specific known site in the Panguitch PHMA. The following proposed action/proposed plan elements are pertinent to potential UPD direct or indirect effects:

Forest Service Proposed Action Elements

Habitat Management

GRSG-GRSGH-ST-001-Standard – Design habitat restoration projects to move towards desired conditions (table 1) and incorporate the concepts outlined in Appendix Y - Using resistance and resilience concepts to reduce impacts of invasive annual grasses and altered fire regimes on the sagebrush ecosystem and greater sage-grouse: A strategic multi-scale approach.

GRSG-GRSGH-GL-001-Guideline – Sagebrush removal in greater sage-grouse breeding and nesting and wintering habitats should be restricted unless necessary to support attainment of desired habitat conditions (table 1).

Table 1. Seasonal Habitat Desired Conditions for Greater Sage-grouse.

ATTRIBUTE	INDICATORS	DESIRED CONDTION
BREEDING AND NESTING [1,2,3] (Seasonal Use Period March 1-June 15) Apply 4 miles from active leks. [4]		
Lek Security	Proximity of trees [5]	Trees or other tall structures are none to uncommon within 1.86 miles of leks [6,7]
	Proximity of sagebrush to leks [6]	Adjacent protective sagebrush cover within 328 feet of lek [6]
Cover	Seasonal habitat extent [7]	>80% of the breeding and nesting habitat
	Sagebrush canopy cover [6,7, 8]	15 to 25%
	Sagebrush height [7] Arid sites [6,7,9] Mesic sites[6,7,10]	 12 to 32 inches 16 to 32 inches
	Predominant sagebrush shape [6]	>50% in spreading [11]
	Perennial grass canopy cover [6,7] Arid sites [7,9] Mesic sites [7,10]	 ≥10% ≥15%
	Perennial grass height [6,7,8]	Provide overhead and lateral concealment from predators [7]
	Perennial forb canopy cover [6,7,8] Arid sites [9] Mesic sites [10]	 ≥5%[6,7] ≥10%[6,7]
BROOD-REARING/SUMMER[1] (Seasonal Use Period June 16-October 31)		
Cover	Seasonal habitat extent [7]	>40% of the brood-rearing/summer habitat
	Sagebrush canopy cover [6,7,8]	10 to 25%
	Sagebrush height [7,8]	16 to 32 inches
	Perennial grass canopy cover and forbs [7,8]	>15%
	Riparian areas/mesic meadows	Proper Functioning Condition [12]
	Upland and riparian perennial forb availability [6,7]	Preferred forbs are common with several preferred species present [13]
WINTER[1] (Seasonal Use Period November 1-February 28)		
Cover and Food	Seasonal habitat extent [6,7,8]	>80% of the winter habitat
	Sagebrush canopy cover above snow [6,7,8]	>10%
	Sagebrush height above snow [6,7,8]	>10 inches [14]

GRSG-GRSGH-GL-004-Guideline - To facilitate safe and effective fire management actions, in priority, sagebrush focal, and general management areas, fuels treatments should be designed to reduce the spread and intensity of wildfire in high-risk areas (i.e., areas of increased potential for ignition and in areas where there is a potential for wildfire that would be difficult for suppression resources to contain and control).

GRSG-GRSGH-GL-005-Guideline - In priority and general habitat management areas and sagebrush focal areas, native plant species should be used, when possible, to restore, enhance, or maintain desired habitat conditions (table 1).

GRSG-GRSGH-GL-006-Guideline – In priority habitat management areas and sagebrush focal areas, vegetation treatment projects should only be conducted if they restore, enhance, or maintain desired habitat conditions (table 1).

Lands and Realty

GRSG-LR-SUA-ST-001-Standard – In priority habitat management areas and sagebrush focal areas, restrict issuance of new lands special use authorizations that authorize infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, hydropower, and cellular towers. Exceptions must be limited and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to greater sage-grouse will be avoided by the exception.

GRSG-LR-SUA-ST-002-Standard – In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary lands special uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on greater sage-grouse or their habitats.

Fire and Fuels Management

GRSG-FM-ST-002-Standard – In priority and general habitat management areas and sagebrush focal areas, if it is necessary to use prescribed fire to facilitate site preparation for restoration of greater sage-grouse habitat consistent with desired conditions in table 1, the associated NEPA analysis must identify how greater sage-grouse desired conditions would be met, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized

GRSG-FM-GL-001-Guideline – In wintering or breeding and nesting habitat, sagebrush removal or manipulation should be restricted unless the removal strategically reduces the potential impacts from wildfire.

GRSG-FM-GL-002-Guideline – In priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species to meet resource objectives.

GRSG-FM-GL-003-Guideline – In priority and general habitat management areas and sagebrush focal areas, fuel treatments should be designed to restore, enhance, or maintain greater sage-grouse habitat.

GRSG-FM-GL-004-Guideline – Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be restricted.

GRSG-FM-GL-006-Guideline – In priority and general habitat management areas and sagebrush focal areas, burnout operation areas should be avoided by constructing direct fire lines, whenever safe and practical to do so, to improve suppression effectiveness and minimize loss of existing sagebrush habitat as determined by fireline leadership, incident commanders, etc.

GRSG-FM-GL-013-Guideline – On critical fire weather days, available fire suppression resources should be pre-positioned to optimize a quick and efficient response into priority and general habitat management areas and sagebrush focal areas.

GRSG-FM-GL-014-Guideline - During periods of multiple fires, line officers should be involved in setting priorities to help protect priority and general habitat management areas and sagebrush focal areas.

GRSG-FM-GL-015-Guideline – In priority and general habitat management areas and sagebrush focal areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage.

GRSG-FM-GL-016-Guideline – In priority and general habitat management areas and sagebrush focal areas, to minimize sagebrush loss, mop-up should be conducted where the burned areas adjoin unburned islands, doglegs, or other habitat features, as safety and available resources allows.

BLM Proposed Plan Elements

Habitat Management

MA-GRSG-4
In PHMA and in adjacent opportunity areas, maintain, improve and restore current and historical GRSG habitat to support GRSG populations and to maintain or enhance connectivity. Vegetation treatments would be applied to meet GRSG habitat objectives and provide additional GRSG habitat.

MA-GRSG-6
Outside of PHMA, but within SGMAs and PACs, avoid removal of sagebrush and minimize development that would create a physical barrier to GRSG movement; these areas may be used by GRSG to connect to other populations or seasonal habitat areas

MA-VEG-1
In PHMA, where necessary to meet GRSG habitat objectives, treat areas to maintain and expand healthy GRSG habitat (e.g., conifer encroachment areas, annual grasslands).

In PHMA, prioritize implementation of restoration/treatment projects based on environmental variables that improve chances for project success in areas most likely to benefit GRSG (e.g., proximity to existing GRSG populations, ecological site potential, resistance and resilience), documented in the GRSG Landscape Wildfire & Invasive Species Habitat Assessments (Appendix XX - FIAT Appendix).

In PHMA, prioritize restoration in seasonal habitats that are identified as the limiting factor for GRSG distribution and/or abundance.

In PHMA, avoid sagebrush reduction treatments within GRSG nesting and winter habitat unless the project plan and associated NEPA document demonstrate a biological need for the treatment to maintain or improve habitat for the GRSG population. Coordinate with the State of Utah and USFWS prior to conducting sagebrush treatment projects within nesting and winter habitat.

MA-VEG-2

Remove conifers encroaching into sagebrush habitats. When conducting conifer treatments:

- *Prioritize treatments closest to occupied GRSG habitats and near occupied leks, and where juniper encroachment is phase I or phase II.*
- *Treat areas in late Phase II or Phase III condition to create movement corridors, connect habitats, or to break up continuous, hazardous fuels and reduce the potential for catastrophic fire.*
- *Prioritize methods to reduce conifer canopy cover to those that maintain the understory vegetation as the preferred treatment methods (e.g., mechanical, lop and scatter).*
- *Require that vegetation treatments conducted within 0.6 miles of a lek include an objective of reducing conifer, where technically feasible, to less than 5 percent canopy cover, with preference for complete removal.*
- *Include stipulations to avoid removing old-growth pinyon/juniper stands (e.g., Tausch et. al., 2009; Miller et. al., 1999).*
- *Use of site-specific analysis and tools like VDDT and the FIAT report (Chambers et. al., 2014) will help refine the location for specific areas to be treated.*

MA-VEG-4
In PHMA, include GRSG habitat objectives in restoration/treatment projects. Treatment objectives should include short-term and long-term habitat conditions, and they should include specific objectives for the establishment of sagebrush cover and height, as well as cover and heights for understory perennial grasses and forbs necessary for GRSG seasonal habitats (see Objective-GRSG-3 – desired condition values).

Make meeting the GRSG objectives for the restoration/treatment project one of the primary priorities for the project and subsequent land uses, recognizing that managing for other special status species may result in treatment objectives that may not meet GRSG seasonal habitat objectives (e.g., winter habitat cover requirements vs. creation of Utah prairie dog habitat). Where GRSG habitat overlaps with that of federally listed threatened or endangered species (e.g., Utah prairie dogs), coordinate with species-specific experts to develop conservation and recovery objectives and allow habitat treatments that will benefit both species.

MA-VEG-5
In PHMA, prioritize the use of native seeds for restoration based on availability, adaptation (ecological site potential), and probability of success. Where probability of success or adapted seed availability is low, desirable non-native seeds may be used as long as they support GRSG habitat objectives. Re-establishment of appropriate sagebrush species/subspecies and important understory plants, relative to site potential, should be the principle objective for rehabilitation efforts.

Wildland Fire Management (General)

MA-FIRE-1

In collaboration with the USFWS and relevant state agencies, complete and maintain GRSG Landscape Wildfire & Invasive Species Habitat Assessments to prioritize at risk habitats, and identify fuels management, preparedness, suppression and restoration priorities necessary to maintain sagebrush habitat to support interconnecting GRSG populations. These assessments and subsequent assessment updates would also be a collaborative effort to take into account other GRSG priorities identified in this plan. Appendix M, Draft Greater Sage-Grouse Wildland Fire and Invasive Species Assessment, describes a minimal framework example and suggested approach for this assessment.

Wildland Fire Management (Fuels Management)

MA-FIRE-3
In PHMA, fuel treatments will be designed through an interdisciplinary process to expand, enhance, maintain, or protect GRSG habitat.

- *In collaboration with USFWS and relevant state agencies, BLM planning units with large blocks of GRSG habitat will develop, using the assessment process described in Appendix XX (FIAT Appendix), a fuels management strategy which considers an up-to-date fuels profile, land use plan direction, current and potential habitat fragmentation, sagebrush and GRSG ecological factors, and active vegetation management steps to provide critical breaks in fuel continuity, where appropriate. When developing this strategy, planning units will consider the risk of increased habitat fragmentation from a proposed action versus the risk of large scale fragmentation posed by wildfires if the action is not taken.*
- *Use green strips and/or fuel breaks to protect sage-grouse habitat from fire events.*
- *When possible, locate fuel breaks along existing roads, ROWs, and other suitable topographic or natural features (e.g., areas devoid of vegetation, rock outcrops).*
- *Avoid constructing fuel breaks through large areas of intact GRSG habitat, unless the associated NEPA document demonstrates a biological need for the fuel break to maintain or protect habitat for the GRSG population. Coordinate with the State of Utah and USFWS prior to constructing fuel breaks within nesting and winter habitat.*
- *Using an interdisciplinary approach, a full range of fuel reduction techniques will be available. Fuel reduction techniques such as conifer reduction, grazing, prescribed fire, chemical, biological and mechanical treatments may be acceptable, given site-specific variables.*
- *Remove encroaching conifer stands as a fuels management tool, where environmental review documents it would protect or improve GRSG habitat.*
- *Prioritize the use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success. Where probability of success for native seed availability is low, desirable non-native seeds may be used to meet GRSG habitat objectives to trend toward restoring the fire regime. When reseeding, use fire resistant native and desirable non-native species, as appropriate, to provide for fire breaks.*

- *Upon project completion, monitor and manage fuels projects to ensure long-term success, including persistence of seeded species and/or other treatment components, such as implementing maintenance actions. Control invasive vegetation post-treatment.*
- *Apply seasonal restrictions, as needed, for implementing fuels management treatments according to the type of seasonal habitats present (see MA-GRSG-3G).*
- *In PHMA, avoid sagebrush reduction fuels treatments within GRSG nesting and winter habitat unless the project plan and associated NEPA document demonstrate a biological need for the treatment to maintain or improve habitat for the GRSG population. Treatments in winter habitat should be designed to maintain sagebrush, especially tall sagebrush (sagebrush capable of standing above heavier than normal snowfall), which would be available to GRSG above snow during a severe winter. Prior to conducting fuels treatments in winter habitat, coordinate with the State of Utah and USFWS to design the treatment to strategically reduce wildfire risk around or in the winter habitat.*

MA-FIRE-4
If prescribed fire is used in GRSG habitat, the NEPA analysis for the Burn Plan will address:

- *why alternative techniques were not selected as a viable options;*
- *how GRSG goals and objectives would be met by its use;*
- *how the COT Report objectives would be addressed and met;and,*
- *a risk assessment to address how potential threats to GRSG habitat would be minimized.*

Prescribed fire as a vegetation or fuels treatment in shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Prescribed fire could be used to meet specific fuels objectives that would protect GRSG habitat in PHMAs (e.g., creation of fuel breaks that would disrupt the fuel continuity across the landscape in stands where annual invasive grasses are a minor component in the understory, burning slash piles from conifer reduction treatments, used as a component with other treatment methods to combat annual grasses and restore native plant communities).

Prescribed fire in known winter range shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Any prescribed fire in winter habitat would need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality.

<u>Wildland Fire Management (Suppression)</u>

MA-FIRE-8
Fire fighter and public safety are the highest priority. GRSG habitat in PHMA will be prioritized commensurate with property values and other critical habitat to be protected, with the goal to restore, enhance, and maintain areas suitable for GRSG across the range of GRSG habitat consistent with LUP direction.

PHMA will be viewed as more valuable than GHMA when priorities are established. When suppression resources are widely available, maximum efforts will be placed on limiting fire growth in GHMA polygons as well. These priority areas will be further refined following completion of the GRSG Landscape Wildfire & Invasive Species Habitat Assessments described in Appendix XX (FIAT prioritization).

In GHMA or areas where treatment/seeding has occurred to improve habitat, prioritize suppression where wildfires threaten adjacent PHMA.

MA-FIRE-9
Within acceptable risk levels use a full range of fire management strategies and tactics, including the management of wildfires to achieve resource objectives, across the range of GRSG habitat consistent with LUP direction.

In PHMAs, burnout operations areas should be avoided by constructing direct fire lines, whenever safe and practical to do so.

Lands and Realty (Transmission Lines)

MA-LAR-2
PHMAs are designated as avoidance areas for high voltage transmission line ROWs (100kV or greater). All authorizations in these areas, other than the excepted projects, must comply with the conservation measures outlined in this proposed plan, including the RDFs and management presented in MA-GRSG-03 (see Appendix XX).

In PHMA, high voltage transmission lines (100 kV or greater) would be avoided if at all possible. If avoidance is not possible, they would be placed in designated corridors where technically feasible. Where not technically feasible, lines should either be located adjacent to existing infrastructure, unless using a different alignment better minimizes impacts to GRSG. New ROWs constructed adjacent to existing infrastructure will be constructed as close as technically feasible to existing infrastructure to limit disturbance to the smallest footprint.

Habitat Management Effects

Management direction elements under the USFS proposed action and BLM proposed plan that may impact Utah prairie dog include those that prescribe habitat management objectives for GRSG habitat within UPD suitable[5] habitats (i.e. grass-dominated areas) Management actions resulting from direction aimed at retaining or restoring shrub components at levels described in Table 1 (above) may result in a) reduced opportunity for UPD habitat restoration, and b) lost or degraded UPD habitat. Management direction addressing removal of encroaching conifers may cause short-term disturbances such as human presence, vehicle traffic, and mechanized equipment. However, project design features (see below) incorporated into the proposed action/proposed plan

[5] Suitable Habitat: Habitat capable of supporting Utah prairie dogs including grassland or low-density sagebrush sites, agricultural fields, vacant lots, and other areas as identified by the Authorizing Federal Agency. Habitat previously mapped by the Utah Division of Wildlife Resources must be treated as suitable, regardless of current vegetative status.

would reduce or minimize potential disturbance. In addition, conifer removal is expected to benefit UPD in the long-term when conducted within suitable UPD habitat.

Consideration and allowances for management of Utah prairie dog habitats within GRSG mapped habitats is provided in one BLM management action (listed below) as these are species that have co-existed and co-evolved in these landscapes (see management action below). Therefore, management actions will not be precluded as a result of the GRSG LUP Amendment.

Habitat Management (BLM)

Make meeting the GRSG objectives for the restoration/treatment project one of the primary priorities for the project and subsequent land uses, recognizing that managing for other special status species may result in treatment objectives that may not meet GRSG seasonal habitat objectives (e.g., winter habitat cover requirements vs. creation of Utah prairie dog habitat). Where GRSG habitat overlaps with that of federally listed threatened or endangered species (e.g., Utah prairie dogs), coordinate with species-specific experts to develop conservation and recovery objectives and allow habitat treatments that will benefit both species.

No UPD habitat considerations or allowances are provided within the FS proposed action. Given the narrow distribution and threat factors associated with Utah prairie dogs, project design features (applicable to both BLM and FS proposed alternatives) have been incorporated to allow/prescribe vegetation management that benefits the species as necessary and avoids adverse long-term impacts. With these design features, the proposed alterntives are consistent with elements prescribed in the UPD Recovery Plan (see below).

Incorporation of UPD Design Features would mitigate impacts to a degree that ensures UPD recovery by managing to maintain a minimum of 50 percent of the suitable and potentially suitable habitat within the UPD MU. However, management for sage-grouse habitat considerations within MUs where at least 50 percent of suitable and potentially suitable UPD habitat has been achieved may adversely impact local UPD individuals and habitats where portions of MUs are managed for suitable GRSG shrub densities.

UPD design features are not expected to limit opportunities for sage-grouse habitat management at the planning area scale. As stated above, UPD MUs occur within only about 4 percent of GRSG mapped habitats in the State of Utah. In addition, the design features allow for retention of shrub cover within MUs of up to 50 percent of the usable area thereby reducing the area of potential impacts to GRSG to about 2 percent of Utah mapped sage-grouse habitat. Areas managed for UPD would function similar to brood-rearing habitat where some level of shrubs is retained. Where pure grassland patches are managed, the edges of these areas would remain functional during the brood-rearing period.

Wildfire Suppression Effects

Management direction in both the FS proposed action and BLM proposed plan emphasize wildfire suppression within mapped GSG habitats as well as fuels treatments designed to reduce wildfire potential and lessen the risk of impacts to sagebrush availability. Fire suppression methods may involve fireline construction, use of suppression agents and retardants, and water withdrawals. Fuels treatments aimed at reducing wildfire risk may involve conifer reduction, grazing, prescribed

fire, chemical, biological and mechanical treatments may be acceptable, given site-specific variables.

Utah prairie dogs and suitable habitat occur in grassland and sagebrush habitats. All components of fire management could be utilized within potentially suitable or occupied UPD habitat. Wildfire suppression methods and associated activities may have direct short-term negative effects on Utah prairie dogs as well as negative impacts to occupied or suitable habitat (see list below). Suppression operations may harass, displace, injure, or kill prairie dogs from smoke or fire during backfires, surface disturbance, or human-caused disturbance. Wildland fire suppression operations may adversely affect prairie dogs or colonies if unintentionally exposed to fire retardant. Following a fire, short-term adverse impacts may occur from a reduction in food supplies, loss of surface cover, an increased potential for colonization by invasive plant species, and increased predation. Long-term indirect effects are a mix of potentially positive and negative impacts associated with suppression, emergency rehabilitation, and fire severity.

The following short-term and long-term effects could occur to the Utah prairie dog or its habitat from wildland fire suppression:

Short-term Direct Effects:

- Visual or auditory disturbance or displacement of individuals from low-flying aircraft, vehicles, heavy equipment, and humans during operations or treatments, affecting foraging, roosting, or reproductive behavior;
- Mortality, displacement or injury of adults, or young from smoke inhalation or from vehicles or equipment during project activities;
- Removal of key habitat components for burrowing, foraging, or cover due to equipment or operational tactics, including:
  - tree and shrub removal and soil disturbance during fire line construction;
  - vegetation removal and soil disturbance during helipad or base camp construction; and
  - vegetation removal and soil disturbance during temporary or permanent road construction for project access.
- Injury or mortality due to inadvertent strikes during aerial drops including fire retardant; and
- Illness or mortality due to inadvertent chemical contamination of terrestrial species or aquatic habitats and species (special status species or prey species) during aerial applications including fire retardant.

Long-term Effects:

- UPD habitat could benefit from interdependent effects of wildland fire suppression actions that prevent loss of suitable habitat from catastrophic wildland fires;
- UPD and their habitat could experience positive interrelated effects from post-fire emergency stabilization and rehabilitation efforts in or near occupied sites, which would avoid or minimize further negative indirect effects to populations or key habitat components from either the wildland fire or fire suppression operations; and

- Long-term changes in quality or quantity of habitat when key habitat components are slow to recover, affecting the ability of a federally protected species to continue occupying a site, including extensive or severe damage to seedbanks, substrates, vegetative composition, or structure of habitats for plant species.

Because alteration, damage, removal, or fragmentation of key habitat components from fire suppression operations would generally be mitigated as part of either fire suppression operations (implementation of resource protection measures) or emergency stabilization and rehabilitation activities, negative long-term effects to habitat quality or quantity would typically be avoided or limited in scope and/or intensity.

Fuels Treatments Effects

Fuels treatments using prescribed fire or other means in grassland and sagebrush habitats could potentially negatively affect Utah prairie dogs from smoke, fire, noise, or other human-caused disturbance, resulting in harassment, displacement, injury, or possibly mortality; or immediate post-project alteration of key habitat components (e,g., forage or vegetative cover) or prairie dog colonies from surface-disturbing activities. Any effects would be short-term and of low intensity due to the implementation of resource protection measures, including pre-project surveys and avoiding critical time periods for the Utah prairie dog (e.g., hibernation, and when pups are in the burrows). The immediate initial loss of forage and cover following prescribed fire would be followed by vigorous regrowth of forb species in the following growing seasons (< five years). The following short-term and long-term effects could occur to the Utah prairie dog or its habitat from prescribed fire and non-fire fuels treatments:

Short-term Direct Effects:

- Burrow abandonment or mortality of young, resulting in the loss of one year's recruitment;
- High levels of fuel loading at some sites would cause some adaptively-managed wildland fires or prescribed fires to burn at higher than natural intensities, even when fire prescriptions were designed to maintain lower intensities; and
- Consumption of large woody debris and removal of shrub cover would be greater than typically found within the natural range of variation for an area, while creation of habitat mosaics would be less than typical.
- Soil or ground disturbance from vehicles or heavy equipment during treatments, resulting in disturbance or destruction of vegetation (federally protected plant species and habitats for wildlife or fish) and subsurface dens or burrows; and
- Trampling of plants or small animals by grazing animals used during biological treatments.

Long-term Effects:

- Long-term changes in quality or quantity of habitat when key habitat components are slow to recover, affecting the ability of a federally protected species to continue occupying a

site, including extensive or severe damage to seedbanks, substrates, vegetative composition, or structure of habitats for plant species; and

- Long-term beneficial effects to species from the following:
  - Decreased risk for large, catastrophic fire events through fuels reduction and the gradual transition to a more natural Fire Regime; or
  - Restoration of habitats that have been altered due to invasion of nonnative species, or long-term exclusion of fire (in fire-adapted vegetation communities).
  - Long-term positive effects could potentially benefit a species' reproduction, numbers, or distribution and, in some cases, facilitating the return of a species to its historic range.

There is the potential for indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions associated with fuels treatments. However, at this programmatic planning level, these future actions are currently unknown and any possible effects are too speculative to evaluate at this time and are not reasonably certain to occur. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to UPD would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Lands and Realty Effects (Transmission Lines)

Management actions contained in both the BLM proposed plan and USFS proposed action prescribe avoidance of new high voltage transmission line rights-of-way (ROWs) within GRSG PHMAs (see below)

Lands and Realty – (Transmission Lines, BLM)

PHMAs are designated as avoidance areas for high voltage transmission line ROWs (100kV or greater). All authorizations in these areas, other than the excepted projects, must comply with the conservation measures outlined in this proposed plan, including the RDFs and management presented in MA-GRSG-03 (see Appendix XX).

In PHMA, high voltage transmission lines (100 kV or greater) would be avoided if at all possible. If avoidance is not possible, they would be placed in designated corridors where technically feasible. Where not technically feasible, lines should either be located adjacent to existing infrastructure, unless using a different alignment better minimizes impacts to GRSG. New ROWs constructed adjacent to existing infrastructure will be constructed as close as technically feasible to existing infrastructure to limit disturbance to the smallest footprint.

Lands and Realty – (USFS)

GRSG-LR-SUA-ST-001-Standard – In priority habitat management areas and sagebrush focal areas, restrict issuance of new lands special use authorizations that authorize infrastructure, such as high-voltage transmission lines, major pipelines, distribution lines, hydropower, and cellular towers. Exceptions must be limited and based on rationale (e.g., monitoring, modeling, or best available science) that explicitly demonstrates that adverse impacts to greater sage-grouse will be avoided by the exception.

GRSG-LR-SUA-ST-002-Standard – In priority and general habitat management areas and sagebrush focal areas, do not authorize temporary lands special uses (i.e., facilities or activities) that result in loss of habitat or would have long-term (i.e., greater than 5 years) negative impact on greater sage-grouse or their habitats.

Emphasis on precluding high voltage transmission line ROWs within PHMAs have the potential to push impacts (i.e. push effect) into habitats of other species, including UPD. In general, impacts related to the push effect at this programmatic planning level are currently unknown and any possible effects are too speculative to evaluate at this time and are not reasonably certain to occur. However, in a specific instance this action is known to pertain to a specified location and, therefore, has relevance. Where the management action is applied in the Panguitch PHMA (BLM), the designated corridor would be shifted from a current corridor location with no existing power line over to a location where there is an existing power line. The existing power line ROW currently crosses over an existing occupied UPD colony. As a result, the decisions in the GRSG LUP Amendment increase the likelihood that a power line would be placed in a location where there would be adverse impacts to UPD.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. While the action area for the current proposal encompasses mapped GSG habitats on BLM and Forest Service lands as well as split-estate lands under other ownerships, the elements considered here as potentially affecting UPD (i.e. habitat management, wildfire management, and fuels management) are to BLM and Forest Service lands only. Because only federal actions are expected to occur in the focus area, no cumulative effects are expected as a result of actions on State, Tribal, local, or private lands within the action area.

Summary Determination of Effects to Utah prairie dog

The USFS proposed action and BLM proposed plan both contain elements associated with wildfire management and fuels management that may affect Utah prairie dog. The BLM proposed plan provides an additional management action that allows for consideration of UPD habitat management within GRSG habitats while the USFS proposed action lacks this direction. Incorporation of UPD Design Features would mitigate impacts to a degree that ensures UDP recovery; however, adverse effects to UPD may still result from activities associated with wildfire suppression under both agencies' proposed alternatives, and from management actions associated with transmission line ROWs under the BLM proposed plan for a specific known location in the Panguitch PHMA. Any impacts related to fuels treatments would occur in future years, and thus the effects would not be contemporaneous and is not considered in this analysis. These potential effects will be considered during future site-specific analyses. Based on this rationale, **the Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, and is likely to adversely affect Utah prairie dogs.**

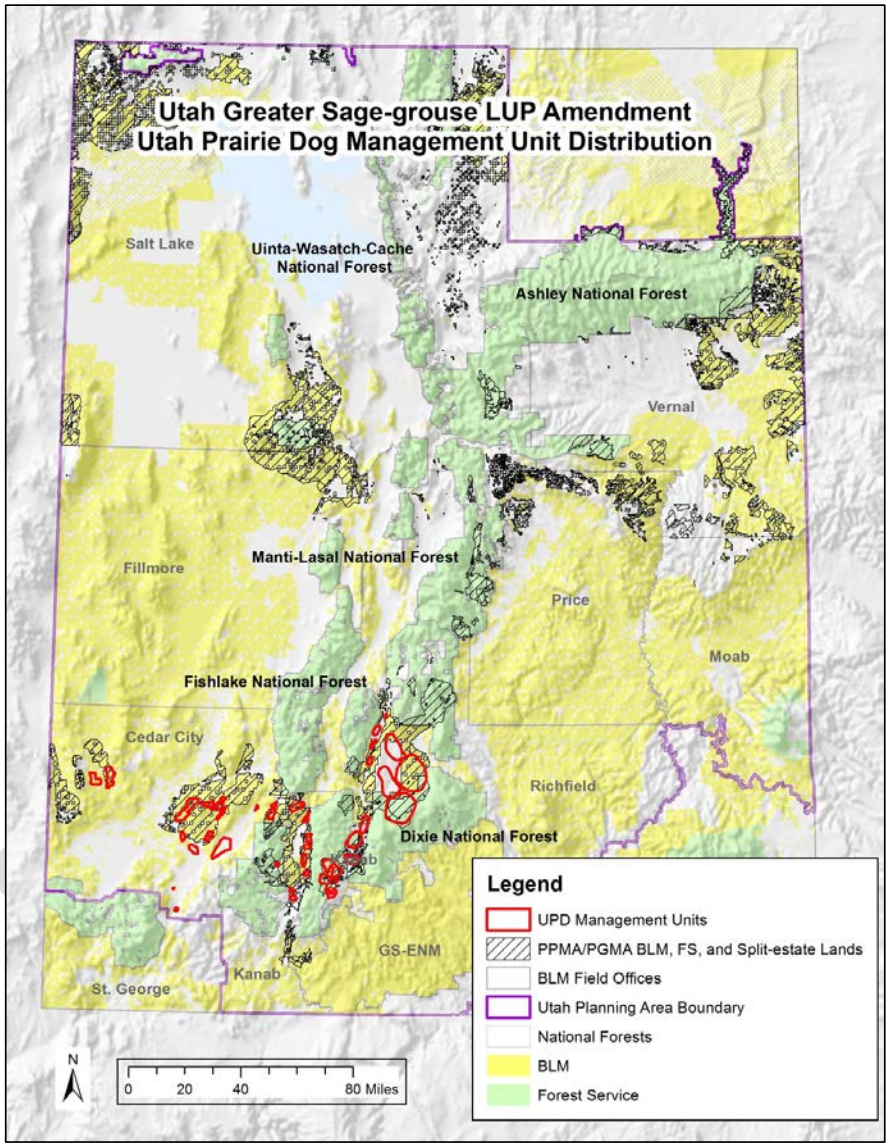

Figure 3. Utah Prairie Dog and GSG Mapped Habitat Distribution.

Utah Prairie Dog Project Design Features

Habitat Management

1.1 In order to sustain Utah prairie dog recovery in perpetuity, the Service recommends creating and maintaining a minimum of 50 percent of the suitable[6] and potentially suitable habitat[7] within the Utah prairie dog Management Units (MU) (UPDRIP 2013, 2014)[8,9] by meeting current Utah prairie dog habitat guidelines (USFWS 2009)[10]. Where sage-grouse priority and general habitat overlap the Utah prairie dog MUs or other important areas identified as necessary for UPD conservation in coordination with the Service, vegetation treatments will be developed and implemented consistent with the above Utah prairie dog recovery recommendations. These areas would be managed to consist of perennial grassland with a minimum contiguous patch size of 250 acres. Treatments may include sagebrush density reduction or removal to achieve desired UPD habitat conditions. Indicators and desired vegetation conditions for perennial grassland patch areas are provided in Table XX.

The Utah prairie dog MUs overlap with a small percentage (4.6%) of the greater sage-grouse priority and general habitat in Utah, and the two species are sympatric and easily co-managed throughout most of the Utah prairie dog range in Southern Utah. Once the Utah prairie dog requirements are met as described above, then the remaining acreage within the Utah prairie dog MU's and Greater sage-grouse priority and general overlap areas may be managed to meet Greater sage-grouse needs as described in the Proposed Action/Proposed Plan of this Biological Assessment.

[6] Suitable Habitat: Habitat capable of supporting Utah prairie dogs including grassland or low-density sagebrush sites, agricultural fields, vacant lots, and other areas as identified by the Authorizing Federal Agency. Habitat previously mapped by the Utah Division of Wildlife Resources must be treated as suitable, regardless of current vegetative status.

[7] Potentially Suitable Habitat: Utah prairie dog habitat including areas that are mapped, occupied, or currently unoccupied or unmapped that can benefit from habitat treatments. Specifically, these are areas that are sagebrush-steppe grasslands with deep and well-drained soils and a good existing understory (USFWS 2009) that could support prairie dogs with management actions such as reducing sagebrush canopy cover to <10%.

[8] Utah Prairie Dog Recovery Implementation Program. 2013. Population structure for Utah prairie dog recovery. White paper. Utah Prairie Dog Recovery Implementation Program, Southern Utah University, Cedar City, UT. 10 pp.

[9] Utah Prairie Dog Recovery Implementation Program. 2014. Utah prairie dog 5-year management unit plans: The Path to Recovery 2014-2018. Utah Prairie Dog Recovery Implementation Program, Southern Utah University, Cedar City, UT. 70 pp.

[10] U.S. Fish and Wildlife Service Utah Prairie Dog Recovery Team. 2009. Recommended translocation procedures for Utah prairie dog. U.S. Fish and Wildlife Service, West Valley City, UT. 19 pp.

Table XX. UPD Desired Future Conditions and Maintenance

Vegetation Indicator	Desired Condition
Shrub Canopy Cover[11]	0-3%
Pinyon Pine and Juniper Composition	0%
Perennial cool & warm season grass canopy cover	15-40%
Perennial cool season grass species richness	> 3 native species
Perennial warm season grass species richness	> 1 native species
Perennial forb canopy cover	1-10%
Perennial forb species richness	4-8 native species
Total grass and forb species diversity (native/non-natives, annuals/perennials)	>10 species

1.2 Only hand tools will be used within 1100 feet of occupied Utah prairie dog habitat[12] when removing conifers that are encroaching into greater sage-grouse habitat.

Wildfire Suppression and Emergency Stabilization and Rehabilitation

2.1 Wildfires will be suppressed before they reach a prairie dog colony[13] or after they exit a colony. Active suppression efforts will not occur within a colony unless human health and safety or structures are at risk.

2.2 Only hand lines will be authorized within colonies.

2.3 Normally, only water shall be used on fires that occur within prairie dog colonies. If the fire Incident Commander decides that the situation requires use of chemical retardants in order to protect life and property, they may be used. The chemical composition will be supplied to the U.S. Fish and Wildlife Service during emergency consultation.

[11] Sub-shrubs or low stature shrubs may be present on site if height is less than 12 inches.

[12] Occupied Utah prairie dog habitat-: During the Active Season: Any area where Utah prairie dogs are seen or heard, or any Functional Utah prairie dog burrows (see definition of Functional Burrow) are found and show evidence of recent prairie dog activity (fresh digging, scat, fresh tracks). During the Dormant Season: Any Utah prairie dog burrows (functional or not functional), or any Utah prairie dog mound system (see definition of mound system) is found, even if no other signs of Utah prairie dogs are present.

[13] "Prairie dog colony" refers to any occupied Utah prairie dog colony

2.4 All vehicles shall stay on existing roads within colonies, except as stated in (2.5). Storage of equipment and materials shall not occur within ¼ mile of colonies. Vehicle maintenance shall not occur within these areas.

2.5 The Resource Advisor, biologist, or biological monitor (someone who is either qualified with a biological background or has been trained by the Resource Advisor) ensures that prairie dogs and their burrows are protected or avoided by walking in front of engines, tracked vehicles, or other firefighting related vehicles within occupied prairie dog colonies.

2.6 Vehicles shall not exceed a speed of 10 miles per hour (cross country) in occupied Utah prairie dog colonies unless a higher speed is determined to be prudent for safety reasons.

2.7 Within colonies, precautions shall be taken to ensure that contamination of the site by fuels, motor oils, grease, etc. does not occur and that such materials are contained and properly disposed of off-site. Inadvertent spills of petroleum based or other toxic materials shall be cleaned up and removed immediately, unless during an emergency event (wildfire suppression). In which case the spill shall be cleaned up as soon as practical after the emergency situation is controlled.

2.8 Camps associated with fire suppression activities shall be situated outside occupied habitat.

2.9 During fire ESR activities, sagebrush seed WILL NOT be included in the seed mix when rehabilitation activities are occurring within Utah prairie dog MU's and the Utah prairie dog habitat requirements as described in Conservation Measure (1.1) have not been met. Sagebrush seed will not be included in the seed mix when rehabilitation activities are occurring within occupied Utah prairie dog habitat.

Fuels Treatments

3.1 Surveys according to approved protocols and procedures will be required prior to surface disturbance unless species occupancy and distribution information is complete, current, and available. Surveys would be conducted by BLM-approved biologists. In the event species occurrence is verified, the project proponent may be required to modify operational plans, at the discretion of the authorized officer, to include additional, appropriate protection measures or practices for the minimization of impacts to the Utah prairie dog and its habitat.

3.2 Prescribed burns may be allowed in priority and general habitat management areas, if deemed necessary to meet Utah prairie dog requirements described above (1.1).

3.3 Proposed treatments within suitable Utah prairie dog habitat would be surveyed in accordance with USFWS protocols or in coordination with USFWS prior to implementation.

3.4 All project personnel would be required to attend an environmental training prior to initiating Project construction. The training would address environmental concerns, applicable environmental laws, and requirements for compliance with the project.

3.5 All staging areas (e.g. vehicles, trailers, and materials) would be located outside of a 350 foot buffer of areas that were identified as mapped Utah prairie dog habitat.

3.6 Project related vehicles would not exceed a speed of 15 miles per hour within mapped Utah prairie dog habitat.

3.7 A qualified Utah prairie dog biologist, approved by the action agency, would be required to be on-site during all work within mapped Utah prairie dog habitat. The biologist would document compliance with design features and any take that may occur and would have the authority to halt activities which may be in violation of these stipulations.

3.8 All vehicle maintenance activities shall be conducted in maintenance facilities or in the event of emergency vehicle maintenance at least 350 feet from mapped Utah prairie dog habitat in previously disturbed areas. Precautions shall be taken to ensure that contamination of maintenance sites by fuels, motor oils, grease, etc. does not occur and that such material are contained and properly disposed of off-site. Inadvertent spills of petroleum based or other toxic materials shall be cleaned up and removed immediately or upon completion of the project.

3.9 Habitat treatments within occupied Utah prairie dog habitat would occur during the extended active season (April 1st – September 30th) unless otherwise determined in coordination with USFWS and UDWR.

3.10 Use spot applications or low-boom broadcast applications for herbicides within Utah prairie dog habitat, where possible, to limit the probability of contaminating non-target food and water sources, especially vegetation over areas larger than the treatment area.

3.11 All project personnel would be required to attend an environmental training prior to initiating Project construction. The training would address environmental concerns, applicable environmental laws, and requirements for compliance with the project.

3.12 If a dead or injured Utah prairie dog is located, initial notification must be made to the Service's Division of Law Enforcement, Salt Lake City, Utah, at telephone 801-975-3330, to the UDWR at telephone number 435-865-6100, and to the Authorized Officer at (435)865-3000. Instruction for proper handling and disposition of such specimens would be issued by the Division of Law Enforcement. Care must be taken in handling sick or injured animals to ensure effective treatment and care and in handling dead specimens to preserve biological material in the best possible state.

3.13 BLM and/or FS would re-initiate consultation with the USFWS if it is determined through site-specific coordination, USFWS protocol level surveys, etc. that impacts vary from what has been consulted on.

DRAFT

Mexican Spotted Owl (*Strix occidentalis lucida*) - Threatened

MSO habitat modeled for BLM lands overlaps PPMA/PGMA on approximately 23,530 acres within the Price and Vernal Field Offices. An additional 13,426 acres of PPMA/PGMA on split estate lands overlaps with modeled MSO habitat within the same Field Office boundaries (Table

7). Modeled habitats overlapping GSG mapped habitats on the Manti-La Sal and Dixie National Forests total 5,291 acres.

Table 5. MSO Modeled Habitat and GSG Mapped Habitat Overlap

Administrating Unit	Modeled Habitat (BLM and FS lands) (ac)	Modeled Habitat (Split-Estate Lands) (ac)	Designated Critical Habitat (BLM and FS lands) (ac)	Designated Critical Habitat (Split-Estate Lands) (ac)
Cedar City FO	0	0		
GSENM				
Price FO[1]	23,423	11,930		998
Vernal FO[1]	107	1,496		0
Dixie NF[2]	302	0		0
Manti-La Sal NF*	4,989	0		0
Totals	28,821	13,426		998

[1]Acres based on 2000 Statewide habitat model
[2]Acres based on MSO habitat modeled specifically by the Dixie NF

Habitat Management Effects

Pertaining to indirect effects on roosting, roosting, foraging habitat, there is potential for further specific actions to be proposed when implementing GRSG management direction. For example, the BLM proposed plan includes the following direction:

MA-VEG-1 - *In PHMA, where necessary to meet GRSG habitat objectives, treat areas to maintain and expand healthy GRSG habitat (e.g., conifer encroachment areas, annual grasslands).*

MA-VEG-2 - *Remove conifers encroaching into sagebrush habitats. When conducting conifer treatments:*

- *Prioritize treatments closest to occupied GRSG habitats and near occupied leks, and where juniper encroachment is phase I or phase II.*
- *Treat areas in late Phase II or Phase III condition to create movement corridors, connect habitats, or to break up continuous, hazardous fuels and reduce the potential for catastrophic fire.*
- *Prioritize methods to reduce conifer canopy cover to those that maintain the understory vegetation as the preferred treatment methods (e.g., mechanical, lop and scatter).*
- *Require that vegetation treatments conducted within 0.6 miles of a lek include an objective of reducing conifer, where technically feasible, to less than 5 percent canopy cover, with preference for complete removal.*
- *Include stipulations to avoid removing old-growth pinyon/juniper stands (e.g., Tausch et. al., 2009; Miller et. al., 1999).*

Use of site-specific analysis and tools like VDDT and the FIAT report (Chambers et. al., 2014) will help refine the location for specific areas to be treated.

MA-GRSG-4 - *In PHMA and in adjacent opportunity areas, maintain, improve and restore current and historical GRSG habitat to support GRSG populations and to maintain or enhance connectivity. Vegetation treatments would be applied to meet GRSG habitat objectives and provide additional GRSG habitat.*

In addition, the USFS proposed action provides the following direction:

GRSG-GRSGH-ST-001-Standard – *Design habitat restoration projects to move towards desired conditions (table 1) and incorporate the concepts outlined in Appendix Y - Using resistance and resilience concepts to reduce impacts of invasive annual grasses and altered fire regimes on the sagebrush ecosystem and greater sage-grouse: A strategic multi-scale approach.*

GRSG-GRSGH-GL-006-Guideline – *In priority habitat management areas and sagebrush focal areas, vegetation treatment projects should only be conducted if they restore, enhance, or maintain desired habitat conditions (table 1).*

Wildfire Management Effects

Management actions (BLM) and standards and guidelines (USFS) listed below are designed to reduce risk to or maintain and enhance GRSG habitats and may affect Mexican spotted owls and their habitats.

Wildland Fire and Fuels Management (USFS)

GRSG-FM-ST-002-Standard – In priority and general habitat management areas and sagebrush focal areas, if it is necessary to use prescribed fire to facilitate site preparation for restoration of greater sage-grouse habitat consistent with desired conditions in table 1, the associated NEPA analysis must identify how greater sage-grouse desired conditions would be met, why alternative techniques were not selected, and how potential threats to greater sage-grouse habitat would be minimized.
GRSG-FM-GL-001-Guideline – In wintering or breeding and nesting habitat, sagebrush removal or manipulation should be restricted unless the removal strategically reduces the potential impacts from wildfire.
GRSG-FM-GL-002-Guideline – In priority and general habitat management areas and sagebrush focal areas, when reseeding in fuel breaks, fire resistant native plant species should be used if available, or consider using fire resistance non-native species to meet resource objectives.
GRSG-FM-GL-003-Guideline – In priority and general habitat management areas and sagebrush focal areas, fuel treatments should be designed to restore, enhance, or maintain greater sage-grouse habitat.
GRSG-FM-GL-004-Guideline – Locating temporary wildfire suppression facilities (e.g., incident command posts, spike camps, helibases, mobile retardant plants) in priority and general habitat management areas and sagebrush focal areas should be restricted.
GRSG-FM-GL-006-Guideline – In priority and general habitat management areas and sagebrush focal areas, burnout operation areas should be avoided by constructing direct fire lines, whenever safe and practical to do so, to improve suppression effectiveness and minimize loss of existing sagebrush habitat as determined by fireline leadership, incident commanders, etc.

GRSG-FM-GL-013-Guideline – On critical fire weather days, available fire suppression resources should be pre-positioned to optimize a quick and efficient response into priority and general habitat management areas and sagebrush focal areas.
GRSG-FM-GL-014-Guideline - During periods of multiple fires, line officers should be involved in setting priorities to help protect priority and general habitat management areas and sagebrush focal areas.
GRSG-FM-GL-015-Guideline – In priority and general habitat management areas and sagebrush focal areas, consider using fire retardant and mechanized equipment only if it is likely to result in minimizing burned acreage.
GRSG-FM-GL-016-Guideline – In priority and general habitat management areas and sagebrush focal areas, to minimize sagebrush loss, mop-up should be conducted where the burned areas adjoin unburned islands, doglegs, or other habitat features, as safety and available resources allows.

Wildland Fire Management (BLM)

MA-FIRE-1
In collaboration with the USFWS and relevant state agencies, complete and maintain GRSG Landscape Wildfire & Invasive Species Habitat Assessments to prioritize at risk habitats, and identify fuels management, preparedness, suppression and restoration priorities necessary to maintain sagebrush habitat to support interconnecting GRSG populations. These assessments and subsequent assessment updates would also be a collaborative effort to take into account other GRSG priorities identified in this plan. Appendix M, Draft Greater Sage-Grouse Wildland Fire and Invasive Species Assessment, describes a minimal framework example and suggested approach for this assessment.

Wildland Fire Management (Fuels Management)

MA-FIRE-3
In PHMA, fuel treatments will be designed through an interdisciplinary process to expand, enhance, maintain, or protect GRSG habitat.

- *In collaboration with USFWS and relevant state agencies, BLM planning units with large blocks of GRSG habitat will develop, using the assessment process described in Appendix XX (FIAT Appendix), a fuels management strategy which considers an up-to-date fuels profile, land use plan direction, current and potential habitat fragmentation, sagebrush and GRSG ecological factors, and active vegetation management steps to provide critical breaks in fuel continuity, where appropriate. When developing this strategy, planning units will consider the risk of increased habitat fragmentation from a proposed action versus the risk of large scale fragmentation posed by wildfires if the action is not taken.*
- *Use green strips and/or fuel breaks to protect sage-grouse habitat from fire events.*
- *When possible, locate fuel breaks along existing roads, ROWs, and other suitable topographic or natural features (e.g., areas devoid of vegetation, rock outcrops).*
- *Avoid constructing fuel breaks through large areas of intact GRSG habitat, unless the associated NEPA document demonstrates a biological need for the fuel break to*

maintain or protect habitat for the GRSG population. Coordinate with the State of Utah and USFWS prior to constructing fuel breaks within nesting and winter habitat.

- *Using an interdisciplinary approach, a full range of fuel reduction techniques will be available. Fuel reduction techniques such as conifer reduction, grazing, prescribed fire, chemical, biological and mechanical treatments may be acceptable, given site-specific variables.*
- *Remove encroaching conifer stands as a fuels management tool, where environmental review documents it would protect or improve GRSG habitat.*
- *Prioritize the use of native seeds for fuels management treatment based on availability, adaptation (site potential), and probability of success. Where probability of success for native seed availability is low, desirable non-native seeds may be used to meet GRSG habitat objectives to trend toward restoring the fire regime. When reseeding, use fire resistant native and desirable non-native species, as appropriate, to provide for fire breaks.*
- *Upon project completion, monitor and manage fuels projects to ensure long-term success, including persistence of seeded species and/or other treatment components, such as implementing maintenance actions. Control invasive vegetation post-treatment.*
- *Apply seasonal restrictions, as needed, for implementing fuels management treatments according to the type of seasonal habitats present (see MA-GRSG-3G).*
- *In PHMA, avoid sagebrush reduction fuels treatments within GRSG nesting and winter habitat unless the project plan and associated NEPA document demonstrate a biological need for the treatment to maintain or improve habitat for the GRSG population. Treatments in winter habitat should be designed to maintain sagebrush, especially tall sagebrush (sagebrush capable of standing above heavier than normal snowfall), which would be available to GRSG above snow during a severe winter. Prior to conducting fuels treatments in winter habitat, coordinate with the State of Utah and USFWS to design the treatment to strategically reduce wildfire risk around or in the winter habitat.*

MA-FIRE-4
If prescribed fire is used in GRSG habitat, the NEPA analysis for the Burn Plan will address:

- *why alternative techniques were not selected as a viable options;*
- *how GRSG goals and objectives would be met by its use;*
- *how the COT Report objectives would be addressed and met;and,*
- *a risk assessment to address how potential threats to GRSG habitat would be minimized.*

Prescribed fire as a vegetation or fuels treatment in shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Prescribed fire could be used to meet specific fuels objectives that would protect GRSG habitat in PHMAs (e.g., creation of fuel breaks that would disrupt the fuel continuity across the landscape in stands

where annual invasive grasses are a minor component in the understory, burning slash piles from conifer reduction treatments, used as a component with other treatment methods to combat annual grasses and restore native plant communities).

Prescribed fire in known winter range shall only be considered after the NEPA analysis for the Burn Plan has addressed the four bullets outlined above. Any prescribed fire in winter habitat would need to be designed to strategically reduce wildfire risk around and/or in the winter range and designed to protect winter range habitat quality.

Wildland Fire Management (Suppression)

MA-FIRE-8
Fire fighter and public safety are the highest priority. GRSG habitat in PHMA will be prioritized commensurate with property values and other critical habitat to be protected, with the goal to restore, enhance, and maintain areas suitable for GRSG across the range of GRSG habitat consistent with LUP direction.

PHMA will be viewed as more valuable than GHMA when priorities are established. When suppression resources are widely available, maximum efforts will be placed on limiting fire growth in GHMA polygons as well. These priority areas will be further refined following completion of the GRSG Landscape Wildfire & Invasive Species Habitat Assessments described in Appendix XX (FIAT prioritization).

In GHMA or areas where treatment/seeding has occurred to improve habitat, prioritize suppression where wildfires threaten adjacent PHMA.

MA-FIRE-9
Within acceptable risk levels use a full range of fire management strategies and tactics, including the management of wildfires to achieve resource objectives, across the range of GRSG habitat consistent with LUP direction.

In PHMAs, burnout operations areas should be avoided by constructing direct fire lines, whenever safe and practical to do so.

Habitat Management and Fuels Treatment Effects

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct adverse effects to MSO from this programmatic decision.

There is some potential, although low, for indirect effects to MSO due to disturbance if management activities such as described in BLM MA-VEG-1 and USFS GRSG-GRSGH-ST-001 were to occur in close proximity to MSO, particularly during the nesting season or during foraging. Infrequent, noise-producing activities are generally assumed to have relatively little long-term impact on spotted owls. However, owls will react to noise disturbances by changing behavior and/or flushing from their perches. These behavioral responses may alter nesting and

roosting activities, thus increasing vulnerability to predators and heat-related stress (USFWS 2012b).

Because MSO in the planning area primarily inhabit landscapes dominated by steep-walled rocky canyons, overlap between actual habitat suitable for both GSG and MSO is expected to be substantially less than numbers presented in Table XX which, with the exception of habitat modeled on the Dixie National Forest, contain areas buffered out 0.5 mile from locations containing suitable habitat characteristics. Habitats modeled at the landscape level for both GRSG and MSO have likely included elements of suitability that, when analyzed on the ground at the project level scale would reveal no minimal or overlap in actual habitats. This also applies to MSO designated critical habitat as well where amount of area containing primary constituent elements is expected to be concentrated in smaller areas (i.e. steep canyons) that occur within the much larger critical habitat polygons. While there is largely a separation between the two, there is potential for effects at the fringes where habitats suitable for each species come into contact. In order to ensure that future effects to MSO are minimized, project design features (below) would be incorporated into the proposed action.

While there is the potential for indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions associated with vegetation management and fuels management projects described above, at this programmatic planning level these future actions are currently unknown and any possible effects are too speculative to evaluate at this time and are not reasonably certain to occur. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to MSO would be avoided, minimized or mitigated through site-specific analysis of the details of such actions and inclusion of project design features.

Wildfire Suppression Effects

Indirect effects to MSO due to wildfire suppression actions may occur where such actions are located in GRSG habitats adjacent to MSO suitable habitat. Because the two species occupy separate niches (i.e. forested vs. non-forested habitats), habitat impacts to MSO are unlikely. There may be some level of disturbance caused by suppression activities, but because these would occur outside MSO suitable habitat, impacts due to noise and human activity are expected to occur at levels that would not negatively impact MSO.

Mexican Spotted Owl - Project Design Features

- Where management activities designed to maintain or enhance greater sage-grouse habitat occur within Mexican spotted owl (MSO) designated critical habitat, avoid negative impacts to MSO critical habitat primary constituent elements.

- For management activities designed to maintain or enhance greater sage-grouse habitat that occur within suitable Mexican spotted owl breeding habitat, survey to protocol for Mexican spotted owl (MSO) presence prior to implementation. Apply appropriate management buffers around known MSO active sites during the period of potential disturbance to breeding MSO. If no surveys occur, apply appropriate management buffers around unsurveyed suitable breeding habitat

during the period of potential disturbance to breeding MSO, or conduct proposed activities between Sept 1 – Feb 28 (outside of the breeding season).

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PPMA and PGMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Mexican spotted owl and Critical Habitat

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Mexican spotted owls or Mexican spotted owl Critical Habitat because the estimated effects to occurrences and suitable habitat that exist in the action area due to vegetation management projects designed to benefit GRSG would occur in future years, and thus the effects would not be contemporaneous and is not considered in this analysis. These potential negative effects will be considered during future site-specific analyses. Further, there are no potential direct adverse effects to this species from this proposed action and any possible additional adverse effects from future actions would likely be avoided because site-specific analysis and mitigation would occur at the project level. Wildfire suppression activities outside MSO habitats may present a level of disturbance that is not expected to adversely impact habitat or individuals.

California condor (*Gymnogyps californianus*) – Endangered and Experimental/Non-Essential Population

California condors are primarily a cavity nesting species and typically nest in cavities located on steep rock formations or in the burned out hollows of old-growth conifers. Roosting sites include ridgelines, rocky outcrops, steep canyons, and in tall trees or snags near foraging grounds. In search of carrion, typical foraging behavior includes long-distance reconnaissance flights usually over more open terrain. Records from 1992 – 2012 show that cause of condor mortality in nearby Arizona was predominately lead exposure (USFWS 2013e). Other less prevalent mortality factors have included (in order of frequency) predation, starvation, shooting, and powerline collision.

Condors are not currently known to nest within the action area. Suitable nest sites (cliffs and hollowed portions of old-growth conifer) are unlikely to coincide with suitable sage-grouse habitat. However, the action area may serve as condor foraging habitat.

There would be no direct effect to California condors as a result of the proposed action. The single most significant threat to this species is lead ingestion (USFWS 2013e). Elements within the proposed action would have no indirect effect on condor exposure to lead.

There is potential for indirect effects on foraging habitat resulting from management direction under both the BLM and USFS proposed alternatives. Management actions and standards and

guidelines designed to maintain or enhance sage-grouse habitat would also maintain healthy open ecosystems favorable to California condor foraging. In addition, management direction listed below pertaining to installation of anti-perching devices on towers and tall structures would apply to powerlines. California condors have been known to utilize transmission towers and other tall structures for perching (USFWS 2013e), and there is a risk of collision and electrocution associated with these structures. Retrofitting such structures to prevent perching would likely reduce risk to condors, thereby providing a beneficial effect to the species.

BLM MA-LAR-5 – *Work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation.*

USFS GRSG-LR-SUA-ST-003-Standard – *In priority and general habitat management areas and sagebrush focal areas, require protective stipulations (e.g., noise, tall structure, guy wire removal, perch deterrent installation) when issuing new authorizations or during renewal, amendment, or reissuance of existing authorizations that authorize infrastructure (e.g., high-voltage transmission lines, major pipelines, roads, distribution lines, and cellular towers).*

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PPMA and PGMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to California condor

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect California condor where federally listed as Endangered, and is not likely to jeopardize California condor within the Experimental Population Area because the estimated effects to occurrences and suitable habitat that exist in the action area would be beneficial due to the reduced risk associated with utilization of transmission lines as perch sites and overall management for open vegetation within GRSG habitats. Further, there are no potential direct adverse effects to this species from this proposed action. Any possible additional adverse effects from future actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

B. Plants

Autumn Buttercup (*Ranunculus aestivalis*)

Autumn buttercup is not known to occur on either BLM or Forest Service administered lands. However, there is an occurrence on private land that is approximately one-fourth mile from the BLM Kanab Field Office. Since the BLM area has not been surveyed, for this analysis the species is assumed to be present. All known occurrences are in PHMA.

Adverse effects from the proposed Land Use Plan Amendments are highly unlikely, due to the project focus on protection and enhancement of greater sage-grouse habitats, the lack of known occurrences in the project area, and the fact that additional site-specific analysis and mitigation would occur at the project level if ground disturbing actions are proposed in the future. Any effects of this project would be to autumn buttercup habitat or to plants in areas that have not been surveyed for the species. Potential effects would result from sage-grouse conservation measures which are largely restrictive, and would likely be beneficial to autumn buttercup habitat.

Given the limited distribution and small number of individuals currently known, any disturbance of the species or its habitat is likely to promote its extinction. Prior to listing, the species was heavily grazed and trampled by livestock. Since that time grazing has been removed from the vicinity of the species on the TNC Preserve, but continues at the Dale Ranch site. Livestock grazing affects individual plants and may result in mortality of large numbers of plants. However, the effects of grazing are uncertain. The Dale Ranch population appears to be stable while the TNC population has declined without grazing. Disturbance that opens the ground surface may be necessary for autumn buttercup reproduction (USFWS 2013a). Ground disturbance in association with these threats has potential to damage individuals and cause degradation of habitat. However, with this action, no new activities are proposed with the current Land Use Plan Amendments.

Other threats to the known occurrences have not been identified, but if the species or habitat is found on BLM administered lands, other threats could be present. Potential threats could include oil and gas development and off-road vehicle use. With the proposed action, no new energy and mineral activities are proposed. Several conservation measures for greater sage-grouse may prevent or reduce impacts from energy and mineral activities, but these measures would become effective in the future as the activities are proposed or parcels are leased. Therefore, any potential beneficial effects to autumn buttercup from reduced impacts of energy and mineral development would be analyzed in the future at the site-specific level and would not be contemporaneous with this decision. Potential beneficial effects from the action with respect to energy and mineral development are therefore not considered in this programmatic level analysis, but will be addressed in subsequent site-specific analyses.

Off-road vehicle use could be a threat to autumn buttercup because direct contact can damage or kill individuals and cause reduced seed production. Soil disturbance as a result of off-road vehicle use can increase erosion and alter site hydrology. No additional travel or vehicle uses are proposed. The specific conservation measure BLM MA-TTM-2 states that “PHMAs and GHMAs that do not have designated routes in a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use).” Thus, if any areas of occupied or suitable habitat for autumn buttercup within PHMA or GHMA are currently open to off-road vehicle use, restrictions would be placed on vehicles to use only existing routes. This would provide a small but contemporaneous beneficial effect to autumn buttercup by reducing the likelihood of damage from off-road vehicles.

Another proposed conservation measure that is reasonably certain to occur is the action of “*work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation*” (BLM MA-LAR-5). Implementation of this action would involve transporting personnel and supplies to each tower needing to be retrofitted. The minimal disturbance to vegetation would be from vehicle access along the right-of-way roads,

possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, autumn buttercup individuals may be damaged by the crushing action of vehicle tires and foot traffic. For autumn buttercup, the probability of plants occurring on or directly adjacent to right-of-way roads or near existing towers is very small. The probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any affected plants would likely have survived much greater disturbances or would have become established within previously disturbed areas along the right-of-way. The potential impacts to individuals due to this action would not significantly impact the local populations because the adjacent core habitat would be unaffected.

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to autumn buttercup from this programmatic decision. As stated above, there may be potential beneficial effects from BLM MA-TTM-2 restricting cross-country motorized travel.

There is the potential for indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions. However, at this programmatic planning level, these future actions are currently unknown and not reasonably certain to occur, and any possible effects are too speculative to evaluate at this time. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to autumn buttercup would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Existing conservation measures

Since the species is not known to occur on lands administered by either agency, neither BLM nor the USFS have measures specifically protecting autumn buttercup. However, both agencies have conservation measures that would address activities that might affect federally listed threatened or endangered plants. General conservation measures are listed in Appendix D and in the section above entitled *Existing Conservation Measures* in the section on *General Discussion of Potential Impacts and Mechanisms of Program Areas.*

Conservation measures for the Kanab Field Office, which is the most likely unit to support autumn buttercup, are in Appendix D.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PHMA and GHMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Autumn Buttercup

A potential beneficial effect to autumn buttercup may result in PHMA/GHMA from the action of restricting vehicle use to existing roads and trails (where travel planning has not previously been

completed – BLM MA-TTM-2). A slight chance of damage to individuals may result from retrofitting existing towers with perch deterrents (BLM MA-LAR-5), but the probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Oil and gas development may be a threat to autumn buttercup if the species or its habitat is found on BLM or NFS administered lands, and although this threat may also be reduced by the proposed Land Use Plan Amendments, any benefit due to restricted or prohibited actions would occur in future years, and thus the benefit would not be contemporaneous and is not considered in this analysis. All potential effects will be considered during future site-specific analyses.

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect autumn buttercup because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Kanab Field Office would be beneficial due to the reduced impacts from off-road vehicles. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

Because no suitable habitats for autumn buttercup are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Richfield, Price, or Vernal, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to autumn buttercup in these areas.

Clay phacelia (*Phacelia argillacea*)

Clay phacelia occurrences and modeled habitat do not overlap PHMA or GHMA in the project area. Suitable (modeled) habitat for clay phacelia occurs within about 1.5 miles of PHMA near Starvation Creek. The nearest known clay phacelia occurrences are about 2 miles from PHMA.

The greatest current threats to this species are transportation and transmission line development and maintenance and herbivory (USFWS 2013b). Ground disturbance in association with these threats has potential to damage individuals and cause degradation of habitat. Implementation of this proposed action would not involve new activities related to transportation or transmission line development or maintenance. Livestock grazing is considered a low level threat and invasive plants are considered a moderate threat (USFWS 2013b). Proposed actions associated with grazing and invasive plants have potential to benefit clay phacelia and its habitat in the future by reducing threats associated with livestock grazing and the invasion of nonnative plants. Changes in livestock grazing may or may not occur as a result of implementation of the proposed actions, depending on whether current management is meeting or making progress toward greater sage-grouse habitat objectives. Implementation of grazing or invasive plant measures related to adoption of the proposed Land Use Plan Amendments would be implemented in the future, probably a considerable time after the decision to amend Land Use Plans, and so any benefits to clay phacelia would not be contemporaneous with the decision.

The proposed conservation measures for greater sage-grouse concerning energy and mineral related development are restrictive (for instance not allowing surface disturbances for new underground coal mines in PHMA, or spatially or temporally restricting activities), or they add requirements for operation and reclamation of permitted/leased sites. Generally, more restrictions

are placed on activities in PHMA than activities in GHMA. Sagebrush habitats would receive greater protection and increased prioritization for habitat management activities. Control of conifer encroachment into sagebrush habitats would be encouraged. These measures may benefit clay phacelia habitats by reducing the likelihood of impacts from energy and mineral related development and by counteracting undesirable vegetation composition changes. But, these measures would become effective in the future as the activities are proposed or parcels are leased. Therefore, any potential beneficial effects to clay phacelia from reduced impacts of energy and mineral development and conifer encroachment would be analyzed in the future at the site-specific level and would not be contemporaneous with this decision. Potential beneficial effects from the action with respect to energy and mineral development are therefore not considered in this programmatic level analysis, but will be addressed in subsequent site-specific analyses.

Off-road vehicle use could be a threat to clay phacelia because direct contact can damage or kill individuals and cause reduced seed production. Soil disturbance as a result of off-road vehicle use can increase erosion. No additional travel or vehicle uses are proposed. The specific conservation measure BLM MA-TTM-2 states that "PHMAs and GHMAs that do not have designated routes in a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use)." Thus, if any areas of occupied or suitable habitat for clay phacelia within PPMA or GHMA are currently open to off-road vehicle use, restrictions would be placed on vehicles to use only existing routes. This would provide a small but contemporaneous beneficial effect to clay phacelia by reducing the likelihood of damage from off-road vehicles.

Another proposed conservation measure that is reasonably certain to occur is the action of "*work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation*" (BLM MA-LAR-5). Implementation of this action would involve transporting personnel and supplies to each tower needing to be retrofitted. The minimal disturbance to vegetation would be from vehicle access along the right-of-way roads, possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, clay phacelia individuals may be damaged by the crushing action of vehicle tires and foot traffic. For clay phacelia, the probability of plants occurring on or directly adjacent to right-of-way roads or near existing towers is very small. The probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any affected plants would likely have survived much greater disturbances or would have become established within previously disturbed areas along the right-of-way. The potential impacts to individuals due to this action would not significantly impact the local populations because the adjacent core habitat would be unaffected.

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to clay phacelia from this programmatic decision. As stated above, there may be potential beneficial effects from BLM MA-TTM-2 restricting cross-country motorized travel.

There is the potential for indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions. However, at this programmatic planning level, these future actions are currently unknown and any possible effects are too speculative to evaluate at this time and are not reasonably certain to occur. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential

adverse effects to clay phacelia would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Existing conservation measures

The Uinta National Forest has conservation measures specifically for clay phacelia. The Salt Lake Field Office does not have conservation measures specific to clay phacelia. Both the BLM and USFS have conservation measures that would address activities that might affect federally listed threatened or endangered plants. General conservation measures are listed in Appendix D.

Conservation measures and guidance currently in place on the Uinta National Forest:

2003 Land and Resource Management Plan, Uinta National Forest:

- Sub-goal-2-13: Participate in the development and implementation of a habitat management strategy for clay phacelia (*Phacelia argillacea*).
- Sub-goal-2-14: Potential habitat for clay phacelia (*Phacelia argillacea*) in the Spanish Fork Canyon area is managed to ensure quality habitat will be available in the future if it becomes necessary to introduce this species onto National Forest System lands to provide for its recovery.

Desired Future Condition Uinta National Forest Land and Resource Management Plan

- Habitat for the endangered clay phacelia, as identified by Harper and Armstrong (1992), is managed to maintain its integrity. A habitat management strategy for clay phacelia is in place. Potential habitat for clay phacelia (*Phacelia argillacea*) is protected.

Summary Determination of Effects to Clay Phacelia

Clay phacelia known occurrences and modeled habitat do not overlap greater sage-grouse habitat. A potential beneficial effect to clay phacelia may result in PHMA/GHMA from the action of restricting vehicle use to existing roads and trails (where travel planning has not previously been completed – BLM MA-TTM-2).

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect clay phacelia because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA on the Uinta National Forest and the Salt Lake Field Office would be beneficial due to the reduced impacts from off-road vehicles. Further, there are no potential direct adverse effects to this species from this proposed action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

Because no suitable habitats for clay phacelia are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Richfield, Price, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, or Manti-LaSal National Forests, there would be no effects to clay phacelia in these areas.

Clay reed-mustard (*Schoenocrambe argillacea*)

The eastern portion of the clay reed-mustard populations near Willow Creek is within GHMA on BLM lands, Vernal Field Office. PHMA or GHMA is not present in the larger Green River

population center. Clay reed-mustard is not suspected to occur on any other BLM or FS management units. The GHMA habitat overlaps near Willow Creek, but the clay reed-mustard populations and suitable habitat areas are steep sparsely-vegetated slopes and would not be targeted for future greater sage-grouse conservation actions.

Existing threats to clay reed-mustard include the direct effects from oil and gas exploration, oil-shale mining, stone quarrying, and off-road vehicle use. Oil and gas development remains the most significant threat to clay reed-mustard (USFWS 2011b) because the associated ground disturbance carries the potential for loss of individuals or populations, and degradation of habitat. With the proposed action, no new energy and mineral activities are proposed. Several conservation measures for greater sage-grouse may prevent or reduce impacts from energy and mineral activities, but these measures would become effective in the future as the activities are proposed or parcels are leased. Therefore, any potential beneficial effects to clay reed-mustard from reduced impacts of energy and mineral development would be analyzed in the future at the site-specific level and would not be contemporaneous with this decision. Potential beneficial effects from the action with respect to energy and mineral development are therefore not considered in this programmatic level analysis, but will be addressed in subsequent site-specific analyses.

Off-road vehicle use is a threat to clay reed-mustard because direct contact can damage or kill individuals, causing reduced seed production. Soil disturbance as a result of off-road vehicle use can increase erosion within the sparsely-vegetated habitats. No additional travel or vehicle uses are proposed. The specific conservation measure BLM MA-TTM-2 states that "PHMAs and GHMAs that do not have designated routes in a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use)." Thus, if any areas of occupied or suitable habitat for clay reed-mustard within PHMA or GHMA are currently open to off-road vehicle use, restrictions would be placed on vehicles to use only existing routes. This would provide a small but contemporaneous beneficial effect to clay reed-mustard by reducing the likelihood of damage from off-road vehicles.

Another proposed conservation measure that is reasonably certain to occur is the action of "*work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation*" (BLM MA-LAR-5). Implementation of this action would involve transporting personnel and supplies to each tower needing to be retrofitted. The minimal disturbance to vegetation would be from vehicle access along the right-of-way roads, possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, clay reed-mustard individuals may be damaged by the crushing action of vehicle tires and foot traffic. For clay reed-mustard, the probability of plants occurring on or directly adjacent to right-of-way roads or near existing towers is very small. The probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any affected plants would likely have survived much greater disturbances or would have become established within previously disturbed areas along the right-of-way. The potential impacts to individuals due to this action would not significantly impact the local populations because the adjacent core habitat would be unaffected.

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to clay reed-mustard from this programmatic decision. As

stated above, there may be potential beneficial effects from BLM MA-TTM-2 restricting cross-country motorized travel.

There is the potential for additional indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions. However, at this programmatic planning level, these future actions are currently unknown and not reasonably certain to occur, and any possible effects are too speculative to evaluate at this time. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to clay reed-mustard would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Existing conservation measures

The Vernal FO RMP includes general conservation measures for protection of listed species and their habitats, including goals and objectives to conserve, protect, and recover federally listed species and the ecosystems on which they depend. Please see the Vernal Field Office section in Appendix D for details of the current conservation measures applicable to clay reed-mustard.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PHMA and GHMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Clay reed-mustard

A potential beneficial effect to clay reed-mustard may result in PHMA/GHMA from the action of restricting vehicle use to existing roads and trails (where travel planning has not previously been completed – BLM MA-TTM-2). A slight chance of damage to individuals may result from retrofitting existing towers with perch deterrents (BLM MA-LAR-5), but the probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Oil and gas development remains the most significant threat to clay reed-mustard (USFWS 2011b), and although this threat may also be reduced by the proposed Land Use Plan Amendments, any benefit due to restricted or prohibited actions would occur in future years, and thus the benefit would not be contemporaneous and is not considered in this analysis. All potential effects will be considered during future site-specific analyses.

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect clay reed-mustard because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Vernal Field Office would be beneficial due to the reduced impacts from off-road vehicles, and only slight indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

Because no suitable habitats for clay reed-mustard are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to clay reed-mustard in these areas.

Last Chance townsendia (*Townsendia aprica*)

On the Fishlake National Forest, two occurrences of Last Chance townsendia overlap PHMA in the Lower Last Chance Creek area. No known occurrences overlap PHMA or GHMA on BLM-managed lands. In the Price Field Office and the Dixie National Forest, there are known occurrences, but Last Chance townsendia habitat does not overlap PHMA or GHMA on these units. In the Richfield Field Office, there is some overlap of habitats between Last Chance townsendia and PHMA/GHMA.

The current primary threats to Last Chance townsendia include trampling from livestock and wild horses and burros, energy and mineral related development, range improvements, and off road vehicle use (USFWS 2013c). Ground disturbance in association with these threats has potential to damage individuals and cause degradation of habitat. However, with this action, no new activities are proposed with the current Land Use Plan Amendments.

The proposed conservation measures for greater sage-grouse concerning energy and mineral related development are restrictive (for instance not allowing surface disturbances for new underground coal mines in PHMA, or spatially or temporally restricting activities), or they add requirements for operation and reclamation of permitted/leased sites. Generally, more restrictions are placed on activities in PHMA than activities in GHMA. Sagebrush habitats would receive greater protection and increased prioritization for habitat management activities. Control of conifer encroachment into sagebrush habitats would be encouraged. These measures may benefit Last Chance townsendia habitats by reducing the likelihood of impacts from energy and mineral related development and by counteracting undesirable compositional changes. These measures would become effective in the future as the activities are proposed or parcels are leased. Therefore, any potential beneficial effects to Last Chance townsendia from reduced impacts of energy and mineral development and conifer encroachment would be analyzed in the future at the site-specific level and would not be contemporaneous with this decision. Potential beneficial effects from the action with respect to energy and mineral development are therefore not considered in this programmatic level analysis, but will be addressed in subsequent site-specific analyses.

Off-road vehicle use is a threat to Last Chance townsendia because direct contact can damage or kill individuals, causing reduced seed production. Indirectly, soil disturbance as a result of off-road vehicle use can increase soil erosion and promote invasive species. With this action, no additional travel or vehicle uses are proposed. The specific conservation measure BLM MA-TTM-2 states that “PHMAs and GHMAs that do not have designated routes in a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use).” Thus, if any areas of occupied or suitable habitat for Last Chance townsendia within PHMA or GHMA are currently open to off-road vehicle use, concurrent restrictions would be placed on vehicles to use only existing routes. This would provide a small but contemporaneous beneficial effect to Last Chance townsendia by reducing the likelihood of damage from off-road vehicles.

Another proposed conservation measure that is reasonably certain to occur is the action of "work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation" (BLM MA-LAR-5). Implementation of this action would involve transporting personnel and supplies to each tower needing to be retrofitted. The minimal disturbance to vegetation would be from vehicle access along the right-of-way roads, possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, Last Chance townsendia individuals may be damaged by the crushing action of vehicle tires and foot traffic. For Last Chance townsendia, the probability of plants occurring on or directly adjacent to right-of-way roads or near existing towers is very small. The probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any affected plants would likely have survived much greater disturbances or would have become established within previously disturbed areas along the right-of-way. The potential impacts to individuals due to this action would not significantly impact the local populations because the adjacent core habitat would be unaffected.

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to Last Chance townsendia from this programmatic decision. As stated above, there may be potential beneficial effects from BLM MA-TTM-2 restricting cross-country motorized travel.

There is the potential for additional indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions. However, at this programmatic planning level, these future actions are currently unknown and any possible effects are too speculative to evaluate at this time and are not reasonably certain to occur. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to Last Chance townsendia would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Existing conservation measures

The Fishlake National Forest RMP contains general direction to manage and provide habitat for recovery of listed species, and to not allow activities or practices that would negatively impact listed species. The Richfield FO RMP includes best management practices and special status species management guidance for the protection of listed species and their habitats, including goals and objectives to conserve, protect, and recover federally listed species and the ecosystems on which they depend. Please see the Fishlake National Forest and Richfield Field Office sections in Appendix D for further details of the current conservation measures applicable to Last Chance townsendia.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PHMA and GHMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Last Chance Townsendia

A potential beneficial effect to Last Chance townsendia may result in PHMA/GHMA from the action of restricting vehicle use to existing roads and trails (where travel planning has not previously been completed – BLM MA-TTM-2). A slight chance of damage to individuals may result from retrofitting existing towers with perch deterrents (BLM MA-LAR-5), but the probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Oil and gas development and other ground disturbing actions would continue to be threats to Last Chance townsendia, and although these threats may also be reduced by the proposed Land Use Plan Amendments, any benefit due to restricted or prohibited actions would occur in future years, and thus the benefit would not be contemporaneous and is not considered in this analysis. All potential effects will be considered during future site-specific analyses.

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Last Chance townsendia because the anticipated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Richfield Field Office and the Fishlake National Forest would be beneficial due to the reduced threat from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

Because no suitable habitats for Last Chance townsendia are suspected to occur in PHMA or GHMA within the Price Field Office or the Dixie National Forest, and suitable habitats are not suspected at all on the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Salt Lake, or Vernal Field Offices, or the Ashley, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to Last Chance townsendia in these areas.

Shrubby reed-mustard (Schoenocrambe suffrutescens)

Shrubby reed-mustard occurrences overlap with GHMA but not PHMA. Known sites are about 5 miles from PHMA. Seven of 63 documented sites overlap GHMA on BLM managed lands in the Johnson Draw area, Vernal Field Office. These seven sites and any other suitable habitat areas nearby are within the action area of the proposed Land Use Plan Amendments. The small dry desert-like habitats of shrubby reed-mustard would not likely be targeted for greater sage-grouse conservation actions.

The primary threat to shrubby reed-mustard is currently from energy development (USFWS 2010a), with associated direct damage to individuals and habitat, as well as effects from habitat fragmentation, increased dust, and pollinator disturbance. The entire range of this species has been leased for oil and gas development (USFWS 1987, USFWS 1994b). Oil and gas development poses a significant threat to shrubby reed-mustard populations and habitat because all known populations of shrubby reed-mustard that occur on Federal lands are leased for oil and gas development (USFWS 1994b). The underlying oil shale may also be mined when economically favorable (USFWS 1994b).

With this action, no new energy and mineral activities are proposed. The proposed conservation measures for greater sage-grouse concerning energy and mineral related development are restrictive (for instance not allowing surface disturbances for new underground coal mines in PHMA, or spatially or temporally restricting activities), or they add requirements for operation and reclamation of permitted/leased sites. Generally, more restrictions are placed on activities in PHMA than activities in GHMA. Several specific restrictions are proposed for energy and mineral related development in PHMA. However, only minimal conservation measures apply to GHMA. Since shrubby reed-mustard habitat does not occur within PHMA, the possible future benefits of restricted energy and mineral activities in PHMA would not be realized for shrubby reed-mustard. In GHMA, new mineral material developments and new development of fluid mineral leases could be considered if mitigation (for greater sage-grouse) is completed as described under MA-GRSG-5 and MA-GRSG-7 (allowable if there is no net unmitigated loss of GRSG habitat). MA-GRSG-7 also directs agencies to develop additional mitigation measures at the project level to address site-specific issues. In the future, he conservation measures for GHMA may provide potential beneficial effects to shrubby reed-mustard if activities are proposed but not authorized due to unmitigatable loss of GRSG habitat, or authorized but with reduced effects from activities due to GRSG conservation measures. However, these measures would become effective in the future as the activities are proposed or parcels are leased. Therefore, any potential beneficial effects to shrubby reed-mustard from reduced impacts of energy and mineral development would be analyzed in the future at the site-specific level and would not be contemporaneous with this decision. Potential beneficial effects from the action with respect to energy and mineral development are therefore not considered in this programmatic level analysis, but will be addressed in subsequent site-specific analyses.

Off-road vehicle use is not identified by the USFWS as a threat to shrubby reed-mustard, but direct contact by vehicles could damage or kill individuals. Indirectly, soil disturbance as a result of off-road vehicle use can increase soil erosion and promote invasive species. With this action, no additional travel or vehicle uses are proposed. The specific conservation measure BLM MA-TTM-2 states that "*PHMAs and GHMAs that do not have designated routes in a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use)*." Thus, if any areas of occupied or suitable habitat for shrubby reed-mustard within PHMA or GHMA are currently open to off-road vehicle use, concurrent restrictions would be placed on vehicles to use only existing routes. This would provide a small but contemporaneous beneficial effect to shrubby reed-mustard by reducing the likelihood of damage from off-road vehicles.

Another proposed conservation measure that is reasonably certain to occur is the action of "work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation" (BLM MA-LAR-5). Implementation of this action would involve transporting personnel and supplies to each tower needing to be retrofitted. The minimal disturbance to vegetation would be from vehicle access along the right-of-way roads, possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, shrubby reed-mustard individuals may be damaged by the crushing action of vehicle tires and foot traffic. For shrubby reed-mustard, the probability of plants occurring on or directly adjacent to right-of-way roads or near existing towers is very small. The probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any affected plants would likely have survived much

greater disturbances or would have become established within previously disturbed areas along the right-of-way. The potential impacts to individuals due to this action would not significantly impact the local populations because the adjacent core habitat would be unaffected.

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to shrubby reed-mustard from this programmatic decision.

There is the potential for additional indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions. However, at this programmatic planning level, these future actions are currently unknown and any possible effects are too speculative to evaluate at this time and are not reasonably certain to occur. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to shrubby reed-mustard would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Existing conservation measures

The Vernal Field Office Resource Management Plan includes general conservation measures for protection of listed species and their habitats, including goals and objectives to conserve, protect, and recover federally listed species and the ecosystems on which they depend. Please see the Vernal Field Office section in Appendix D for details of the current conservation measures applicable to shrubby reed-mustard.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PHMA and GHMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Shrubby Reed-Mustard

A potential beneficial effect to shrubby reed-mustard may result in PHMA/GHMA from the action of restricting vehicle use to existing roads and trails (where travel planning has not previously been completed – BLM MA-TTM-2). A slight chance of damage to individuals may result from retrofitting existing towers with perch deterrents (BLM MA-LAR-5), but the probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Oil and gas development and other ground disturbing actions would continue to be threats to shrubby reed-mustard, and although these threats may also be reduced by the proposed Land Use Plan Amendments, any benefit due to restricted or prohibited actions would occur in future years, and thus the benefit would not be contemporaneous and is not considered in this analysis. All potential effects will be considered during future site-specific analyses.

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect shrubby reed-mustard because the anticipated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the

Vernal Field Office would be beneficial due to the reduced threat from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

Because no suitable habitats for shrubby reed-mustard are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to shrubby reed-mustard in these areas.

Uinta Basin hookless cactus (*Sclerocactus wetlandicus*)

Uinta Basin hookless cactus is known to occur on the Price and Vernal Field Offices. No occurrences or habitat are suspected to occur within PHMA. Only one documented site is located within GHMA, near Ninemile Canyon in the Vernal Field Office.

At the time of the original listing of the Uinta Basin hookless cactus complex, ongoing and foreseeable threats included mineral and energy development, illegal collection, recreational off-road vehicle use, and grazing. New threats identified since original listing include climate change, parasitism by the cactus-borer beetle, and invasive weeds.

With this action, no new energy and mineral activities are proposed. Several conservation measures for greater sage-grouse may prevent or reduce impacts from energy and mineral activities, but these measures would become effective in the future as the activities are proposed or parcels are leased. Therefore, any potential beneficial effects to Uinta Basin hookless cactus from reduced impacts of energy and mineral development would be analyzed in the future at the site-specific level and would not be contemporaneous with this decision. Potential beneficial effects from the action with respect to energy and mineral development are therefore not considered in this programmatic level analysis, but will be addressed in subsequent site-specific analyses.

The proposed conservation measures include a focus on invasive species management, with many of the specific measures being applicable only in PHMA. However, some measures do apply to GHMA as well. For instance, the conservation measure MA-FIRE-4 states to control invasive vegetation post-treatment. Any increase in invasive species treatments as a result of the proposed LUP Amendments may benefit Uinta Basin hookless cactus habitat by reducing the spread of invasive species, which are considered a threat to Uinta Basin hookless cactus. These measures would also become effective in the future as the activities are proposed. Therefore, any potential beneficial effects to Uinta Basin hookless cactus from reduced impacts from invasive species would be analyzed in the future at the site-specific level and would not be contemporaneous with this decision. Potential beneficial effects from the action with respect to invasive species are therefore not considered in this programmatic level analysis, but will be addressed in subsequent site-specific analyses.

Off-road vehicle use is a threat to Uinta Basin hookless cactus because direct contact can damage or kill individuals. Soil disturbance as a result of off-road vehicle use can also increase erosion. With this action, no additional travel or vehicle uses are proposed. The specific conservation measure BLM MA-TTM-2 states that “PHMAs and GHMAs that do not have designated routes in

a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use).” Thus, if any areas of occupied or suitable habitat for Uinta Basin hookless cactus within PHMA or GHMA are currently open to off-road vehicle use, restrictions would be placed on vehicles to use only existing routes. This would provide a small but contemporaneous beneficial effect to Uinta Basin hookless cactus by reducing the likelihood of damage from off-road vehicles.

Another proposed conservation measure that is reasonably certain to occur is the action of “*work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation*” (BLM MA-LAR-5). Implementation of this action would involve transporting personnel and supplies to each tower needing to be retrofitted. The minimal disturbance to vegetation would be from vehicle access along the right-of-way roads, possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, Uinta Basin hookless cactus individuals may be damaged by the crushing action of vehicle tires and foot traffic. For Uinta Basin hookless, the probability of plants occurring on or directly adjacent to right-of-way roads or near existing towers is very small. The probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any affected plants would likely have survived much greater disturbances or would have become established within previously disturbed areas along the right-of-way. The potential impacts to individuals due to this action would not significantly impact the local populations because the adjacent core habitat would be unaffected. Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to Uinta Basin hookless cactus from this programmatic decision. As stated above, there may be potential beneficial effects from BLM MA-TTM-2 restricting cross-country motorized travel.

There is the potential for additional indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions. However, at this programmatic planning level, these future actions are currently unknown and any possible effects are too speculative to evaluate at this time and are not reasonably certain to occur. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to Uinta Basin hookless cactus would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Existing conservation measures

The Vernal FO RMP includes general conservation measures for protection of listed species and their habitats, including goals and objectives to conserve, protect, and recover federally listed species and the ecosystems on which they depend. Similarly, the Price FO RMP also includes general conservation measures to protect listed species and their habitats. Please see the Vernal Field Office and Price Field Office sections in Appendix D for details of the current conservation measures applicable to listed plant species.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated

effects of the current proposal. The action area for the current proposal is limited to PHMA and GHMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Uinta Basin hookless cactus (Sclerocactus wetlandicus)

A potential beneficial effect to Uinta Basin hookless cactus may result in PHMA/GHMA from the action of restricting vehicle use to existing roads and trails (where travel planning has not previously been completed – BLM MA-TTM-2). A slight chance of damage to individuals may result from retrofitting existing towers with perch deterrents (BLM MA-LAR-5), but the probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Oil and gas development, other ground disturbing actions, and invasive species would continue to be threats to Uinta Basin hookless cactus, and although these threats may also be reduced by the proposed Land Use Plan Amendments, any benefit due to restricted or prohibited actions would occur in future years, and thus the benefit would not be contemporaneous and is not considered in this analysis. All potential effects will be considered during future site-specific analyses.

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Uinta Basin hookless cactus because the anticipated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Vernal Field Office would be beneficial due to the reduced threat from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

Because no suitable habitats for Uinta Basin hookless cactus are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to Uinta Basin hookless cactus in these areas.

Ute ladies'-tresses (Spiranthes diluvialis)

Ute ladies'-tresses is known to occur on the Uinta-Wasatch-Cache National Forest, the Grand Staircase-Escalante National Monument, the Vernal Field Office and is suspected on the Salt Lake Field Office and the Fishlake National Forest. Occurrences on the Uinta-Wasatch-Cache National Forest do not overlap greater sage-grouse habitat. Several occurrences on BLM lands occur just outside PHMA. Those occurrences are along drainages, and it is possible that sage-grouse would use the areas during breeding and nesting seasons.

Threats to Ute ladies'-tresses include off-road vehicle use, competition with aggressive nonnative plants, alteration of hydrologic regimes through stream management, urbanization (conversion of potential habitat and increasing demands for water), drought, trampling from livestock, wild horses and burros, and recreational use. (USFWS 1995). Of these, effects from off-road vehicle

use, competition with nonnative plants, and trampling by livestock, wild horses and burros could potentially occur from proposed actions. Proposed actions associated with grazing and invasive plants have the potential to benefit Ute ladies;-tresses and its habitat in the future by reducing threats associated with livestock grazing, wild horse and burro use, and the invasion of nonnative plants. Winter grazing has been shown to be beneficial to Ute ladies'-tresses populations in Colorado by reducing competing vegetation and escape cover for voles (Fertig 2005). Meadow populations that are less directly influenced by seasonal flooding may be dependent on a mix of winter grazing and mowing to maintain habitat conditions needed for long-term persistence of the Ute ladies'-tresses (Fertig 2005). Any reductions in winter grazing could be detrimental to Ute ladies'-tresses. Changes in livestock grazing and wild horse and burro management may or may not occur as a result of implementation of the proposed actions, depending on whether current management is meeting or making progress toward greater sage-grouse habitat objectives. Therefore it is not known whether such modifications would take place, and if so, it is not known when, where, or how modifications would occur. Beneficial effects, such as reduced impacts from grazing and invasive species, are possible from these actions, but the extent of benefit and likelihood of occurrence are too speculative to quantify. The proposed action also allows for construction of water developments if they would enhance conditions for greater sage-grouse. Associated changes in the hydrologic regime could adversely affect Ute ladies'-tresses occurrences. Existing conservation measures (see below) would mitigate any potential effects from such actions. If these actions are proposed in the future, site-specific analysis of potential effects to the Ute ladies'-tresses would be required.

Ute ladies'-tresses habitat typically does not overlap with lands suitable for energy and mineral development and energy and mineral development is not generally considered a threat to Ute ladies'-tresses. With this action, no new energy and mineral activities are proposed, do these activities are not likely to affect Ute ladies'-tresses.

Off-road vehicle use is a threat to Ute ladies'-tresses because direct contact can damage or kill individuals and cause reduced seed production. Soil disturbance as a result of off-road vehicle use can increase erosion and alter the hydrology of the habitat. No additional travel or vehicle uses are proposed. The specific conservation measure BLM MA-TTM-2 states that "PHMAs and GHMAs that do not have designated routes in a Travel Management Plan would be managed as limited to existing routes until a Travel Management Plan designates routes (unless they are already designated as limited to designated routes or closed to OHV use)." Thus, if any areas of occupied or suitable habitat for Ute ladies'-tresses within PHMA or GHMA are currently open to off-road vehicle use, restrictions would be placed on vehicles to use only existing routes. This would provide a small but contemporaneous beneficial effect to Ute ladies'-tresses by reducing the likelihood of damage from off-road vehicles.

Another proposed conservation measure that is reasonably certain to occur is the action of "*work with ROW holders to retrofit existing towers with perch deterrents or other anti-perching devices, where appropriate, to limit GRSG predation*" (BLM MA-LAR-5). Implementation of this action would involve transporting personnel and supplies to each tower needing to be retrofitted. The minimal disturbance to vegetation would be from vehicle access along the right-of-way roads, possibly including parking the vehicles off the roads near each tower, and from foot traffic near the towers during retrofit activities. If present in these areas, Ute ladies'-tresses individuals may be damaged by the crushing action of vehicle tires and foot traffic. For Ute ladies'-tresses, the probability of plants occurring on or directly adjacent to right-of-way roads or near existing towers

is very small. The probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any affected plants would likely have survived much greater disturbances or would have become established within previously disturbed areas along the right-of-way. The potential impacts to individuals due to this action would not significantly impact the local populations because the adjacent core habitat would be unaffected.

Because the proposed Land Use Plan Amendments do not propose any specific ground disturbing actions, there would be no direct effects to Ute ladies'-tresses from this programmatic decision. As stated above, there may be potential beneficial effects from BLM MA-TTM-2 restricting cross-country motorized travel.

There is the potential for additional indirect effects (effects caused by the action, but are later in time) from future site-specific ground disturbing actions. However, at this programmatic planning level, these future actions are currently unknown and not reasonably certain to occur, and any possible effects are too speculative to evaluate at this time. All future site-specific projects will include an environmental analysis through the NEPA process and ESA section 7 consultation. Potential adverse effects to Ute ladies'-tresses would be avoided, minimized or mitigated through site-specific analysis of the details of such actions.

Current conservation/protection measures for Ute ladies'-tresses

Grand Staircase/Escalante Resource Management Plan

SSP-4: The allotment evaluation process will address the protection of endangered species, including the incorporation of the latest research and information in the protection of these species, consistent with the BLM-wide grazing permit review process. Section 7 consultation will be conducted for all allotments that may affect listed species.

SSP-9: Communication sites, utility rights-of-way, and road rights-of-way will not be permitted in known special status species populations. As permits are granted for these sites and rights-of-way, surveys will be completed to determine the presence of special status species in the area. If they are found, these activities will be moved to another location.

Measures specifically for Ute Ladies'-tresses (Spiranthes diluvialis)

SSP-18: The information in the **Water** section describes a strategy for assuring water availability. Under that strategy, priority will be to maintain natural flows and flood events. In addition, the maintenance of instream flows will provide adequate water for natural structure and function of riparian vegetation. Ute ladies'-tresses relies on these natural flood events to colonize new areas and maintain healthy and viable populations.

SSP-19: Surveys for this species were initiated the 1999 growing season and results of this survey will be used to determine any further actions.

SSP-20: Appropriate actions will be taken to prevent trampling of the plants by visitors in high-use areas. These actions may include replanting native vegetation or construction of barriers.

SSP-21: Areas may be closed if necessary to protect these plants. Barriers will be constructed and restoration work initiated to stabilize the soil and banks and provide the best possible habitat for this plant.

SSP-22: No expansion of current or new facilities will be permitted where this plant grows.

SSP-23: Existing trails in areas where this plant grows will be relocated away from the plants and potential habitat when possible. These protection measures apply to current as well as future potential habitat areas for this species.

SSP-24: Interpretive materials will be developed to educate the public about Ute ladies'-tresses and the actions being implemented to protect it.

SSP-25: Restoration of the current social trails in known populations will be initiated, including obliteration of the trail by planting native species, and moving soil to return the area to its natural grade. Group size restrictions, allocations, or other measures will be initiated if continued monitoring indicates that visitor use in the area is causing impacts.

Uinta National Forest

Sub-goal-2-15 (G-2-15): Ute ladies'-tresses (*Spiranthes diluvialis*) colonies are managed so as to contribute to the protection and recovery of the species within the Diamond Fork watershed. If necessary, these colonies will serve as propagation stock for new habitats within this watershed. Bee (pollinator) habitat is identified and protected in association with these plant colonies.

WL&F-16 Guideline: Where feasible, provide pollinator habitat adjacent to Ute ladies'-tresses colonies by avoiding the removal of down woody material in the course of any management activities in the lower 7.5 miles of the Diamond Fork River corridor. Where removal cannot be avoided, salvage a portion of down woody material greater than 3 inches in diameter and relocate it to sunny openings adjacent to Ute ladies'-tresses colonies.

Riparian habitat along Diamond Fork Creek is managed to achieve and maintain healthy, dynamic, sustainable communities in which the Ute ladies'-tresses orchid is an integral, if not dominant, component. Potential habitat for clay phacelia (*Phacelia argillacea*) is protected.

Cumulative Effects

To evaluate cumulative effects, the future State, Tribal, local, or private actions that are reasonably certain to occur within the action area are identified and their effects are added to the anticipated effects of the current proposal. The action area for the current proposal is limited to PHMA and GHMA occurring on BLM and Forest Service administered lands. No State, Tribal, local, or private lands exist within the action area, and no State, Tribal, local, or private actions are planned or expected to occur in the action area. Only federal actions are expected to occur in the action area; therefore, no cumulative effects are expected.

Summary Determination of Effects to Ute ladies'-tresses (Spiranthes diluvialis)

A potential beneficial effect to Ute ladies'-tresses may result in PHMA/GHMA from the action of restricting vehicle use to existing roads and trails (where travel planning has not previously been

completed – BLM MA-TTM-2). A slight chance of damage to individuals may result from retrofitting existing towers with perch deterrents (BLM MA-LAR-5), but the probability of damage is very small and the expected magnitude of impact would be so small as to be insignificant. Any benefit due to restricted or prohibited actions would occur in future years, and thus the benefit would not be contemporaneous and is not considered in this analysis. All potential effects would be considered during future site-specific analyses.

The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Ute ladies;-tresses because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the project area would be beneficial due to the reduced impacts from off-road vehicles. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

Because no suitable habitats for Ute ladies'-tresses are suspected to occur within the Cedar City, Fillmore, Price, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, or Manti-LaSal National Forests, there would be no effects to Ute ladies'-tresses in these areas.

DETERMINATIONS OF EFFECTS SUMMARY BY SPECIES

Table 6. Summary of determinations

Species	Status[14]	Determination[15]	Rationale
Black-footed ferret *Mustela nigripes*	Exp.	NLJ	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision is not likely to jeopardize the black-footed ferret in the Vernal Field Office. Activities implemented at the project-level may occur in proximity to black-footed ferrets; however, because the species is primarily nocturnal, disturbance impacts are expected to be temporary and insignificant. The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect black-footed ferret because there are no occurrences or identified reintroduction areas in the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-Lasal, or Uinta-Wasatch-Cache National Forests.

[14] E = Endangered; T = Threatened; P-T = Proposed Threatened

[15] NE = No Effect (Will not affect the species); NLJ = Not likely to jeopardize the continued existence of the species; NLAA = May affect, but is not likely to adversely affect; LAA = May affect, likely to adversely affect.

Species	Status[14]	Determination[15]	Rationale
Canada lynx *Lynx canadensis*	T	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision may affect, but is not likely to adversely affect Canada lynx in the Vernal Field Office or the Uinta-Wasatch-Cache or Ashley National Forests. Primary habitats for Canada lynx and GRSG are generally separate. Overlapping habitat is relegated to secondary habitats. Although most proposed GRSG conservation measures are consistent with the goals of lynx conservation measures because they reduce surface and habitat disturbances, GRSG disturbance caps have the potential to push some activities (such as a new road construction, energy development, or special use permitting) into Canada lynx habitat. However, site-specific analysis would ensure that project designs would not adversely affect Canada lynx would be conducted at the project level. There would be no effect to Canada lynx in the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-Lasal, or Uinta-Wasatch-Cache National Forests due to lack of species occurrence, lack of suitable habitat, or lack of potential impact to the species and its habitat..
Canada lynx Critical habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect Canada lynx critical habitat because there is no Canada lynx critical habitat designated within the Planning Area.
Utah prairie dog *Cynomys parvidens*	T	LAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision may affect, and is likely to adversely affect Utah prairie dog in the Cedar City, Fillmore, Kanab, and Richfield Field Offices and the Dixie and Fishlake National Forests. Overlapping habitat does occur, with potential for effects. There are mitigation measures for UPD, however, adverse effects to UPD may still result from activities associated with wildfire suppression, and from management actions associated with transmission line ROWs. The project would not affect Utah prairie dog in the Grand Staircase-Escalante National Monument, Price, Salt Lake, and Vernal Field Offices, and the Ashley, Manti-Lasal, and Uinta-Wasatch-Cache National Forests due to a lack of overlap between Utah prairie dog occurrence or UPD management areas and the action area.
California condor *Gymnogyps*	E	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact

Species	Status[14]	Determination[15]	Rationale
californianus			Statement decision may affect, but is not likely to adversely affect California condor in the Cedar City, Kanab, and Richfield Field Offices and the Dixie and Fishlake National Forests. There is no overlap of known or potential nest sites with GSG mapped habitats that constitute the action area. Overlapping of potential foraging habitat with GSG mapped habitat does occur, with potential for temporary disturbance or displacement which is expected to be insignificant. The project would not affect California condor in the Fillmore, Grand Staircase-Escalante National Monument, Price, Salt Lake, and Vernal Field Offices, and the Ashley, Manti-Lasal, and Uinta-Wasatch-Cache National Forests due to a lack of overlap between known occurrence and the action area.
California condor *Gymnogyps californianus* 10(j) Area)	Exp.	NLJ	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision may affect, but is not likely jeopardize California condor in the Cedar City, Kanab, and Richfield Field Offices and the Dixie and Fishlake National Forests. There is no overlap of known or potential nest sites with GSG mapped habitats that constitute the action area. Overlapping of potential foraging habitat with GSG mapped habitat does occur, with potential for temporary disturbance or displacement which is expected to be insignificant. The project would not affect California condor in the Fillmore, Grand Staircase-Escalante National Monument, Price, Salt Lake, and Vernal Field Offices, and the Ashley, Manti-Lasal, and Uinta-Wasatch-Cache National Forests due to a lack of overlap between breeding occurrence and the action area or lack of overlap lands and the 10(j) area. .There is no overlap of known or potential sites with GSG mapped habitats that constitute the action area. Overlapping of potential foraging habitat with GSG mapped habitat does occur, with potential for temporary disturbance or displacement.
Mexican spotted owl *Strix occidentalis lucida*	T	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision may affect, but is not likely to adversely affect Mexican spotted owl in the Price and Vernal Field Offices and the Manti-Lasal National Forest due to occurrence of MSO modeled suitable habitat within 0.5 mile of GSG mapped habitat in the action area. Cedar City, Kanab, and Richfield Field Offices and the Dixie and Fishlake National Forests. Conservation measures incorporated into the proposed plan ensure that the project will generate no adverse

Species	Status[14]	Determination[15]	Rationale
			effects. The project would not affect Mexican spotted owl in the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Price, Richfield and Salt Lake Field Offices, and the Ashley, Dixie, Fishlake, and Uinta-Wasatch-Cache National Forests due to a lack of MSO modeled suitable habitat within 0.5 mile of GSG mapped habitats in the action area.
Mexican spotted owl Critical Habitat	Designated	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision may affect, but is not likely to adversely affect Mexican spotted owl critical habitat. Overlap of critical habitat with GSG mapped habitats on BLM and Split Estate lands on 11,480 acres. Design features incorporated into the project ensure no adverse effects to critical habitat. The project will not affect Mexican spotted owl critical habitat on the Cedar City, Grand Staircase-Escalante National Monument, Kanab, and Richfield Field Offices, and Dixie and Fishlake National Forests due to overlap of critical habitat and GSG mapped habitat in the action area.
Southwestern willow flycatcher Empidonax traillii extimus	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the southwestern willow flycatcher on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, and Vernal Field Offices, and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap of known southwestern willow flycatcher occurrence with GSG mapped habitat within the action area. . There are no actions within this Land Use Plan Amendment decision that would impact suitable riparian habitats.
Southwestern willow **flycatcher** Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect southwestern willow flycatcher critical habitat because there is no overlap of designated critical habitat with GSG mapped habitats in the action area.
Western yellow-billed cuckoo *Coccyzus americanus*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the western yellow-billed cuckoo on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, and Vernal Field Offices, and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap of known species occurrence with GSG mapped habitat within the action area during the last 19 years. There are

Species	Status[14]	Determination[15]	Rationale
			no actions within this Land Use Plan Amendment decision that would impact suitable riparian habitats.
Western yellow-billed cuckoo Critical Habitat	Proposed	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect western yellow-billed cuckoo proposed critical habitat on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap between proposed critical habitat and GSG mapped habitats in the action area
Kanab ambersnail *Oxyloma haydeni kanabensis*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the Kanab ambersnail on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There are no occurrences within GSG mapped habitats in the action area.
Bonytail chub *Gila elegans*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the bonytail chub on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no known occurrence on lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
Bonytail chub Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect bonytail chub critical habitat on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap between critical habitat polygons and lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
Colorado pikeminnow *Ptychocheilus lucius*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact

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Species	Status[14]	Determination[15]	Rationale
			Statement decision will not affect the Colorado pikeminnow on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no known occurrence on lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
Colorado pikeminnow Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect Colorado pikeminnow critical habitat on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap between critical habitat polygons and lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
Greenback cutthroat trout *Oncorhynchus clarki stomias*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the greenback cutthroat trout on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no known occurrence on lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat.
Humpback chub *Gila cypha*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the humpback chub on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no known occurrence on lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
Humpback chub Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact

Species	Status[14]	Determination[15]	Rationale
			Statement decision will not affect humpback chub critical habitat on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap between critical habitat polygons and lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
June sucker *Chasmistes liorus*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the June sucker on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat.
June sucker Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect razorback sucker critical habitat on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap between critical habitat polygons and lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions.
Lahontan cutthroat trout *Oncorhynchus clarkii ssp. henshawi*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the Lahontan cutthroat trout on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat.
Razorback sucker *Xyrauchen texanus*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the razorback sucker on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake,

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Species	Status[14]	Determination[15]	Rationale
			Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no known occurrence on lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
Razorback sucker Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect razorback sucker critical habitat on the Cedar City, Fillmore, Grand Staircase-Escalante National Monument, Kanab, Price, Richfield, Salt Lake, and Vernal Field Offices and the Ashley, Dixie, Fishlake, Manti-Lasal, and Uinta-Wasatch-Cache National Forests. There is no overlap between critical habitat polygons and lands that constitute the action area. There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions to mainstem rivers of the Colorado River Basin.
Autumn Buttercup *Ranunculus aestivalis*	E	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but would not likely adversely affect autumn buttercup because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Kanab Field Office would be beneficial due to the reduced impacts from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level. The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement would not be likely to affect autumn buttercup within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Price, Richfield, Salt Lake, or Vernal field offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache national forests because the species is not known or suspected to occur in those areas.
Barneby reed-mustard *Schoenocrambe barnebyi*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Barneby reed-mustard because there are no occurrences or suitable habitat for Barneby reed-mustard within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley,

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Species	Status[14]	Determination[15]	Rationale
			Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Barneby reed-mustard occurrences or suitable habitat and PHMA/GHMA within the Price Field Office.
Barneby ridge-cress *Lepidium barnebyanum*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Barneby reed-mustard because there are no occurrences or suitable habitat for Barneby reed-mustard within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Barneby reed-mustard occurrences or suitable habitat and PHMA/GHMA within the Vernal Field Office.
Clay phacelia *Phacelia argillacea*	E	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect clay phacelia because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Salt Lake Field Office and on the Uinta National Forest would be beneficial due to the reduced impacts from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level. The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement would not affect clay phacelia or suitable habitat for the species within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, or Manti LaSal National Forests because there are no known or suspected occurrences of clay phacelia in those areas.
Clay reed-mustard *Schoenocrambe argillacea*	T	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect clay reed-mustard because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Vernal Field Office would be beneficial due to the reduced impacts from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse

Species	Status[14]	Determination[15]	Rationale
			effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level. Because no suitable habitats for clay reed-mustard are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to clay reed-mustard in these areas.
Deseret milk-vetch *Astragalus desereticus*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Deseret milk-vetch because there are no occurrences or suitable habitat for Deseret milk-vetch within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, or Fishlake National Forests, and there is no overlap between Deseret milk-vetch occurrences or suitable habitat and PHMA/GHMA within the Richfield Field Office or the Manti-LaSal or Uinta-Wasatch-Cache National Forests.
Heliotrope milk-vetch *Astragalus montii*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Heliotrope milk-vetch because there are no occurrences or suitable habitats for Heliotrope milk-vetch within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Heliotrope milk-vetch occurrences and suitable habitat and PHMA/GHMA within the Manti-LaSal National Forest.
Heliotrope milk-vetch *Astragalus montii* Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Heliotrope milk-vetch designated critical habitat because there is no designated critical habitat for Heliotrope milk-vetch within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Heliotrope milk-vetch designated critical habitat and PHMA/GHMA within the Manti-LaSal National Forest.
Jones cycladenia *Cycladenia humilis* var.	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact

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Species	Status[14]	Determination[15]	Rationale
jonesii			Statement will not affect Jones cycladenia because there are no occurrences or suitable habitat for Jones cycladenia within the Cedar City, Fillmore, Kanab, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Jones cycladenia occurrences or suitable habitat and PHMA/GHMA within the Grand Staircase/Escalante National Monument, Price or Richfield Field Offices.
Kodachrome bladderpod *Lesquerella tumulosa*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Kodachrome bladderpod because there are no occurrences or suitable habitat for Kodachrome bladderpod within the Cedar City, Fillmore, Kanab, Price, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Kodachrome bladderpod occurrences or suitable habitat and PHMA and/or GHMA within the Grand Staircase/Escalante National Monument.
Last Chance townsendia *Townsendia aprica*	T	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Last Chance townsendia because the anticipated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Richfield Field Office and the Fishlake National Forest would be beneficial due to the reduced threat from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level. Because no suitable habitats for Last Chance townsendia are suspected to occur in PHMA or GHMA within the Price Field Office or the Dixie National Forest, and suitable habitats are not suspected at all on the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Salt Lake, or Vernal Field Offices, or the Ashley, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to Last Chance townsendia in these areas.
Maguire primrose *Primula maguirei*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Maguire primrose because there are no occurrences or suitable

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Species	Status[14]	Determination[15]	Rationale
			habitat for Welsh's milkweed within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, or Manti-LaSal National Forests, and there is no overlap between Welsh's milkweed occurrences or suitable habitat and PHMA/GHMA within the Uinta-Wasatch-Cache National Forest. In addition, any actions which may be proposed in Logan Canyon would be subject to site-specific analysis at the project level. Appropriate conservation measures to avoid or minimize impacts to Maguire's primrose and another determination of effects would be provided at that time.
Pariette cactus *Sclerocactus brevispinus*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Pariette cactus because there are no occurrences or suitable habitat for Pariette cactus within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Pariette cactus occurrences or suitable habitat and PHMA/GHMA within the Vernal Field Office.
San Rafael cactus *Pediocactus despainii*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect San Rafael cactus because there are no occurrences or suitable habitat for San Rafael cactus within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between San Rafael cactus occurrences or suitable habitat and PHMA /GHMA within the Price or Richfield Field Offices.
Shrubby reed-mustard *Schoenocrambe suffrutescens*	E	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect shrubby reed-mustard because the anticipated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Vernal Field Office would be beneficial due to the reduced threat from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level.

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Species	Status[14]	Determination[15]	Rationale
			Because no suitable habitats for shrubby reed-mustard are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Price, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to shrubby reed-mustard in these areas.
Siler pincushion *Pediocactus sileri*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Siler pincushion because there are no occurrences or suitable habitat for Siler pincushion within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Price, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Siler pincushion occurrences or suitable habitat and PHMA/GHMA within the Kanab Field Office.
Uinta Basin hookless cactus *Sclerocactus wetlandicus*	T	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Uinta Basin hookless cactus because the anticipated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Vernal Field Office would be beneficial due to the reduced threat from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level. Because no suitable habitats for Uinta Basin hookless cactus are suspected to occur within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Richfield, or Salt Lake Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, there would be no effects to Uinta Basin hookless cactus in these areas.
Ute ladies'-tresses *Spiranthes diluvialis*	T	NLAA	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement may affect, but will not likely adversely affect Ute ladies'-tresses because the estimated effects to occurrences and suitable habitat that exist in PHMA and GHMA in the Grand Staircase-Escalante National Monument, Salt Lake, and Vernal Field Offices and the

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Species	Status[14]	Determination[15]	Rationale
			Fishlake and Uinta-Wasatch-Cache National Forests would be beneficial due to the reduced impacts from off-road vehicles, and only slight, insignificant indirect adverse effects may result from existing tower retrofit activities. Further, there are no potential direct adverse effects to this species from this action. In addition, any possible adverse effects from future ground-disturbing actions would likely be avoided because site-specific analysis and mitigation would occur at the project level. Because no suitable habitats for Ute ladies'-tresses are suspected to occur within the Cedar City, Fillmore, Kanab, Price, or Richfield Field Offices, or the Ashley, Dixie, or Manti-LaSal National Forests, there would be no effects to Ute ladies'-tresses in these areas.
Welsh's milkweed *Asclepias welshii*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Welsh's milkweed because there are no occurrences or suitable habitat for Welsh's milkweed within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Price, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Welsh's milkweed occurrences or suitable habitat and PHMA and/or GHMA within the Kanab Field Office.
Welsh's milkweed *Asclepias welshii* Critical Habitat	Designated	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Welsh's milkweed designated critical habitat because there is no designated critical habitat for Welsh's milkweed within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Price, Richfield, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Welsh's milkweed designated critical habitat and PHMA and/or GHMA within the Kanab Field Office.
Winkler cactus *Pediocactus winkleri*	T	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Winkler cactus because there are no occurrences or suitable habitat for Winkler cactus within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Winkler cactus occurrences or suitable habitat and PHMA and/or GHMA within the Price or Richfield Field Offices.

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Species	Status[14]	Determination[15]	Rationale
Wright fishhook cactus *Sclerocactus wrightiae*	E	NE	The Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Wright fishhook cactus because there are no occurrences or suitable habitat for Wright fishhook cactus within the Cedar City, Fillmore, Grand Staircase/Escalante National Monument, Kanab, Salt Lake, or Vernal Field Offices, or the Ashley, Dixie, Fishlake, Manti-LaSal, or Uinta-Wasatch-Cache National Forests, and there is no overlap between Wright fishhook cactus occurrences or suitable habitat and PHMA and/or GHMA within the Price or Richfield Field Offices.

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APPENDIX A: ADDITIONAL RATIONALE BEHIND NO EFFECT DETERMINATIONS FOR SELECT SPECIES OR GROUPS OF SPECIES IN TABLES 1 AND 2

Black-footed Ferret

The black-footed ferret is listed as an experimental, non-essential population within the action area. Black-footed ferrets have been documented only on the Vernal Field Office within the last 15 years as a result of reintroduction efforts in the Coyote Basin Reintroduction Area. As of 2012, the black-footed ferret population in Coyote Basin was estimated to consist of one breeding adult, down from a total of 25 breeding adults in 2008. Average estimate of breeding adults from 2008 to 2012 was seven individuals (USFWS 2013).

The Utah Greater Sage-Grouse Land Use Plan Amendment decisions are not likely to jeopardize the black-footed ferret. The primary threats to this species, loss of its prairie dog prey due to eradication as well as lack of regulatory mechanisms (USFWS 2013a), are not directly influenced by elements contained in this land use plan amendment. Secondary threats, such as oil and gas development, will not be authorized as part of this decision. Conservation measures specific to leased and unleased fluid minerals generally include stipulations either preventing new leasing or surface occupancy near leks or within PPMAs or PGMAs, timing restrictions, and disturbance caps. Although these measures have the potential to push fluid minerals development into adjacent areas, this potential for push effect is currently too speculative to analyze because there are no site-specific project projects currently proposed. Furthermore, site-specific analysis, including the potential for a push effect, will be conducted at the project level, and a determination of effects for the black-footed ferret will be made at that time.

Southwestern willow flycatcher

Southwestern willow flycatcher suitable habitat consists of patchy to dense riparian habitats along streams and wetlands near or adjacent to surface water or saturated soils.

The primary cause of the flycatcher's decline is loss and modification of habitat. Riparian ecosystems have declined from reductions in water flow, interruptions in natural hydrological events and cycles, physical modifications to streams, modification of native plant communities by invasion of exotic species, and direct removal of riparian vegetation (USFWS 2002a).

There is currently no known use of sage-grouse PPMA and/or PGMA within the planning area by southwestern willow flycatchers. While the action area may overlap with riparian habitat, there are no actions within this Land Use Plan Amendment decision that would alter risk factors or habitat conditions for the species. There is no overlap between designated critical habitat and the action area. Therefore, the Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect southwestern willow flycatcher or its habitat. In addition, any actions which may be proposed in in or adjacent to southwestern willow flycatcher suitable habitat would be subject to site-specific analysis at the project level, including Section 7 consultation and coordination as needed. Appropriate conservation measures to avoid or minimize impacts to Maguire primrose and another determination of effects would be provided at that time.

Comment [MLB3]: Replace the erroneous reference to "Maguire primrose" with "Southwestern willow flycatcher."

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Yellow-billed cuckoo

Yellow-billed cuckoos require large blocks of riparian woodlands (50 acres/20 hectares or more) within low to moderate elevation arid to semiarid landscapes.

Primary threat to the species is loss of suitable habitats. Principal causes of riparian habitat losses are conversion to agricultural and other uses, dams and river flow management, stream channelization and stabilization, and livestock grazing. Available breeding habitats for cuckoos have also been substantially reduced in area and quality by groundwater pumping and the replacement of native riparian habitats by invasive non-native plants, particularly tamarisk. Much of the remaining habitat is in poor condition and heavily affected by human use. Fragmentation effects include the loss of patches large enough to sustain local populations, leading to local extinctions, and the potential loss of migratory corridors, affecting the ability to recolonize habitat patches. The threats facing the western U.S. population of the yellow-billed cuckoo continue as a result of habitat loss from clearing and removal, or alteration and fragmentation of riparian forest for agriculture, urban development, flood control, and as a result of invasion of habitat by exotic species. The majority of the habitat for the cuckoo is on private lands and continues to be affected through land use conversion and grazing (USFWS 2011).

There is currently no known use of sage-grouse PPMA and/or PGMA within the planning area by yellow-billed cuckoos. While the action area may overlap with riparian habitat, there are no actions within this Land Use Plan Amendment decision that would alter risk factors or habitat conditions for the species. In addition, there is no critical habitat proposed within the planning area. Therefore, the Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect yellow-billed cuckoo or its habitat. In addition, any actions which may be proposed in in or adjacent to western yellow-billed cuckoo suitable habitat would be subject to site-specific analysis at the project level, including Section 7 consultation and coordination as needed. Appropriate conservation measures to avoid or minimize impacts to Maguire primrose and another determination of effects would be provided at that time.

Comment [MLB4]: Replace the erroneous reference to "Maguire primrose" with "yellow-billed cuckoo."

Colorado River Fishes (Bonytail chub, Humpback chub, Colorado pikeminnow, Razorback sucker)

Streamflow regulation, water depletion, and associated habitat modification are identified as primary threats to Colorado River listed fish populations (USFWS 1990, 2002b, 2002c, 2002d). There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause streamflow alterations, modifications, or water depletions in these drainages. There is no overlap between designated critical habitats and the action area. In addition, site-specific analysis will be conducted at the project level and a determination of effects for each of the Colorado River fish species will be made at that time. Therefore, the Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the bonytail chub, humpback chub, Colorado pikeminnow, razorback sucker, or their habitat.

June sucker

June sucker habitat is low gradient streams and lakes with good water quality. Three populations have been introduced to locations off-forest to attempt to ensure species survival: one population each in Camp Creek Reservoir in Box Elder County, Red Butte Reservoir on the Wasatch-Cache National Forest;

and at the Ogden Nature Center in Weber County. The refuge population in Box Elder County (lake habitat) overlaps GRSG mapped habitat on Split Estate land.

Threats to the species include habitat alteration and the introduction of nonnative fishes. Habitat alterations include the following: (I) water development has altered natural flow events, reduced annual lake-level stability, and blocked migration corridors; (2) changes in water quality have resulted in higher monthly river and lake temperatures, reduced dissolved oxygen levels, increased sedimentation rates and levels of dissolved solids, and increased turbidity; and (3) urbanization has resulted in development of the Provo River flood plain, channelization of the river and a reduction in available nursery habitat. The introduction of nonnative fishes has resulted in competition and predation as well as water quality changes such as increased turbidity. Loss of recruitment has resulted from a combination of the above factors (USFWS 1999).

There are no actions within this Land Use Plan Amendment decision that would impact aquatic habitat or cause water depletions, flow reductions or diversions, water quality, or presence of introduced fish species. There is no overlap between designated critical habitats and the action area. Therefore, the Utah Greater Sage-Grouse Land Use Plan Amendment and Final Environmental Impact Statement decision will not affect the June sucker or its habitat.

Lahontan cutthroat trout

Lahontan cutthroat trout (LCT) inhabits both lakes and streams, but is an obligatory stream spawner in habitat that is characterized by well-vegetated and stable streambanks, stream bottoms with relatively silt-free gravel/rubble substrate, cool water, and pools in close proximity to cover and velocity breaks. Known occurrences overlap GSG mapped habitat on BLM and Split Estate lands on Salt Lake FO.

Major impacts to Lahontan cutthroat trout habitat and abundance include: 1) Reduction and alteration of stream discharge; 2) alteration of stream channels and morphology; 3) degradation of water quality; 4) reduction of lake levels and concentrated chemical components in natural lakes; and 5) introductions of non-native fish species (USFWS 1995). There are no actions within this Land Use Plan Amendment decision that would alter water availability, decrease water quality, or affect the distribution of non-native fishes. In addition, site-specific analyses will be conducted at the project level and a determination of effects for Lahontan cutthroat trout will be made at that time. Therefore, the Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Lahontan cutthroat trout or its habitat.

Barneby reed-mustard, Barneby ridge cress, Jones cycladenia, Kodachrome bladderpod, Maguire primrose, Pariette cactus, Siler pincushion, Welsh's milkweed, and Winkler cactus

These nine species are not suspected of occurring in any PHMA/GHMA areas because the species' ranges are considerably outside the range of greater sage-grouse (See Figure 4 below), with at least 5 miles between the proposed PHMA/GHMA and known occurrences. Their suitable habitats are not expected to occur in PHMA/GHMA. Enough distance separates these species from PHMA/GHMA that no direct or indirect effects are expected, and the proposed LUP amendments would not affect these plants or their habitats.

Barneby reed-mustard occurs within about 22 miles of PHMA.

Barneby ridge cress occurs within about 8 miles of PHMA.

Jones cycladenia occurs within about 25 miles of PHMA.

Kodachrome bladderpod occurs within about 13 miles of PHMA.

Maguire primrose occurs within about 9 miles of PHMA.

Pariette cactus occurs within about 5 miles of PHMA.

Siler pincushion occurs within about 16 miles of PHMA.

Welsh's milkweed and occurs within about 6 miles of PHMA.

Welsh's milkweed critical habitat occurs within about 6 miles of PHMA.

Winkler cactus occurs within about 11 miles of PHMA.

With no overlap or interaction between the action areas of the proposed LUP amendments (PHMA/GHMA on BLM and FS managed lands) and suitable habitats for these species, no effects are expected for Barneby ridge cress, Barneby reed-mustard, Jones cycladenia, Kodachrome bladderpod, Maguire primrose, Siler pincushion, Welsh's milkweed, Welsh's milkweed critical habitat, and Winkler cactus. In addition, if any activities are proposed in habitats for these species because the activity is restricted in PHMA/GHMA, further site-specific analysis and mitigation of effects, if needed, would be conducted at the project level, and adverse effects to the species would likely be avoided or minimized.

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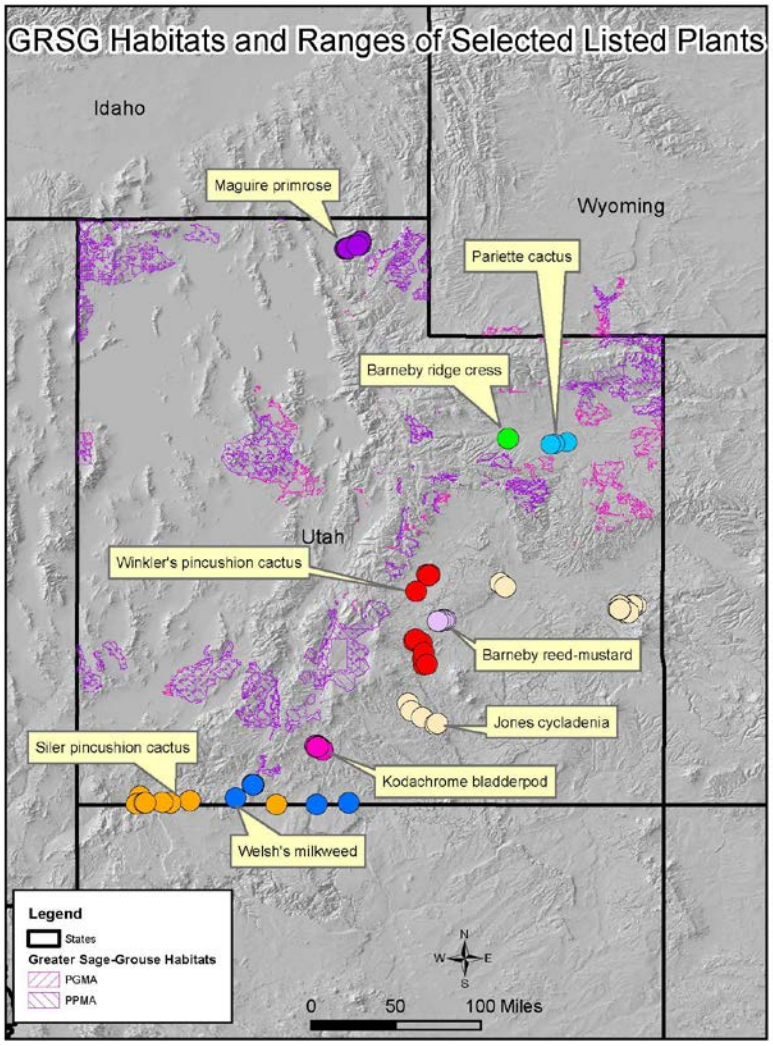

Figure 3. Species with ranges considerably outside Greater Sage-grouse habitat

Deseret milkvetch

Deseret milkvetch was considered extinct for decades until its rediscovery in 1981. It was listed in 1999 by the USFWS as threatened. In 2007, the USFWS gave advanced notice of intention to remove Deseret milkvetch from the list of endangered and threatened plants in the near future (USFWS 2007a). It was determined that previous threats were not as significant as once believed, and that the species is not likely to become in danger of extinction throughout all or a significant portion of its range in the foreseeable future. Surveys conducted in 2006 indicated that the known population had increased by 31 percent since the time of listing (USFWS 2007a). Approximately 67 percent of the species' range is managed by the Utah Department of Wildlife Resources as part of the Northwest Manti Wildlife Management Area. Utah Department of Wildlife Resources management provides protection against anticipated threats (rural development, cattle grazing and impacts to pollinator habitat), thus mitigating concern for the species.

Deseret milkvetch is known from a single location in Utah County, Utah in the Thistle Creek watershed east of Birdseye, Utah. The total occupied area covers approximately 345 acres (USFWS 2007). This species is restricted to steep, sandy, west and south facing slopes of the Moroni Formation at elevations from 5,400 to 5,600 feet. The associated vegetation is an open pinyon-juniper community with sagebrush, bitterbrush, Indian ricegrass, and needle-and-thread. The one known location is over 3 miles from the nearest PHMA/GHMA, and the plant's apparent habitat is restricted to the Thistle Creek watershed near Birdseye, UT. Because suitable habitat for this species is not suspected to occur within PHMA/GHMA, the proposed LUP amendments would not affect deseret milkvetch.

Heliotrope milkvetch

Heliotrope milkvetch occurs only on the Manti-LaSal National Forest, at three locations. All suitable habitat (high elevation, limestone barrens derived from the Flagstaff Geological Formation) has been surveyed for this species, and only the three known occurrences have been found (USFWS 1995). Designated critical habitat is located at the western Heliotrope Mountain population, and this site is about 3.9 miles from PHMA and about 6.5 miles from GHMA. The other two locations (eastern Heliotrope Mountain and White Mountain populations) are closer to PHMA and GHMA, but do not overlap. The eastern Heliotrope Mountain population is about 3.5 miles from PHMA and about 5.1 miles from GHMA. The White Mountain population is about 1.8 miles from PHMA and about 9.5 miles from GHMA. Because there is no overlap between the action area (PHMA/GHMA) and Heliotrope milkvetch populations or its habitat of high elevation limestone barrens, the Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Heliotrope milkvetch .

Heliotrope milkvetch Designated Critical Habitat

Designated critical habitat for Heliotrope milkvetch is located at the western Heliotrope Mountain population, and this site is about 3.9 miles from PHMA and about 6.5 miles from GHMA. Because there is no overlap between the action area (PHMA/GHMA) and Heliotrope milkvetch designated critical habitat, the Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement will not affect Heliotrope milkvetch designated critical habitat.

Maguire primrose

Maguire primrose is a small, herbaceous, perennial forb with an estimated population size of about 3,000 individuals in six populations, all in Logan Canyon, Utah. The entire known habitat of Maguire primrose

lies within Federal lands managed by the Logan Ranger District of the Wasatch-Cache National Forest. It was listed as a threatened species in 1985.

Maguire primrose is found in cool, moist microclimates on dolomitic limestone derived soils. It is found on north facing exposures in cracks and crevices of cliff and boulder faces from 4,800 to 6,000 feet elevation. Known occurrences are all in Logan Canyon, and PHMA is about 9.4 miles from the nearest occurrence.

Vulnerable due to its restricted habitat and small population size, Maguire primrose primary threats include habitat loss due to road construction and recreational activities. The greatest threats to Maguire's primrose are from habitat loss as a result of highway construction and other activities (USFWS 1990). Maintenance and improvements of water pipelines through Logan Canyon could also impact the species. Other threats include camping, rock climbing and horticultural plant collecting.

No change in the current management for Maguire primrose habitats is expected from the proposed LUP amendments. None of the above threats would be influenced by the proposed LUP amendments. Because Maguire primrose grows on steep, rocky, often inaccessible substrates and the habitat would not likely be targeted for greater sage-grouse habitat management activities, no effects are anticipated from the Utah Greater Sage-Grouse Land Use Plan Amendment and Environmental Impact Statement. In addition, any actions which may be proposed in Logan Canyon would be subject to site-specific analysis at the project level, including Section 7 consultation and coordination as needed. Appropriate conservation measures to avoid or minimize impacts to Maguire primrose and another determination of effects would be provided at that time.

Existing conservation measures: Wasatch-Cache NF - Special management has been initiated in Logan Canyon so that rock climbers do not impact the Maguire's Primrose, a threatened plant species. Protective measures will be provided for Maguires Primrose and Frank Smith's Violet populations in the lower portions of Logan Canyon. Wheeler's Angelica habitat will be improved through targeted noxious weed programs and riparian conservation. The US Forest Service requirements of the Maguires Primrose Recovery Plan and the Bear River Endemics Conservation Agreement with US Fish and Wildlife Service will be met.

San Rafael cactus

San Rafael cactus is endemic to Emery and Wayne counties in central Utah. It occurs on benches, hilltops, and gentle slopes in open piñon-juniper and salt desert scrub communities between 6,000 to 6,700 feet in elevation, restricted to limestone gravels, shales, clays and silty substrates of the Mancos, Morrison, Moenkopi and Carmel formations (USFWS 2013c). It is known from five population centers including Mussentuchit, McKay Flat, Wedge, Short Canyon, and Ferron (USFWS 2007b). The species range is centered on the San Rafael Swell and extends into southwestern Emery County.

The threats facing San Rafael cactus described through the listing process included collection for horticultural purposes; off-road vehicle and livestock trampling; mineral exploration, including uranium, gypsum, and clay mining; drought; natural herbivory and predation; and known extant areas with fragile ecosystems that are easily degraded. Additional factors reported since the time of listing are global climate change, low fruit/seed output, and the impacts of exotic plant species (USFWS 2007b).

No overlap with greater sage-grouse habitat occurs with San Rafael cactus; however a few known sites are within about 1 mile of PHMA, on the gentle slopes below South Horn Mountain. Habitat for San Rafael cactus does not extend up the steep slopes to the higher elevations of South Horn Mountain where PHMA is present on the Manti-LaSal National Forest. No effects, adverse or beneficial, are expected for San Rafael cactus populations or habitat from the proposed LUP amendments due to the distance separating them from the proposed action area (PHMA/GHMA). Because suitable habitat for this species is not suspected to occur within PHMA/GHMA, the proposed LUP amendments would not affect San Rafael cactus. In addition, if any activities are proposed in San Rafael cactus habitat because the activity is restricted in PHMA/GHMA, further site-specific analysis and mitigation of effects, if needed, would be conducted at the project level, and adverse effects to the species would likely be avoided or minimized.

Wright fishhook cactus

Wright fishhook cactus *(Sclerocactus wrightiae*) is a small barrel shaped cactus, with short central spines, listed as endangered in 1979. It occurs in Emery, Sevier, Wayne, and Garfield Counties, Utah. It has been found on soil formations such as Emery sandstone, Mancos shale, Dakota sandstone, Morrison, Summerville, Curtis, Entrada sandstone, Carmel, Moenkopi, and alluvium. Vegetation associations include semi-barren sites within desert scrub or open pinyon juniper woodland communities at 4,200 to 7,600 feet in elevation.

The primary threats to Wright fishhook cactus at listing included exploration and development of energy and mineral resources, off highway vehicle use, illegal collection, and small population sizes. Recreational use, including off-highway vehicles, grazing, high mortality to recruitment ratios, predation, and drought related impacts are the largest threats today (USFWS 2012b). Illegal collection is still a concern.

No overlap occurs between Wright fishhook cactus habitat and PHMA/GHMA. The species occurs in much the same area as San Rafael cactus described above, being centered in the San Rafael Swell. The western edge of Wright fishhook cactus' range approaches to within about 1 mile of PHMA near South Horn Mountain and within about 1.7 miles of PHMA near Last Chance Creek. Habitat for Wright fishhook cactus does not extend up the steep slopes to the higher elevations of South Horn Mountain or to the top of the limestone cliffs near Last Chance Creek, where PHMA is present on the Manti-LaSal National Forest. No effects, adverse or beneficial, are expected for Wright fishhook cactus populations or habitat from the proposed LUP amendments due to the distance separating it from the proposed action area (PHMA/GHMA). Because suitable habitat for this species is not suspected to occur within PHMA/GHMA, the proposed LUP amendments would not affect Wright fishhook cactus. In addition, if any activities are proposed in Wright fishhook cactus habitat because the activity is restricted in PHMA/GHMA, further site-specific analysis and mitigation of effects, if needed, would be conducted at the project level, and adverse effects to the species would likely be avoided or minimized.

APPENDIX B: BUREAU OF LAND MANAGEMENT PLAN COMPONENTS

See accompanying document with the BLM proposed Land Use Plan Amendment components, which is an excerpt from Chapter 2 of the FEIS.

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APPENDIX C: FOREST SERVICE PLAN COMPONENTS

See accompanying document with the Forest Service proposed Land Use Plan Amendment components, which is an excerpt from Chapter 2 of the FEIS.

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APPENDIX D: EXISTING CONSERVATION MEASURES

The following measures apply to the species that were analyzed in the A*nalysis of Effects* section for plants.

Below is a partial list of existing national conservation measures for TEP plants on BLM administered lands.

- *Special Status Species Management, BLM Manual 6840* directs field office managers to implement Special Status Species programs within their area of jurisdiction by:
  - conducting and maintaining current inventories for Special Status Species on public lands;
  - providing for the conservation of Special Status Species in preparing and implementing recovery plans with which BLM has concurred, interagency plans, and conservation agreements;
  - ensuring that all actions comply with the ESA, its implementing regulations, and other directives associated with conserving Special Status Species;
  - coordinating field office activities with federal, state, and local groups to ensure the most effective program for Special Status Species conservation;
  - ensuring actions are evaluated to determine whether Special Status Species objectives are being met;
  - ensuring all actions authorized, funded, or carried out by BLM follow the interagency consultation procedures as outlined in 50 CFR, Part 402; and
  - ensuring results of formal Section 7 consultations, including Threatened and Endangered (T&E) incidental take statements, are implemented.

- All BLM units are subject to national direction regarding treatment of invasive nonnative plants. National direction includes, but is not limited to, BLM Manual and Handbook direction (9011, 9014, 9015, H-9011-1) and the Vegetation Treatments Using Herbicides in 17 Western States Programmatic EIS (BLM 2007a), the Record of Decision for the project (BLM 2007b) and the supporting final Biological Assessment (BA) (BLM 2007c).

  - Mitigation measures in the Record of Decision for the *Vegetation Treatments Using Herbicides in 17 Western States Programmatic EIS* require following all conservation measures listed in the final Biological Assessment for the project (BLM 2007c). Conservation measures listed in the BA include:
    - Surveys of all proposed action areas with potential habitat for TEP species prior to treatments
    - Establishment of site-specific no activity buffers; buffer distances vary from 100 to 1,200 feet
    - Pre and post-treatment monitoring
    - Avoidance of OHV use in suitable or occupied lands
    - No use of biocontrol agents that target plants in the same genus as TEP plants
    - Evaluation of biocontrol agents that target plants in the same family as TEP plants
    - Measures related to herbicide drift, runoff, spills
    - Measures related to aerial application
    - Measures related to each of 20 herbicides
  - The following BLM Standards for Public Land Health and Guidelines for Livestock Grazing Management (1997) apply for listed plant species:

- Standard 4: Special status, threatened and endangered species (federal and state), and other plants and animals officially designated by the BLM, and their habitats are maintained or enhanced by sustaining healthy, native plant and animal communities.
- Guideline 7. Natural occurrences such as fire, drought, flooding, and prescribed land treatments should be combined with livestock management practices to move toward the sustainability of biological diversity across the landscape, including the maintenance, restoration, or enhancement of habitat to promote and assist the recovery and conservation of threatened, endangered, or other special status species, by helping to provide natural vegetation patterns, a mosaic of successional stages, and vegetation corridors, and thus minimizing habitat fragmentation.

Dixie National Forest

Species: Last Chance townsendia

Land and Resource Management Plan (USDA Forest Service 1986)

Goal No. 1. . Manage classified species (bald eagle (E), peregrine falcon (E) , Utah prairie dog (TI, Astragalus perianus (E), Bonneville cutthroat trout (S), Colorado River cutthroat trout (SI, (E = Endangered, T = Threatened, S = Sensitive) habitat to maintain or enhance their status through direct habitat improvement and agency cooperation.

Wildlife and Fish Resource Management

General Direction

7. Manage and provide habitat for recovery of endangered and threatened species.

Rights-of-Way and Land Adjustments

3. Classify lands or interest in lands for acquisition where lands are valuable for NFS purposes according to the following priorities:

C. Lands which provide habitat for threatened and endangered species of animals or plants.

4. Classify lands for disposal according to the following priorities:

When critical or unique resouroe (wetlands, floodplains, essential big game winter range, threatened or endangered speoies habitat, historical or cultural resources, critical ecosystems. etc.) exist. Effects are mitigated by reserving interests to proteot the resource, or by exchange where other oritioal resources to be acquired are considered to be of equal or greater value.

Special Stipulations – Oil and Gas

15. Activity Coordination Stipulation. This lease includes lands within *_____. In order to minimize impacts to these resources, special conditions, such as unitization prior to approval of operations, and/or other limitations to spread surface disturbance activi ties over time and space may be required prior to approval and commencement of any operations on the lease.

*Visually sensitive areas, Areas of Threatened and Endangered Species.

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16. Protection of Endangered or Threatened Species. The Federal surface management agency is responsible for assuring that the area to be disturbed is examined, prior to undertaking any surface-disturbing activities on lands covered by this lease, to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened, or their habitats. If the findings of this examination determine that the operation may detrimentally affect an endangered or threatened species, some restrictions to the operator's plans or even disallowances of use may result. The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be disturbed. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the surface management agency identifying the anticipated effects or the proposed action on endangered or threatened species or their habitat.

Special Stipulations – Coal

Forest Service Stipulation No. 2

- If there is reason to believe that threatened or endangered (T6E) species of plants or animals, or migratory species of high Federal interest occur in the area, the Lessee shall be required to conduct an intensive field inventory of the area to be disturbed and/or impacted. The inventory shall be conducted by a qualified specialist and a report of findings will be prepared making recommendations for the protection of these species or action necessary to mitigate the disturbance. The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the Lessee.

Fishlake National Forest

Species: Last Chance townsendia, Ute ladies'-tresses

Land and Resource Management Plan (USDA Forest Service 1986)

Analysis of Management Situation

Resource Elements

Threatened, Endangered, and Sensitive Plants

Habitat for threatened and sensitive species may occur within grazing allotments. When this happens, allotment management plans will recognize and provide for the protection of these species. Sites for the threatened species have been located and mapped. They occur on small areas on the Tushar and Monroe Mountains.

Goals:

Wildlife and Fish Management Direction

Identify and improve habitat for sensitive, threatened and endangered species including participation in recovery efforts for both plants and animals.

General direction

5. Manage and provide habitat for recovery of endangered and threatened species.

6. Do not allow activities or practices that would negatively impact endangered, threatened, or sensitive plant or animal species.

Lands and Realty

3. Classify lands or interest in lands for acquision where lands are valuable for national forest system purposes according to the following priorities:

C. Lands which provide habitat for threatened and endangered species of animals and plants.

4. Classify lands for disposal according to the following priorities:

D. When critical or unique resource (wetlands, floodplains, essential big game winter range, threatened or endangered species habitat, historical or cultural resources, critical exosystems, etc. Effects are mitigated by reserving interests to protect the resource, or by exchange where other critical resources to be acquired are considered to be of equal or greater value.

Stipulations for Mineral Activities

12. Activity Coordination Stipulation . This lease includes lands within *_____ . In order to minimize impacts to these resources, special conditions, such as unitization prior to approval of operations, and/or other limitations to spread surface disturbance activities over time and space may be required prior to approval and commencement of any operations on the lease.

*Wilderness Areas, Further Planning Areas, Areas of Threatened and Endangered Species.

13. Protection of Endangered of Threatened Species. The Federal surface management agency is responsible for assuring t h a t the area to be disturbed is examined, prior to undertaking any surface-disturbing activities on lands covered by this lease, to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened species, some restrictions to the operator's plans or even disallowances of use may result.

The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be distrubed. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface managemnet agency. An acceptable report must be provided to the surface management agency identifying the anticipated effects of the proposed action on endangered or threatened species or their habitat.

Grand Staircase-Escalante National Monument

Species: Ute ladies'-tresses

Monument Management Plan (BLM 2000) Special Status Species

SSP-1: The BLM will continue to consult with the USFWS to ensure that actions authorized by the BLM do not jeopardize the continued existence of any federally listed plant species or result in the destruction or adverse modification of critical habitats. Coordination with the U.S. Forest Service, the Utah Division of Wildlife Resources' Natural Heritage Program, and the National Park Service will also occur in areas where plant species cross jurisdictional lines. The BLM will work with these agencies to develop recovery plans, when needed, and to implement existing recovery plans for all listed species.**SSP-2**: No exceptions for cross-country vehicular travel will be made in known habitat or locations of sensitive plant species.

SSP-3: Surface disturbing research activities will generally not be allowed in threatened or endangered plant species habitat. All scientific research projects in close proximity to listed species populations or habitat will be evaluated by Monument biologists, the USFWS, and appropriate experts prior to initiation to determine impacts to these populations or habitat. Any research project which may have an effect on populations of listed species will be coordinated with the USFWS and appropriate permits and Section 7 consultation will be completed as determined

necessary. Projects which provide new information and understanding of listed species, their populations and/or their habitat, may be allowed after approval by the BLM and the review and issuance of permits by the USFWS. All projects will be evaluated on a case-by-case basis.

SSP-4: The allotment evaluation process will address the protection of endangered species, including the incorporation of the latest research and information in the protection of these species, consistent with the BLM-wide grazing permit review process. Section 7 consultation will be conducted for all allotments that may affect listed species.

SSP-5: Future fuelwood cutting areas will not be designated in listed plant populations (see the Forestry Products section for related decisions).

SSP-6: Areas with threatened or endangered plants will be targeted for noxious weed control activities as a first priority. BLM employees or contractors with appropriate certification will be responsible for use of chemicals in noxious weed removal efforts, and will take precautions to prevent possible effects to non-target species.

SSP-7: Public education about protection of these species will be an integral part of projects and will be provided in interpretive displays and handouts at project sites and visitor centers around the Monument. Information will also be included on the Monument website.

SSP-8:BLM law enforcement personnel and increased field presence of BLM personnel will concentrate efforts in areas with special status species habitat in order to curb non-compliance activities. The BLM is pursuing cooperative agreements with each of the Sheriff departments in Kane and Garfield Counties to facilitate shared law enforcement and support for enforcing established closures.

SSP-9:Communication sites, utility rights-of-way, and road rightsof-way will not be permitted in known special status species populations. As permits are granted for these sites and rights-of-way, surveys will be completed to determine the presence of special status species in the area. If they are found, these activities will be moved to another location.

SSP-10: Reseeding or surface disturbing restoration after fires will not be allowed in areas with special status plant species. Natural diversity and vegetation structure will provide adequate regeneration. Management ignited fires will also not be allowed in these areas unless consultation with the USFWS indicates that fire is necessary for the protection and/or recovery of listed species.

Ute Ladies'-tresses *(Spiranthes diluvialis)*

SSP-18: The information in the **Water** section describes a strategy for assuring water availability. Under that strategy, priority will be to maintain natural flows and flood events. In addition, the maintenance of instream flows will provide adequate water for natural structure and function of riparian vegetation. Ute ladies'-tresses relies on these natural flood events to colonize new areas and maintain healthy and viable populations.

SSP-19: Surveys for this species were initiated the 1999 growing season and results of this survey will be used to determine any further actions.

SSP-20: Appropriate actions will be taken to prevent trampling of the plants by visitors in high-use areas. These actions may include replanting native vegetation or construction of barriers.

SSP-21: Areas may be closed if necessary to protect these plants. Barriers will be constructed and restoration work initiated to stabilize the soil and banks and provide the best possible habitat for this plant.

SSP-22: No expansion of current or new facilities will be permitted where this plant grows.

SSP-23: Existing trails in areas where this plant grows will be relocated away from the plants and potential habitat when possible. These protection measures apply to current as well as future potential habitat areas for this species.

SSP-24: Interpretive materials will be developed to educate the public about Ute ladies'-tresses and the actions being implemented to protect it.

SSP-25: Restoration of the current social trails in known populations will be initiated, including obliteration of the trail by planting native species, and moving soil to return the area to its natural grade. Group size restrictions, allocations, or other measures will be initiated if continued monitoring indicates that visitor use in the area is causing impacts.

Kanab Field Office

Species: Autumn buttercup (Suspected)

Autumn buttercup is not known from BLM or USFS administered lands. The closest field unit to known occurrences is the Kanab Field Office.

Resource Management Plan (BLM 2008b)

The Kanab FO RMP (BLM 2008) includes a statement related to fluid mineral exploration and development as it relates to TEP species and proposed critical habitat.

> *BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activity that will contribute to a need to list such a species or their habitat. BLM may require modifications to or disapprove proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. BLM will not approve any ground disturbing activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 U.S.C. 1531* et seq., *including completion of any required procedure for conference or consultation.*

The Kanab FO RMP (BLM 2008b) Appendix 9 includes lease notices for oil and gas activities in areas with special status plant species habitat. IM 2002-174 also directs State Offices to "provide a separate notification to prospective lessees identifying the particular special status species that are present on the lease parcel offered. This information is to be provided through a lease notice and not by lease stipulation (unless otherwise provided in current LUPs). This stipulation would now be attached to most oil and gas leases issued by the Bureau, including areas identified in LUPs as open to standard lease terms.

Lease Notice—Listed Plant Species – from ROD app 9

The lessee/operator is given notice that the lands in this parcel contain suitable habitat for federally listed plant species under the ESA. The following avoidance and minimization measures have been developed to facilitate review and analysis of any submitted permits under the authority of this lease:

1. Site inventories:

    a. Must be conducted to determine habitat suitability.
    b. Are required in known or potential habitat for all areas proposed for surface disturbance prior to initiation of project activities, at a time when the plant can be detected, and during appropriate flowering periods.

c. Documentation should include but not be limited to individual plant locations and suitable habitat distributions.
d. All surveys must be conducted by qualified individuals.

2. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated.

3. Project activities must be designed to avoid direct disturbance to populations and to individual plants:

a. Designs will avoid concentrating water flows or sediments into plant occupied habitat.
b. Construction will occur down-slope of plants and populations where feasible; if well pads and roads must be sited up-slope, buffers of 100 feet minimum between surface disturbances and plants and populations will be incorporated.
c. Where populations occur within 200 feet of well pads, establish a buffer or fence the individuals or groups of individuals during and post-construction.
d. Areas for avoidance will be visually identifiable in the field (e.g., flagging, temporary fencing, or rebar).
e. For surface pipelines, use a 10-foot buffer from any plant locations:

- i. If on a slope, use stabilizing construction techniques to ensure the pipelines do not move toward the population.

4. For riparian/wetland-associated species (e.g., Ute ladies-tresses), avoid loss or disturbance of riparian habitats:

a. Ensure that water extraction or disposal practices do not result in change of hydrologic regime.

5. Limit disturbances to and within suitable habitat by staying on designated routes.

6. Limit new access routes created by the project.

7. Place signing to limit all-terrain vehicle (ATV) travel in sensitive areas.

8. Implement dust abatement practices near occupied plant habitat.

9. All disturbed areas will be revegetated with native species composed of species indigenous to the area.

10. Post-construction monitoring for invasive species will be required.

11. Where technically and economically feasible, use directional drilling or multiple wells from the same pad to reduce surface disturbance and eliminate drilling in plant habitat. Ensure that such directional drilling does not intercept or degrade alluvial aquifers.

12. Lease activities will require monitoring throughout the duration of the project. To ensure desired results are being achieved, minimization measures will be evaluated and, if necessary, Section 7 consultation reinitiated. Additional measures to avoid or minimize effects on the species may be developed and implemented in consultation with the USFWS between the lease sale stage and lease development stage to ensure continued compliance with the ESA.

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Manti-La Sal National Forest

Species: Clay phacelia (Suspected)

Land and Resource Management Plan (1986)

Forestwide goals

- Protect, maintain, and/or improve habitat for threatened or endangered and sensitive plants and animals.
- Habitats of threatened and endangered species would be maintained. Habitat would be surveyed and appropriate action taken. Habitats for sensitive species would be managed to reduce the potential of these species becoming threatened or endangered.
- Desired conditions
- Habitats of threatened and endangered species would be maintained. Habitat would be surveyed and appropriate action taken. Habitats for sensitive species would be managed to reduce the potential of these species becoming threatened or endangered.
- Endangered, threatened, and sensitive plant species populations and their habitats would be maintained and improved. Land disturbing activities would be reviewed for endangered, threatened, and sensitive plant species and clearance would be made before the projects are approved, thus, providing the safeguards needed for their protection and continued existence.

Wildlife and Fish General Management

General direction

- 02 Manage habitat for recover of endangered and threatened species.
- 04 Manage habitat of sensitive species to keep them from becoming threatened or endangered.

Rights-of-Way and Land adjustments

03 Classify lands or interest in lands for acquisition where lands are valuable for NFS purposes according to the following priorities:

B. Lands which provide habitat for threatened and endangered species of animals and plants.

E. When important or unique resources (wetlands, floodplains, essential big-game winter range, threatened or endangered species habitat, historical or cultural resources, critical eco- systems),

Appendix B Mineral stipulations and mitigation statements

Forest Service Stipulation #2

- If there is reason to believe that threatened or endangered (T&E) species of plants or animals, or migratory species of high Federal interest occur in the area, the Lessee shall be required to conduct an intensive field inventory of the area to be disturbed and/or impacted. The inventory shall be conducted by a qualified specialist and a report of findings will be prepared. A plan will be prepared making recommendations for the protection of these species or action necessary to mitigate the disturbance.
- The cost of conducting the inventory, preparing reports, and carrying out mitigating measures shall be borne by the Lessee.

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Surface disturbance stipulations

6. Protection of Threatened or Endangered Species

- The Forest Service is responsible for assuring adequate protection for threatened and endangered species occurring in the area to be disturbed. Prior to undertaking any surface disturbing activities on lands covered by this lease, the lessee shall contact the appropriate Forest Service officer to be advised of the occurrence of, and requirements for protection of, any plant or animal species listed or proposed for listing as endangered or threatened or their habitat. Lessee may be required to complete inventories under guidelines provided by the Forest Service if areas of proposed surface disturbance may result in adverse impacts on threatened or endangered species. Presence of such species may result in some restrictions to the operator's plans or even disallowing any use or occupancy that would detrimentally affect any of the identified species.
- Discovery of any threatened or endangered species during operations will require cessation of such operations until the appropriate Forest Service officer and the authorized officer of the Bureau of Land Management have been advised and approved protective measures implemented.

Special Stipulations

15. Activity Coordination Stipulation

This lease includes lands within*_____ , which has resource values sensitive to high levels of activity. In order to minimize impacts to these resources, special conditions, such as unitization prior to approval of operations, and/or other limitations to spread surface disturbance activities over time and space may be required prior to approval and commencement of any operations on the lease.

*Wilderness Area, Further Planning Areas, Areas of Threatened and Endangered Species

16. Protection of Endangered or Threatened Species

The Federal Surface Management Agency is responsible for assuring that the area to be disturbed is examined prior to undertaking any surface-disturbing activities on lands covered by this lease, to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened, or their habitats. If the findings of this examination determine that the operation may detrimentally affect an endangered or threatened species, or its habitat, some restrictions to the operator's plans or even disallowance of use may result.

Appendix C: Unsuitability and Multiple Use Management Evaluation

CRITERION NUMBER 9 - Federally designated critical habitat or threatened or endangered plant and animal species and habitat for Federal threatened or endangered species which is determined by the Fish and Wildlife Service and the surface management agency to be of essential value and where the presence of threatened or endangered species has been scientifically documented, shall be considered unsuitable.

Exceptions - A lease may be issued and mining operations approved if, after consultation with the Fish and Wildlife Service, the Service determines that the proposed activity is not likely to jeopardize the continued existence of the listed species and/or its critical habitat.

Exemptions - This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

CRITERION NUMBER 10 - Federal lands containing habitat determined to be critical or essential for plant or animal species listed by a state pursuant to state law as endangered or threatened shall be considered unsuitable.

Exceptions - A lease may be issued and mine operations approved if, after consultation with the state, the surface management agency determines that the species will not be adversely affected by all or certain stipulated methods of coal mining.

Exemptions - This criterion does not apply to lands: To which the operator made substantial legal and financial commitments prior to January 4, 1977; on which surface coal mining operations were being conducted on August 3, 1977; or which include operations on which a permit has been issued.

Appendix D: Energy Transportation and Utility Corridor Evaluation

Exclusion Areas

The following areas have been identified as exclusion areas:

1. Research Natural Areas
   - Elk Knolls
   - Nelson Mountain (Proposed)
   - Mount Peale (Proposed)
   - Cliff Dwellers Pasture (Proposed)
2. Great Basin Experimental Range
3. Scenic, Wilderness, and Recreation Areas
   - Dark Canyon Wilderness Area
   - Straight Canyon & Joe's Valley Recreation Area
   - Ferron Reservoir Recreation Area
   - Huntington Canyon Recreation Area
   - Hammond Canyon Archeological and Scenic Area

Price Field Office

Species: Last Chance townsendia

Resource Management Plan (BLM 2008)

- The BLM submitted a Biological Assessment (BA) and requested initiation of formal consultation on July 21, 2008. The USFWS responded with a Biological Opinion (BO) on October 27, 2008, completing the formal Section 7 consultation process. The BO concurred (see Appendix R-4) with the determinations made in the BA regarding potential effects on listed threatened and endangered species located within the
- planning area. The entire BO is attached to this Record of Decision (ROD) as a CD. The BO be a part of the implementation of the Approved RMP. These are committed measures that will be included as part of the proposed action of any subsequent site specific activities authorized by the RMP. Should any changes be made in any of the conservation measures identified in the BO, Section 7 consultation with USFWS will be re-initiated.
- The BLM, in coordination with the USFWS developed the majority of these committed conservation measures as part of a programmatic Section 7 consultation that was completed in 2007. Some modifications and additional measures were developed during the consultation process specific to the Price RMP. All site specific actions potentially impacting listed species or their critical habitat will implement these measures. Incorporating these measures will ensure that the BLM is in compliance with the Endangered Species Act and will help UDWR and BLM meet necessary management and recovery goals.
- BLM notes that the Biological Opinion (Appendix R-4 and attached CD), provides a number of recommended conservation measures that are beyond the scope of this Approved RMP, but may be considered in tiered

consultation with this programmatic opinion when project-specific analysis is conducted in the future. These recommended conservation measures are optional measures, additional to the committed mitigation contained in the Approved RMP, that BLM will consider at the appropriate time and as deemed necessary to manage and recover listed and candidate plant and animal species occurring within the planning area.

Management Decisions

VEG-5: In areas where multiple resources are potentially affected by surface disturbance (e.g., crucial wildlife habitat, livestock pastures, threatened and endangered [T&E] and special status species habitat, and occupied wild horse and burro range), coordinate implementation of any offsite mitigation with other affected agencies and the overlapping resource values. This strategy will enable identification of a suitable mitigation method and location to best accomplish the objective of offsetting the impacts and to ensure that benefits of the mitigation are distributed among all users and resources affected. The BLM will approach compensatory mitigation on an "as appropriate" basis where it can be performed onsite, and on a voluntary basis where it is performed offsite, or, in accordance with current guidance.

Special Status Species (SSS)

Goals:

- Maintain, protect, and enhance habitats (including but not limited to designated critical habitat) and actively promote recovery, maintenance, protection, and enhancement of populations and habitats of BLM, non-listed, special status plant and animal species to ensure that actions authorized, funded, or carried out do not contribute to the need for these species to be listed as T&E under the Endangered Species Act (ESA).
- Assist in managing, conserving, and recovering listed threatened and endangered plant and animal species found within the Price planning area, where appropriate.

The Biological Opinion for the Resource Management Plan includes recommended resource protection measures (USFWS 2008) that were integrated into the Approved Resource Management Plan (BLM 2008b). All recommended resource measures are listed in the Biological Opinion. They provide protection for riparian areas, wetlands, springs, habitat and other elements important for federally listed species. Several measures relate specifically to listed species:

All species

- Avoid land trades/disposals of listed species habitats.
- Avoid the broad-scale use of pesticides and insecticides in habitats of listed species during sensitive time periods such as breeding and nesting seasons.
- Disturbance of all suitable habitats for listed and sensitive species will be improved to provide adequate habitat (pre-disturbance condition or better).
- Decommission unnecessary roads and reclaim unauthorized illegal trails in habitats important to listed and sensitive species.
- Where appropriate at designated recreation sites, design recreation activities that are predictable for wildlife; i.e. provide well-marked trails or boardwalks to encourage controlled and predictable human use away from listed and sensitive species habitats, and discourage off-trail hiking and creation of alternate routes.
- Where recreation conflicts with use by listed and sensitive species, and area closures are not proactical, provide on-site monitoring to educate users and control use.
- Sponsor programs and post signs that educate users about the value of riparian habitat to listed and sensitive species.

Plants

- Avoid use of aerosol insecticides within 3 miles of listed plant populations to protect pollinators.
- Direct recreational activities away from occupied habitats of listed and sensitive plant species.

Richfield Field Office

Species: Last Chance townsendia

Resource Management Plan

Decision REC–18 has been modified to include language from Chapter 3 in the Proposed Plan/Final EIS. The Decision has been appended to explain that opening the RMZs in the Factory Butte SRMA to cross-country use will not occur until a number of criteria have been met. These criteria include ensuring appropriate infrastructure is in place to protect the threatened and endangered cacti, a monitoring plan is completed and enacted, and the authorized officer formally rescinds the Factory Butte OHV Restriction Order of 2006 when the above is completed. Upon signature of the ROD/Approved Plan, these cross-country RMZs remain under the Restriction Order until it is formally rescinded.

Best management practices are found in the Approved Resource Management Plan (2008); they would be used for site-specific projects if feasible.

- Areas considered for prescribed burns shall be surveyed for populations of threatened and endangered species and viable habitat.
- Environmental assessments should continue to be required before excavation permits are issued.
- The environmental assessments should include the presence or absence of threatened, endangered, or SSS and their suitable habitats.
- Seeding and revegetation actions will be adjusted to the special habitat and plant community characteristics of endangered and threatened plant populations.
- The BLM, in coordination with the USFWS developed committed conservation measures as part of a programmatic Section 7 consultation that was completed in 2007. Some modifications and additional measures were developed during the consultation process specific to the Richfield RMP. All site specific level actions potentially impacting listed species or their critical habitat will implement these measures.
- BLM notes that the Biological Opinion (Appendix 4 of the Resource Management Plan), provides a number of recommended conservation measures that are beyond the scope of this Approved RMP, but may be considered in tiered consultation with this programmatic opinion when project-specific analysis is conducted in the future. These recommended conservation measures are optional measures, additional to the committed mitigation measures contained in the Approved RMP, that BLM will consider at the appropriate time and as deemed necessary to manage and recover listed and candidate plant and animal species occurring within the planning area.
- The SRMA will be designed to protect threatened and endangered (T & E) species and provide a recreational experience that involves a high degree of self-reliance, challenge and risk in a natural setting. It is important to note the Approved RMP does not rescind the Factory Butte OHV Restriction Order (September 2006). The OHV use restrictions set forth in the September 2006 order will remain in effect until the determinations required by the regulation have been met (i.e. infrastructure in place, a monitoring program enacted to protect threatened and endangered cacti, and the Factory Butte OHV Restriction Order has been formally rescinded by the authorized officer).

Desired Outcomes (Goals and Objectives)

- Conserve and recover all SSS (including listed species) and the ecosystems on which they depend.

- Manage, minimize, and mitigate impacts to plant, fish, and animal species and habitats so that the need to list any of these species as threatened or endangered does not become necessary.
- Promote recovery and conservation of special status plant, fish, and animal species, including those listed under the Endangered Species Act (ESA).
- Prevent long-term habitat fragmentation through avoidance and/or site-specific reclamation to return areas to productive levels.
- Continue to work with United States Fish and Wildlife Service (USFWS) and others to ensure that plans and agreements are updated and implemented as necessary to reflect the latest scientific data.
- Where possible, implement the conservation actions identified in the Utah Comprehensive Wildlife Conservation Strategy (Utah Division of Wildlife Resources [UDWR] 2005c), which identifies priority wildlife species and habitats, identifies and assesses threats to their survival, and identifies long-term conservation actions needed,

Overall Special Status Species Management Guidance

SSS-1: For listed species that do not have designated critical habitat, cooperate with the USFWS and other agencies, such as the UDWR, in managing the species and their habitat.

SSS-2: Allow, initiate, or participate in scientific research of listed and sensitive species and their habitats.

SSS-3: Collaborate with the appropriate local, state, and federal agencies to promote public education on species at risk, their importance to the human and biological community, and reasons for protective measures that would be applied to the lands involved.

SSS-4: Implement species-specific conservation measures to avoid or mitigate adverse effects to known populations of listed and non-listed special status plant and animal species on public lands.

SSS-5: Prohibit actions that destroy, adversely modify, or fragment listed threatened or endangered species' habitat.

SSS-6: Maintain the integrity of SSS habitat to provide the quantity, continuity, and quality of habitat necessary to maintain SSS populations.

SSS-7: Conduct habitat improvement treatments for SSS. Future consultation would be needed for biological controls in SSS habitat.

SSS-8: Retain habitat for federally listed and candidate species in federal ownership. Exceptions may be considered in exchanges with the State of Utah and others after

SSS-9: Consider SSS habitat in all wildfire suppression efforts.

SSS-10: Conduct Section 7 consultation with the USFWS if biological treatments as a result of vegetation management actions are proposed in federally listed species habitats.

SSS-11:.Recovery Plans and Conservation Agreements.

SSS-12: Implement the goals and objectives of recovery plans, conservation agreements and strategies, and activity level plans using best available information to recover and conserve species to the point where requirements of the ESA are no longer necessary.

SSS-13: Work with USFWS and others to ensure that plans and agreements are updated and implemented as necessary to reflect the latest scientific data.

SSS-14: Implement the specific goals and objectives of recovery plans, conservation agreements and strategies, and approved activity-level plans.

SSS-15: Recovery Actions for Listed Species

SSS-16: Do not adversely modify or destroy designated critical habitats for federally listed species.

SSS-17: Provide habitat improvements and other management actions to promote conservation and recovery of listed species.

SSS-18: Reintroduction/Translocation of SSS

SSS-19: Allow translocations of listed and non-listed SSS to aid in conservation and recovery efforts. Implement necessary habitat manipulations and monitoring in translocation plans and allow identification and manipulation of Utah prairie dog translocation sites to achieve suitable conditions for successful translocations.

SSS-20: Use strategies to avoid or reduce habitat fragmentation when possible, including:

- Co-locating communication and other facilities
- Employing directional drilling for oil and gas
- Closing and reclaiming roads
- Landscape scale evaluations
- Using topographic and vegetative screening to reduce the influence of intrusions.

SSS-21: Mitigate the effects of proposed projects that have the potential to cause long-term or permanent habitat impacts or losses by enhancing, restoring, or creating other habitat within the project's region of influence. Consider protecting the habitat when the habitat type is rare and under severe development pressures. Protection should only be a portion of the mitigation and must contain elements of restoration or enhancement.

SSS-22: Use species-specific buffers and seasonal, temporal, and spatial restrictions to conserve habitat for SSS (Appendix 11 and Appendix 14).

Land and Realty Decisions

LAR-3: Consider proposals for wind and solar energy development throughout the RFO except within the following areas:

- WSAs (ROW exclusion areas in accordance with IMP)
- Fremont (Fremont Gorge) suitable wild river corridor
- ACECs
- Areas open to oil and gas leasing with NSO and areas closed to leasing.
- VRM Class I and II areas
- Migratory bird habitats and raptor nesting complexes
- Threatened & Endangered Species habitats

The Biological Opinion for the Resource Management Plan includes recommended resource protection measures (USFWS Undated) that were integrated into the Approved Resource Management Plan (BLM 2008c).All recommended resource measures are listed in the Biological Opinion. They provide protection for riparian areas, wetlands, springs, habitat and other elements important for federally listed species. Several measures relate specifically to listed species:

All species

- Avoid land trades/disposals of listed species habitats.
- Avoid the broad-scale use of pesticides and insecticides in habitats of listed species during sensitive time periods such as breeding and nesting seasons.
- Disturbance of all suitable habitats for listed and sensitive species will be improved to provide adequate habitat (pre-disturbance condition or better).
- Monitor condition of habitat in occupied, suitable, or potentially suitable habitat for listed and sensitive species to ensure maintenance of good to excellent ecological conditions; and consistent with available species-specific habitat requirements.
- Decommission unnecessary roads and reclaim unauthorized illegal trails in habitats important to listed and sensitive species.
- Avoid construction or expansion of recreation facilities within occupied, suitable, and potentially suitable habitat for listed and sensitive species.
- Where appropriate at designated recreation sites, design recreation activities that are predictable for wildlife; i.e. provide well-marked trails or boardwalks to encourage controlled and predictable human use away from listed and sensitive species habitats, and discourage off-trail hiking and creation of alternate routes.
- Where recreation conflicts with use by listed and sensitive species, and area closures are not practical, provide on-site monitoring to educate users and control use.
- Sponsor programs and post signs that educate users about the value of riparian habitat to listed and sensitive species.

Plants

- Avoid use of aerosol insecticides within 3 miles of listed plant populations to protect pollinators.
- Direct recreational activities away from occupied habitats of listed and sensitive plant species.

Salt Lake Field Office

Lands Program

Land Tenure Adjustments

DECISION I - BERMP, 1986

Allow additional disposals/exchanges if following criteria are met:

5) Land tenure adjustment (LTA) results in net gain of significant resource values such as important wildlife habitat. Including Threatened & Endangered species, cultural sites, riparian zones, live water, or would include a net gain of recreational opportunities;

Pony Express Management Plan ROD 1990

Lands Program Decision 3

In order to be considered, exchanges of public land in the Pony Express Resource Area must accomplish one or more of the following criteria:

(1) Increase public ownership within those areas of public land which are not available for disposal or any other transfer from Federal ownership and BLM management (see Table 4 and Figure 2).

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(2) Result in a net gain of significant resource values on public land such as important wildlife habitat, cultural sites, riparian zones, live water, and threatened and endangered species.

Wildlife and Fisheries Program Decision 2

All threatened and endangcrcd species are provided for under the Endangered Species Act; however, due to the unusual resource that exists within the Resource Area, additional measures will be made to improve and encourage the propagation of these important species.

Uinta National Forest (USDA Forest Service 2003)

Species: Clay phacelia, Maguire primrose, Ute ladies'-tresses

Land and Resource Management Plan (USDA Forest Service 2003)

FORESTWIDE GOALS

FW-Goal-2 Biologically diverse, sustainable ecosystems maintain or enhance habitats for native flora and fauna, forest and rangeland health, and watershed health.

- **Sub-goal-2-6 (G-2-6):** Ecosystems on the Forest provide and maintain viable and well-distributed populations of flora and fauna. New listings of threatened, endangered, and sensitive species as a result of Forest Service management activities are avoided. Population objectives developed cooperatively with the Utah Division of Wildlife Resources and U.S. Fish and Wildlife Service are achieved. To contribute to species stabilization and full recovery, habitats across all levels or scales for endangered, threatened, and proposed flora and fauna species listed in accordance with the Endangered Species Act are protected and recovered, and sensitive species appearing on the Forest Service Intermountain Region's Sensitive Species list are protected. Newly-developed management direction from recovery plans and conservation strategies to which the Forest Service is a signatory is incorporated as applicable to facilitate protection and/or recovery of threatened, endangered, or sensitive speciesSub-goal-2-13: Participate in the development and implementation of a habitat management strategy for clay phacelia (*Phacelia argillacea*).
- **Sub-goal-2-13 (G-2-13):** Participate in the development and implementation of a habitat management strategy for clay phacelia (*Phacelia argillacea*).
- **Sub-goal-2-14**: Potential habitat for clay phacelia (*Phacelia argillacea*) in the Spanish Fork Canyon area is managed to ensure quality habitat will be available in the future if it becomes necessary to introduce this species onto National Forest System lands to provide for its recovery.
- **Sub-goal-2-15 (G-2-15):** Ute ladies'-tresses (*Spiranthes diluvialis*) colonies are managed so as to contribute to the protection and recovery of the species within the Diamond Fork watershed. If necessary, these colonies will serve as propagation stock for new habitats within this watershed. Bee (pollinator) habitat is identified and protected in association with these plant colonies.

FW-Goal-3 Suitable commodity uses are provided in an environmentally sustainable and acceptable manner to contribute to the social and economic sustainability and diversity of local communities.

- **Sub-goal-3-1(G-3-1)**: If consistent with ecosystem health and integrity, and threatened, endangered, and sensitive species management, forage for livestock grazing on lands identified as suited for this use is provided to support social and economic community stability.

FW-Goal-7 When there is an apparent and overriding benefit, opportunities for consolidation of land ownership and subsurface and surface property rights, acquisition of appropriate access, and establishment of identifiable boundaries are pursued.

- **Sub-goal-7-3 (G-7-3):** Within the economic and social constraints of local communities, critical habitat for federally-listed threatened and endangered species and big game winter range under other ownership within and adjacent to the Forest boundary is acquired.

Vegetation Management

Veg-1 Standard: Permits for the collection of federally-listed threatened or endangered plant species may only be issued for scientific and education purposes, and then only if a Recovery Permit has been issued by the U.S. Fish and Wildlife Service.

Veg-3 Guideline: Permits for the collection of seeds or plant cuttings of species that are not federally-listed threatened, endangered, or candidate plants, or Forest Service sensitive plants, may be issued if collection is not likely to adversely impact population viability or have negative ecological effects.

Veg-5 Standard: Except for Forest Service approved scientific projects, restoration projects, or cultural uses, no seeds or plants may be collected in Research Natural Areas, locations where threatened or endangered plant species are known to occur, designated wilderness areas, areas recommended for wilderness designation, or developed recreation sites.

Veg-6 Guideline: Permits may be issued to collect plants for bioprospecting purposes.

Lands and Property Boundary Management

Lands-1 Guideline: Use the following criteria to assist in the identification of lands that could be made available for disposal/conveyance (criteria are not listed in any priority):

6. Additionally, disposal/conveyance of lands should not result in any net loss in critical winter ranges or threatened, endangered, or sensitive species habitats; wetlands; or identified critical access to the Forest.

Wildlife and Fish

WL&F-16 Guideline: Where feasible, provide pollinator habitat adjacent to Ute ladies'-tresses colonies by avoiding the removal of down woody material in the course of any management activities in the lower 7.5 miles of the Diamond Fork River corridor. Where removal cannot be avoided, salvage a portion of down woody material greater than 3 inches in diameter and relocate it to sunny openings adjacent to Ute ladies'-tresses colonies.

Desired Future Conditions

VEGETATION

Known populations of all federally-listed threatened, endangered, proposed, or candidate plant species, and all Forest Service sensitive plant species occurring on the Forest are maintained or increased. Suitable habitat for rare plant species and rare plant communities has been surveyed. Noxious weeds and undesirable invasive plants are effectively combated using integrated pest management. Priority is given to eliminating weeds from critical habitats and preventing new infestations, then to reducing density or eliminating longer-established populations. The Forest uses public education to motivate the public to employ weed prevention practices. Deteriorated vegetated communities are assessed for estimated potential for recovery, and active restoration work completed as appropriate. Suitable habitat conditions are provided for plant-pollinating insects.

Riparian habitat along Diamond Fork Creek is managed to achieve and maintain healthy, dynamic, sustainable communities in which the Ute ladies'-tresses orchid is an integral, if not dominant, component (USDA 2003). Potential habitat for clay phacelia (Phacelia argillacea) is protected.

Habitat for the endangered clay phacelia, as identified by Harper and Armstrong (1992), is managed to maintain its integrity. A habitat management strategy for clay phacelia is in place.

Vernal Field Office

Species: Clay reed-mustard, shrubby reed-mustard, Uinta Basin hookless cactus, Ute ladies'-tresses

Resource Management Plan (BLM 2008)

MANAGEMENT COMMON TO ALL DECISIONS

Goals and Objectives

Desired species, including native, threatened, endangered, and special-status species, are maintained at a level appropriate for the site and species involved.

Goals and Objectives for special status species

- Conserve and protect special status species and enhance their habitats.
- Conserve and recover all state special status species, including federally listed species and the ecosystems on which they depend.
- Implement the management recovery measures necessary to increase populations of special status species, including federally listed animal species, and restore them to their historic ranges by enhancing, protecting, and restoring known and potential habitat and the ecosystems on which they depend.
- Mitigate or reduce long-term habitat fragmentation through avoidance and site-specific reclamation to return areas to productive levels.
- Manage all listed T&E plant and animal species and the habitats upon which they depend in such a manner as to conserve and recover these species to the point where protection under the ESA is no longer necessary.
- Manage non-listed sensitive species and the habitats upon which they depend in such a manner as to preclude the need to list them as either threatened or endangered under the Endangered Species Act. The guidance for this management is put forth in the BLM 6840 Manual.
- Implement the specific goals and objectives of recovery plans, conservation agreements and strategies, and approved activity level plans. The BLM will continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data.
- Implement the direction contained in the Northwest National Fire Plan Project Design and Consultation Process and the Counterpart Regulations, including Alternative Consultation Agreements.
    - Implement the management necessary to increase populations of special status species, including federally listed animal species, and restore them to their historic ranges by enhancing, protecting, and restoring known and potential habitat.

Management Decisions for Special Status Species (SSS)

SSS-1: The BLM will continue to implement the specific goals and objectives of all recovery plans, conservation plans and strategies, and activity level plans. Recovery Plan revisions or new Recovery Plans will also be implemented.

SSS-2: The BLM will continue to work with USFWS and others to ensure that plans and agreements are updated as necessary to reflect the latest scientific data. Recovery plans have been finalized for Uinta Basin hookless cactus, shrubby reed–mustard, and clay reed-mustard. A draft plan is being developed by the USFWS for Ute ladies' tresses. A Conservation Plan has been prepared for Horseshoe milkvetch (*Astragalus equisolensis),* Goodrich beardtongue (*Penstemon goodrichii),* Graham beardtongue (*Penstemon grahamii),* and White River beardtongue (*Penstemon scarious* var. *albifluvis).*

SSS-3: Where special status plant species, including listed T&E plant species, occur on public lands in the VPA, the BLM will collaborate with affected and or appropriate local, state, and federal agencies and researchers in the implementation of approved recovery plans and conservation strategies to protect, stabilize, and recover such species and their habitats. In addition to on-the-ground actions, strategies will be developed to provide public education on species at-risk, significance and importance of the species to the human and biological communities, and reasons for protective measures that will be applied to the lands involved. Continue or develop monitoring studies in order to determine population dynam dynamics and trends.

SSS-4: Continue and complete inventories and map current occupied and potential habitats for all listed and non-listed special status plant and animal species.

SSS-5: Develop relevant species-specific plans utilizing USFWS guidelines where applicable. This may include habitat management plans, conservation agreements, or other suitable plans.

SSS-6: In collaboration with the USFWS, UDWR, and other partners, develop and implement habitat management plans or conservation strategies for sensitive species.

SSS-7: As additional data are collected over the life of the RMP, land managers will continually reevaluate population and habitat status. Management emphasis will be to accumulate ecological information and distributional data to enhance the BLM's ability to protect, conserve, recover, and manage these species in the future.

SSS-9: Collaborate with the appropriate local, state, and federal agencies to promote public education on species, their importance to the human and biological community, and reasons for protective measures that will be applied to the lands involved.

SSS-10: Conservation measures developed during the consultation on existing LUPs (June 2007) will be implemented as part of committed mitigation on new oil and gas leases. Appendix L contains lease notices developed from the conservation measures.

Goals and objectives for vegetation

- Protect special status plant species and their habitats.

Management direction for recreational resources

REC-15: The following recreation management guidelines were developed to help achieve and maintain healthy public lands as defined by the *BLM Utah Standards for Rangeland Health and Guidelines for Grazing Management*. They are listed below with the standard that they apply to:

<u>Rangeland Health Standard 1</u>

- Upland soils exhibit permeability and infiltration rates that sustain or improve
- site productivity, considering the soil type, climate, and landform.
- Designate areas for intensive recreational use or cross-country motorized
- travel where disturbance of soil and vegetation is acceptable, either because impacts are insignificant and/or temporary or because the value of intensive use of the land outweighs whatever ecological changes may occur.

Decisions on such designation shall take into account conflicts with other users as well as adverse effects on archaeological or historical sites, T&E species habitat, wildlife habitat, or social values such as beauty, solitude, and quiet.

- In all other areas, travel routes and other disturbances shall be kept to the minimum necessary to provide access and visitor facilities appropriate to the area. Through blocking, signing, and public education, unneeded travel routes shall be eliminated and rehabilitated and unplanned development of new ones discouraged.
- It may be necessary to manage some areas to be entirely free of planned travel routes.

Rangeland Health Standard 3

- Desired species, including native, T&E and special status species, are maintained at a level appropriate for the site and species involved.
- Protect against the establishment and/or spread of noxious or other weeds from intensive recreation, including the use of riding and pack animals, hiking, motorized, or other mechanized vehicles.
- Conduct an educational campaign to inform recreational users about the damage caused by noxious weeds and how their spread can be minimized.
- Where appropriate, apply restrictions, (i.e., do not permit surface-disturbing activities).
- Protect wildlife and plant and/or habitat by:
  - Preserving connectivity and avoiding fragmentation.
  - Controlling recreational activities that will interfere with critical wildlife stages such as nesting, reproduction, or seasonal concentration areas.
  - Avoiding creation of artificial attractions such as the feeding of wild animals or improper disposal of garbage.
  - Where necessary, control recreational use by changing location or kind of activity, season, intensity, distribution, and/or duration in order to protect plant and animal communities, especially those containing special status species, including listed T&E or candidate species.

Wasatch-Cache National Forest (USDA Forest Service 2003)

Species: Clay phacelia, Ute ladies'-tresses

Revised Land and Resource Management Plan (USDA Forest Service 2003)

Botanical Resources Desired Condition

- Management activities provide for ecological conditions that contribute to the recovery of federally listed, proposed, or sensitive species. Native species are present in amounts and distribution similar to historical patterns, including species that were once listed, or proposed for listing, as threatened or endangered under the ESA, or listed as sensitive by the Regional Forester. Populations of non-native plant species are reduced or eradicated in rare plant actual and potential habitat. Habitats are maintained to promote pollinator success and survival. Management activities (recreation, development and other activities) are at a level that maintains desired conditions and habitat dynamics during key life stages. Pro-active efforts are made to educate and inform users of fundamental importance of plant species to society, plant conservation, and biodiversity.

Forestwide Subgoals

Biodiversity and Viability

- **Sub-goal-3a**: Maintain or restore viability of populations of species at risk,

Watch List Plants and Rare Communities

- **Sub-goal-3b**. Maintain pollinators and minimize impacts to pollinators or their habitats.
- **Sub-goal-3c**. Increase understanding of and support research on the distribution, ecology, and threats to plant species at risk, nonvascular plants and rare plant communities.
  Sub-goal-3d. Restore or maintain **fire-adapted ecosystems** (consistent with land uses, historic fire regimes, and other Forest Plan direction) through wildland fire use, prescribed fire, timber harvest or mechanical treatments. See Forestwide Guideline (G for desired landscape structure and patterns.
- **Sub-goal-3e**. Maintain or restore as mature and old age classes 40% of total conifer and 30% of total aspen cover types, well distributed across the landscape.
- **Sub-goal-3f.** Maintain or restore, such that the species that occupy any given site are predominantly native species in the kind and amount that were historically distributed across the landscapes.
- **Sub-goal-3g**. Maintain and/or restore **tall forb communities** to mid seral or potential natural community (PNC) status.
- **Sub-goal-3h**. Evaluate areas with potential for Research Natural Area designation including Ben Lomond Peak (tall forb values), western portion of the Deseret Peak Wilderness (Great Basin community types and cryptogamic crusts).
- **Sub-goal-3i**. Maintain viability of species-at-risk (including endangered, threatened and sensitive species and unique communities).
- **Sub-goal-3j**. Manage Forest Service sensitive species to prevent them from being classified as threatened or endangered and where possible provide for delisting as sensitive.

Guidelines

(G23) Avoid actions on the Forest that reduce the viability of any population of plant species classified as Threatened, Endangered, Sensitive or recommended sensitive. Use management actions to protect habitats of plant species at risk from adverse modification or destruction. For species that naturally occur in sites with some disturbance, maintain the appropriate level of disturbance.

(G24) Management activities that negatively affect pollinators (e.g. insecticide, herbicide application and prescribed burns) should not be conducted during the flowering period of any known Threatened, Endangered, and Sensitive plant populations in the application area. An exception to this guideline is the application of *Bacillus thuringiensis*.

(G25) Integrated weed management should be used to maintain or restore habitats for threatened, endangered, proposed and sensitive plants and other native species of concern where they are threatened by noxious weeds or non-native plants. When treating noxious weeds comply with policy in Intermountain Region's Forest Service Manual *2080*, Supplement *#R4 2000-2001-1* (Appendix III).

(G26) Protect key big game calving, fawning and lambing (G39) Manage fire to protect, restore or enhance threatened, endangered, candidate, proposed, and Forest Service sensitive species and their habitats.

Management emphasis

3.2 Terrestrial Habitats (3.2U Undeveloped/3.2D Developed) Emphasis: Manage upland habitats to provide for sustaining and/or recovering desired plant and animal species and/or communities. Maintain or restore lands to meet desired conditions of habitat for threatened, endangered, and sensitive species. Considerations for these areas include winter ranges and corridors for seasonal migrations as well as movement of genetic materials, individuals, and populations; vegetation composition, structure, and pattern needed for life cycle stages; needs for control or eradication of undesirable non-native species; and protection of special or unique habitats.

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Desired Future Conditions: Botanical Threatened, Endangered, and Sensitive Species Protection/Recovery

- Rare plant habitats will be managed to maintain or restore and provide for recovery of populations of Threatened and current and proposed Sensitive plant species.
- Riparian plant habitats and rare riparian species will be protected from trampling and overuse by livestock grazing and recreational uses. Populations of non-native plant species will be reduced or eradicated in actual and potential rare plant habitat. Habitats will be maintained to promote pollinator success and survival and to provide for nesting needs. Proper stocking levels and utilization intensities of wildlife will maintain and protect rare plants and their associated habitat. Proactive efforts will be emphasized to educate and inform forest users of the fundamental importance of plant species to society, plant conservation, and biodiversity.
- Cliff, crevice, and ledge habitats will be protected and provide for the viability of a variety of cliff species along with a balance of recreational climbing opportunities.
- Recreational activities (rock climbing, hiking, biking, skiing) in Maguires Primrose and Frank Smith's Violet habitats, will be at a level that maintain individuals and habitat dynamics during key life stages including flowering and fruit production. Continued interactions with the local climbing community will provide for conservation of Logan Canyon endemics and recreational enjoyment. Reconstruction activities associated with Highway 89 will meet the requirements of the Bear River Endemics Conservation Agreement and provide for the viability of the Logan Canyon endemic species.
- Riparian plant habitats and rare riparian species will be protected from trampling and overuse by livestock grazing and recreational uses. Populations of non-native plant species will be reduced or eradicated in actual and potential rare plant habitat.
- Habitats will be maintained to promote pollinator success and survival and to provide for nesting needs. Proper stocking levels and utilization intensities will maintain and protect rare plants and their associated habitat.
- Proactive efforts will educate and inform forest users of the fundamental importance of plant species to society, plant conservation, and biodiversity.
- Protective measures will be provided for Maguires Primrose and Frank Smith's Violet populations in the lower portions of Logan Canyon.
- The US Forest Service requirements of the Maguires Primrose Recovery Plan and the Bear River Endemics Conservation Agreement with US Fish and Wildlife Service will be met.

Wilderness and Recommended Wilderness Areas Desired Future Conditions:

- The Tri-canyon wilderness areas will be recognized and managed as wild areas that have emphasis on maintaining diverse and viable populations and habitat for flora and fauna including threatened, endangered and sensitive species, and valuable watershed while still existing adjacent to large urban areas and high use developed recreation canyons.

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