

U.S. Sheep Experiment Station Grazing and Associated Activities Project 2009

***DRAFT* Botany Report**

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Table of Contents

Introduction.....	3
Overview of Issues Addressed	3
Affected Environment.....	3
Existing Condition.....	3
Desired Condition.....	7
Environmental Consequences	7
Methodology	7
Spatial and Temporal Context for Effects Analysis	7
Alternatives 1 –5	8
References (Literature Cited).....	9

List of Tables

Table 1 . Community type and common vegetation species	4
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List of Figures

Figure 1. Photo of <i>Spiranthes diluvialis</i> from Deer Creek, Utah, by Elaine Kneller	6
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Introduction

The purpose of this report is to provide analyses of botanical resources in response Settlement Agreement (December 2007) reached in the lawsuit Center For Biological Diversity, and Western Watersheds Project v. U.S. Sheep Experiment Station; U.S. Department Of Agriculture; Agricultural Research Service (ARS); and U.S. Forest Service.

Unlike the Forest Service or Bureau of Land Management, ARS is not a land management agency, and is not subject to the Federal Land Management Policy Act or the Forest Service Organic Act. The mission of the U.S. Sheep Experiment Station (USSES) located in Dubois, Idaho is to develop integrated methods for increasing production efficiency of sheep and to simultaneously improve the sustainability of rangeland ecosystems.

There are no land management guidelines or standards that focus management of specific botanical resources at the agency level. Therefore, the main focus of this report is to comply with federal requirements as set forth within the ESA.

Overview of Issues Addressed

Endangered Species Act of 1973 (ESA): The purpose of the ESA is to protect and recover imperiled species and the ecosystems upon which they depend. Under provisions of the ESA, federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of their critical habitats. Whenever an action may affect a species that is listed (or proposed for listing) or its habitat, federal agencies must consult with the U. S. Fish and Wildlife Service.

There is no direction from ARS with respect to special status state listed plant species. Therefore, state listed species are not included within this report. For a complete analysis of rangeland condition and impacts to overall vegetation composition at the U.S. Sheep Experiment Station see the Range report (Jankiewicz et al., 2009).

Affected Environment

Existing Condition

The Agricultural Research lands range in elevation from approximately 4,800 feet to nearly 10,000 feet, with average annual precipitation that ranges from approximately 10 inches in the Snake River plain greater than 21 inches in the Centennial Mountains. Because of its diverse geography, Agricultural Research lands contain subalpine meadow, foothill, sagebrush steppe, and desert shrubland ecosystems.

Table 1 . Community type and common vegetation species

Community Type	Scientific Name	Common Name
Headquarters: Elevation range: ~5,400-5,800 feet		
Three-tip and Mountain Big Sage dominated community along lava plain. Lava ridges have sparse vegetation with sharp increases in production towards swale bottomlands. Bluebunch wheatgrass dominate grass except where crested wheatgrass planted. Swales and roads have western wheatgrass.	<i>Achnatherum hymenoides</i>	indian rice grass
	<i>Artemisia tridentata</i> subsp. <i>vaseyana</i>	mountain big sagebrush
	<i>Artemisia tripartita</i>	three-tip sagebrush
	<i>Balsamorhiza sagittata</i>	arrow-leaf balsamroot
	<i>Castilleja linariaefolia</i>	indian paintbrush
	<i>Chrysothamnus nauseosus</i> subsp. <i>albicaulis</i> and subsp. <i>consimilis</i>	rabbit brush
	<i>Crepis acuminata</i>	taper-tip hawksbeard
	<i>Eriogonum</i> spp.	buckwheat species
	<i>Hesperostipa comata</i>	needle and thread grass
	<i>Gutierrezia sarothae</i>	broom snakeweed
	<i>Koeleria macrantha</i>	prairie June grass
	<i>Lupinus</i> spp.	lupine
	<i>Pascopyron smithii</i>	western wheat grass
	<i>Psuedoroegenaria spicata</i>	bluebunch wheatgrass
	<i>Poa nevadensis</i>	Nevada blue grass
<i>Poa secunda</i>	Sandberg bluegrass	
<i>Purshia</i> spp.	bitterbrush	
Henniger Ranch: Elevation range: ~ 6,300-6,500 feet		
Mixed community where foothills meet basaltic flows. Coniferous areas and aspen stands on hillslopes adjacent to three-tip and mountain big sagebrush plains. Forb rich swale meadows also interspersed along the sage and grass footslopes. Grass dominated low lands with planted pasture grasses	<i>Agropyron cristatum</i>	crested wheat grass
	<i>Artemisia tridentata</i> subsp. <i>vaseyana</i>	mountain big sagebrush
	<i>Balsamorhiza</i> spp.	balsamroot
	<i>Bromus inermis</i>	smooth brome
	<i>Eriogonum</i> spp.	buckwheat
	<i>Festuca idahoensis</i>	Idaho fescue
	<i>Geranium viscosissimum</i>	sticky geranium
	<i>Phleum pratense</i>	timothy
	<i>Pinus contorta</i>	lodgepole pine
	<i>Populus tremuloides</i>	aspen
	<i>Potentilla gracilis</i>	cinquefoil
	<i>Potentilla fruticosa</i>	shrubby cinquefoil
	<i>Psuedoroegenaria spicata</i>	bluebunch wheatgrass
	<i>Pseudotsuga menziesii</i>	douglas fir
	<i>Wyethia</i> spp.	mulesear
<i>Zigadensis</i> spp.	death camas	

Community Type	Scientific Name	Common Name
Humphrey Ranch: Elevation range: ~6,600-6,900 feet		
Mountain sage community with large aspen grove and willow riparian along perennial drainage.	<i>Acer glabrum</i>	Rocky Mountain maple
	<i>Artemesia tridentata subsp. vaseyana</i>	mountain big sagebrush
	<i>Artemesia tripartite</i>	three-tip sagebrush
	<i>Artemisia ludoviciana</i>	white sage
	<i>Bromus marginatus</i>	mountain brome
	<i>Carex spp.</i>	sedge
	<i>Festuca idahoensis</i>	fescue
	<i>Poa fendleriana</i>	mutton grass
	<i>Geranium viscosissimum</i>	sticky geranium
	<i>Poa secunda</i>	sandberg bluegrass
	<i>Populus tremuloides</i>	aspen
	<i>Prunus virginiana</i>	chokecherry
	<i>Salix spp.</i>	willow
<i>Symphoricarpos spp</i>	snowberry	
East Summer Range: Elevation range: ~7,380-8,800 feet		
Forb rich dry and wet meadows interspersed with varied conifer and aspen on cool and protected aspects. Sagebrush grasslands intergrade on dry slopes.	<i>Abies lasiocarpa</i>	subalpine fir
	<i>Achillea millefolium</i>	yarrow
	<i>Artemesia vaseyanum</i>	mountain sagebrush
	<i>Aster spp.</i>	aster species.
	<i>Balsamorhiza ssp.</i>	Balsamroot
	<i>Bromus carinatus</i>	mountain brome
	<i>Carex spp.</i>	sedge
	<i>Delphinium spp.</i>	larkspur
	<i>Festuca idahoensis</i>	alpine fescue
	<i>Juniperus communis</i>	common juniper
	<i>Lupinus spp.</i>	lupine
	<i>Melica spectabilis</i>	onion grass
	<i>Picea engelmannii</i>	engelmann spruce
	<i>Pinus albicaulis</i>	whitebark pine
	<i>Pinus contorta</i>	lodgepole pine
	<i>Poa alpine</i>	alpine bluegrass
	<i>Potentilla gracilis</i>	cinquefoil
	<i>Populus tremuloides</i>	aspen
<i>Pseudotsuga menziesii</i>	douglas-fir	
<i>Ribes montigenum</i>	mountain gooseberry	

Community Type	Scientific Name	Common Name
West Summer Range: Elevation range: ~7,700-8,550 feet		
Forb rich dry and wet meadows interspersed with varied conifer and aspen on cool and protected aspects. Sagebrush grasslands intergrade on dry slopes.	<i>Achillea millefolium</i>	yarrow
	<i>Arnica spp.</i>	arnica
	<i>Artemisia tridentata subsp. vaseyana</i>	mountain big sagebrush
	<i>Aster spp.</i>	aster species
	<i>Balsamorhiza spp.</i>	balsamroot
	<i>Bromus marginatus</i>	mountain brome
	<i>Calochortus nuttallii</i>	sego lily
	<i>Carex spp.</i>	sedge
	<i>Festuca Idahoensis</i>	Idaho fescue
	<i>Geranium viscosissimum</i>	sticky geranium
	<i>Helianthella quinquenervis</i>	little sunflower
	<i>Lupinus spp.</i>	lupine
	<i>Geum triflorum</i>	prairie smoke
	<i>Melica spectabilis</i>	onion grass
	<i>Vaccinium membranaceum</i>	huckleberry
	<i>Pinus contorta</i>	lodgepole pine
	<i>Populus tremuloides</i>	aspen
	<i>Abies lasiocarpa</i>	subalpine fir
<i>Picea engelmannii</i>	engelmann spruce	
<i>Pinus albicaulis</i>	whitebark pine	



Figure 1. Photo of *Spiranthes diluvialis* from Deer Creek, Utah, by Elaine Kneller

There are four federally-listed plants in the State of Idaho, and only one species, Ute's ladies'-tresses (*Spiranthes diluvialis*), has been documented or has potential habitat near the geographic area of the U.S. Sheep Experiment Station (http://ecos.fws.gov/tess_public/pub/stateListing.jsp?status=listed&state=ID accessed 10/08, Fertig et al. 2005). The nearest know location of this species to any Agricultural Research lands is approximately 25 miles southeast of the headquarters area in wetland sites near Henry's Fork river. These occurrences are all associated with either flood plain areas, ditches; sub irrigated wet moist areas, wet river terraces, and or very wet meadows at approximately 5,000 ft in elevation. Ute ladies'-tresses is a perennial herb with erect, glandular-pubescent stems 12-60 cm tall arising from tuberous-thickened roots. Basal leaves are narrowly linear, up to 1 cm wide and 28 cm long, and persist at the time of flowering. Leaves become progressively smaller up the stem and are alternate. The inflorescence is a sparsely pubescent 3-15 cm long spike of numerous small white or ivory-colored

flowers arranged in a gradual spiral. Individual flowers are 7.5-15 mm long and faintly fragrant (with a vanilla-like scent) (Fertig et al. 2005).

Geographic Range: When it was first listed under the ESA in 1992, Ute's ladies-tresses was known only from north-central Colorado, northern and south-central Utah, and southeastern Nevada. Since 1993, Utes ladies-tresses has been discovered in southeastern Wyoming, southwestern Montana, western Nebraska eastern Idaho and north-central Washington, and new populations have been documented in northwestern Colorado and northern Utah.

Specific to Idaho, Ute's ladies tresses was first discovered in Idaho by Mabel Jones in 1996 along the South Fork of the Snake River (Fertig et al. 2005). The species is now known from Bonneville, Fremont, Jefferson, and Madison counties along the Snake River and from wetland sites along the Henry's Fork River (Mancuso 2004, Moseley 1998a, 1998b, 1999, Murphy 2000, Murphy 2001). Idaho populations occur in the Idaho Falls, Palisades, and Lower Henrys watersheds within the Columbia Plateau and Utah Wyoming Rocky Mountains ecoregions (Fertig et al. 2005)

All of the locations identified in Idaho are between 4,800 and 5,300 feet in elevation. All occurrences have been associated with either flood plain areas, ditches; sub irrigated wet moist areas, wet river terraces and or very wet meadows.

Upon prefield analysis of the elevation of the area, topographic maps, consultations with nearby forest botanists (Lehman, 2008, Gibson 2008) USFWS (Arena, 2008) at the Pocatello, ID office, and a field visit to headquarters by Julie Laufmann in May 2009 no habitat for *Spiranthes diluvialis* is present. Therefore, no impacts from any alternative are anticipated.

Desired Condition

Under provisions of the ESA, federal agencies are directed to seek to conserve endangered and threatened species and to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any threatened or endangered species, or result in the destruction or adverse modification of their critical habitats

Environmental Consequences

Methodology

The method of determination of presence of threatened, endangered or state listed species is through pre-field review of topographic features, field visits, knowledge of species specific habitat and consultation with botanists on adjacent land ownerships and USFWS personnel.

Spatial and Temporal Context for Effects Analysis

The temporal contexts for effects analysis are as follows: short-term includes duration of grazing on an annual basis; long-term includes grazing impacts within a specific area over a 3-10 year time frame. Short-term as represented by an annual grazing time period represents impacts that are relatively minor and easily recoverable. Long-term periods of 3-10 years could impact individual plant species differently due to repetitive impacts and effects on survivability and reproduction. Spatial context include all areas within U.S. Sheep Experiment Station that are associated with grazing operations as described within the Operations section within the EA. The spatial analysis area was chosen because these areas represent the primary areas of potential impact and land adjacent to Agricultural Research lands are managed under different objectives.

Connected Actions, Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis

Previous grazing activities within the Agricultural Research lands as discussed within the EA indicate that Agricultural Research lands have not been heavily grazed (historically or present use) and forage used by sheep grazing is well below total available forage.

Alternatives 1 –5

Because there is no habitat for the endangered plant Utes' lady-tresses there are no direct, indirect or cumulative effects.

Summary of Effects

There will be no impacts to federally listed plant species from any alternatives proposed because no species are known to occur and no habitat is present within Agricultural Research lands.

Compliance with Relevant Laws, Regulations, Policies and Plans

All alternatives proposed within this environmental assessment are in compliance with threatened and endangered plants according to the ESA.

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