UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

Establishment Record for

Horse Pasture Ridge Research Natural Area

Wallowa-Whitman National Forest

Wallowa County, Oregon

Table of Contents

SECTION 1-IDENTIFICATION

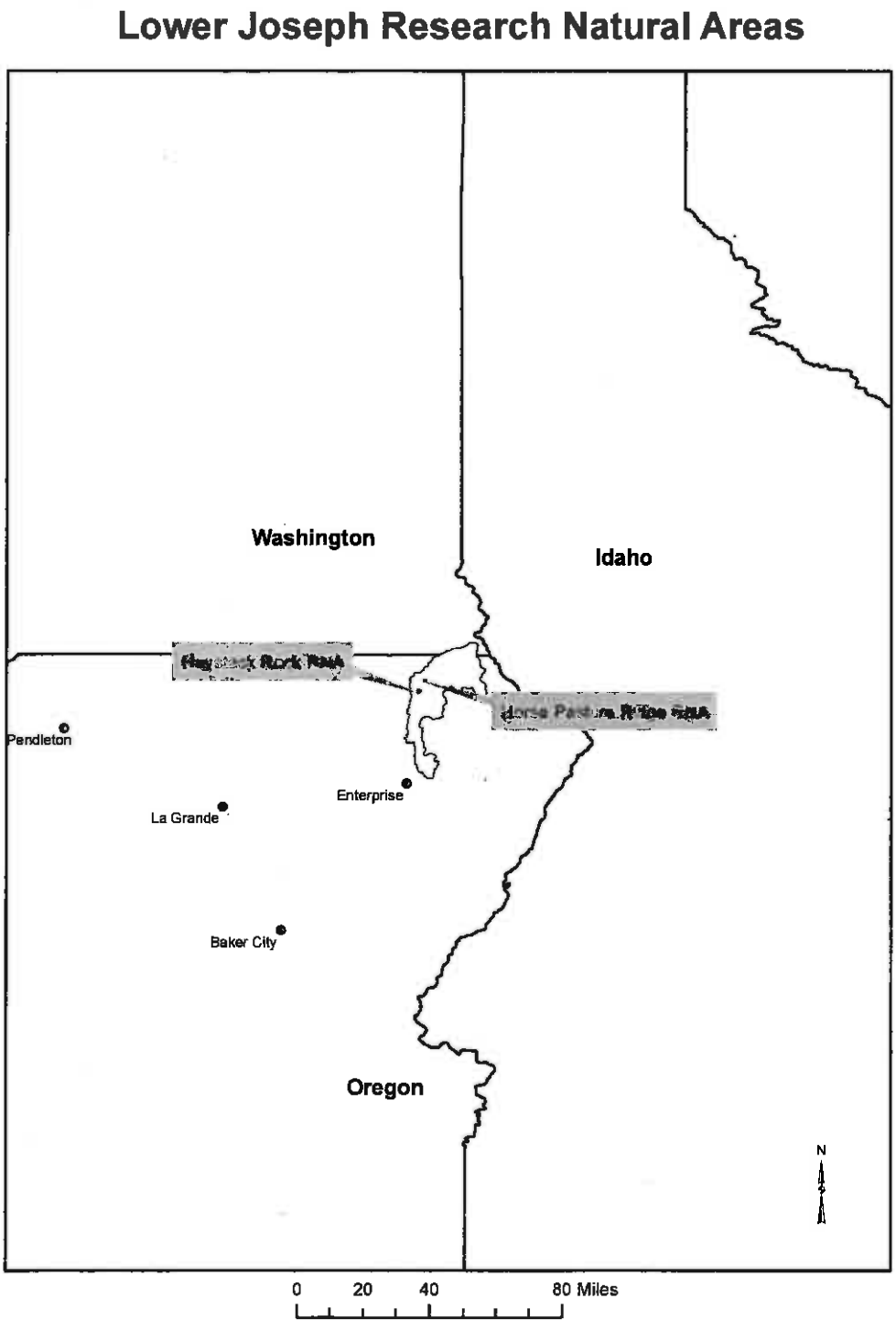
Establishment Record for

Horse Pasture Ridge Research Natural Area

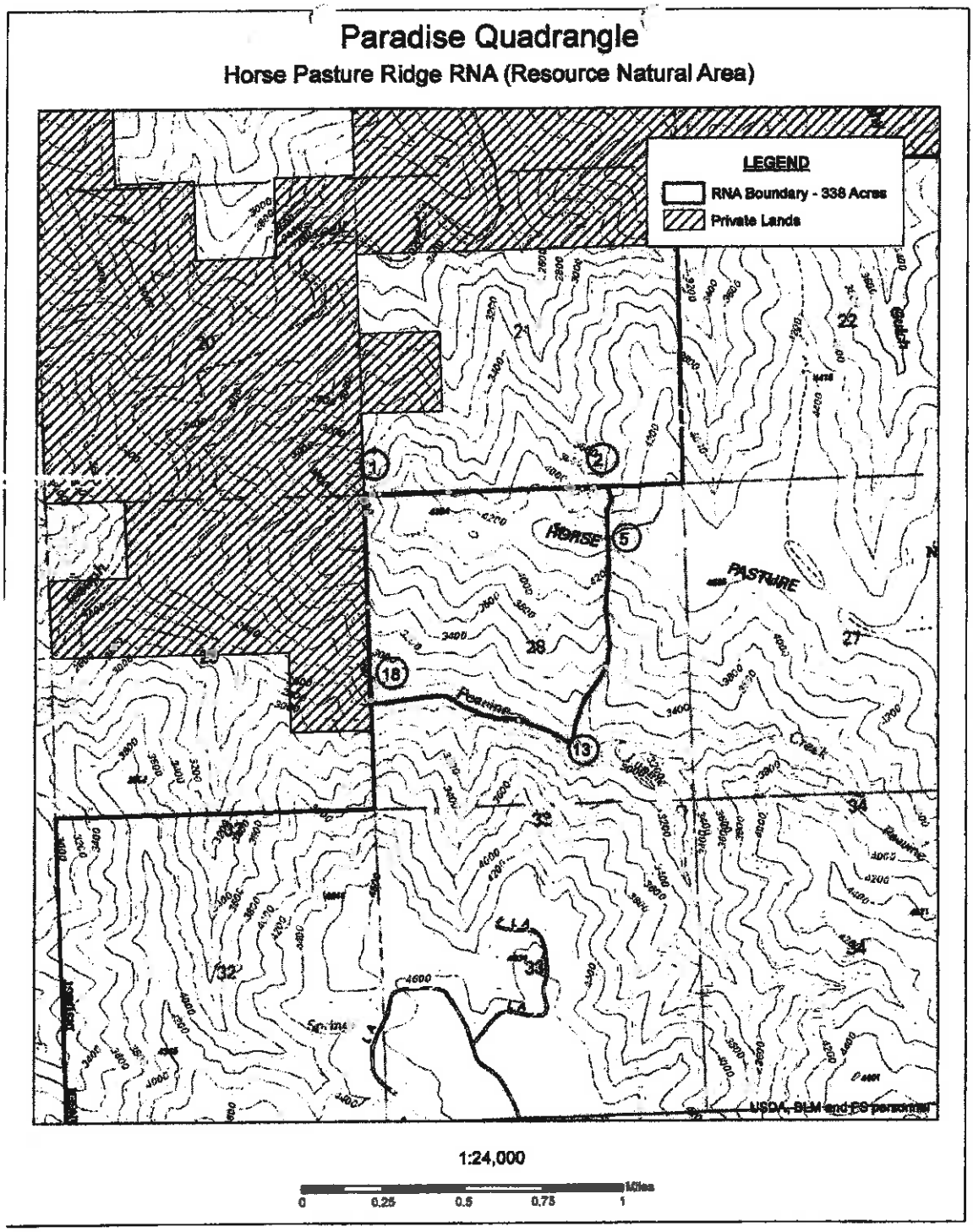
Wallowa-Whitman National Forest

Wallowa County, Oregon

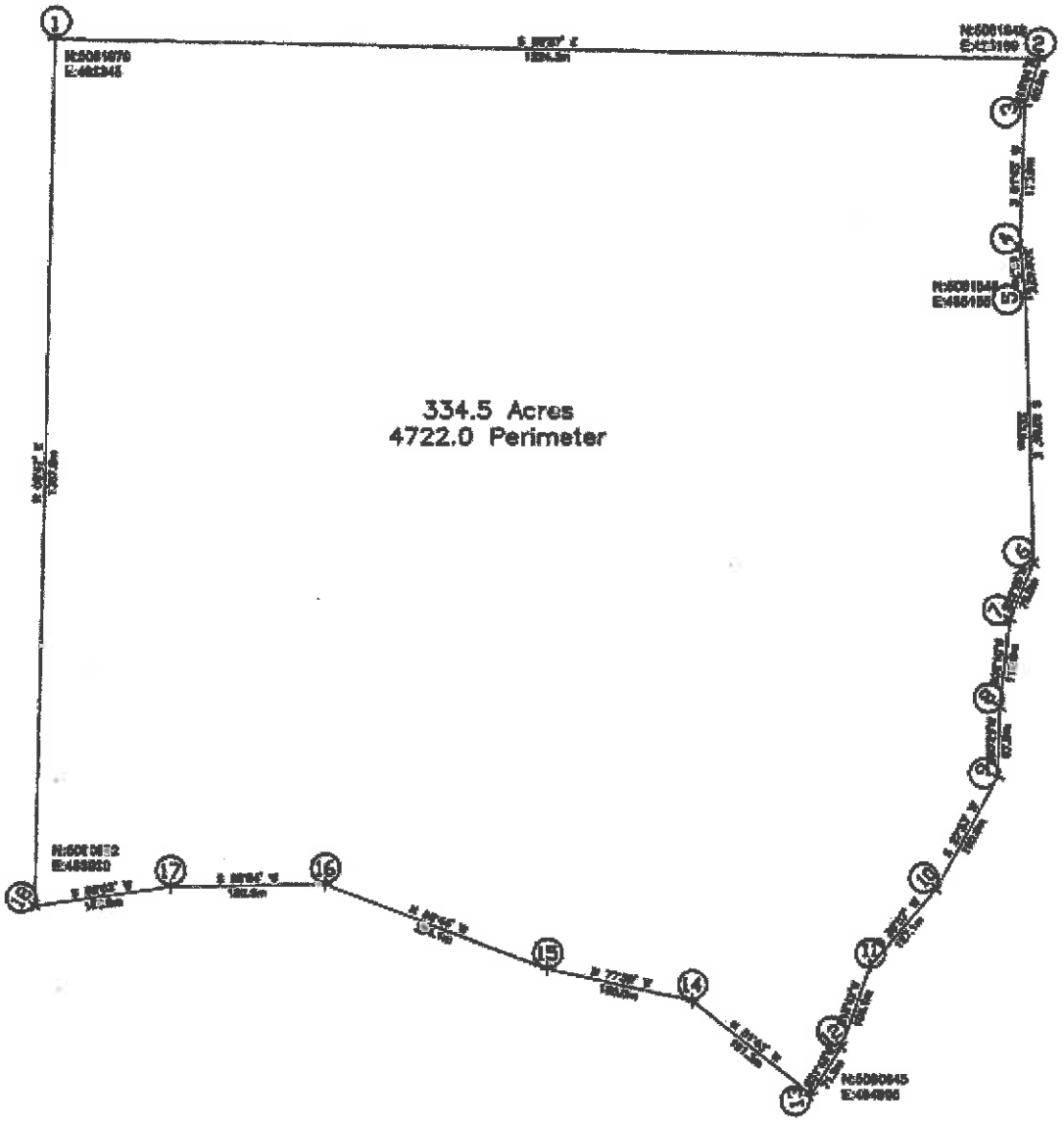
Location Map



Boundary Map 1



Boundary Map 2



HORSE PASTURE RIDGE RESEARCH NATURAL AREA BOUNDARY DESCRIPTION

All bearings, distances, and coordinates shown in the following description are based on the Universal Transverse Mercator (UTM) Projection, Zone 11, NAD 1983.

Quad Name	Angle Point	Bearing	Distance Meters	Description
Paradise				
	1			Being located in T5N, R45 E, Section 28 Willamette Meridian Wallowa County, Beginning at the Northwest Section Corner of Section 28, with approximate coordinates of N 5081970, E 483945.
		S 88°57' E	1224.3	Along the North Section Line of said Section 28
	2			A point in the bottom of a small ravine where it is intersected with by the north line of said Section 28, with approximate coordinates of N 5081948, E 485169.
		S 16°04' W	60.9	ascending small ravine
	3			
		S 01°43' W	175.9	
	4			
		S 6°42' E	65.7	
	5			A point at the top of Horse Pasture Ridge where it is intersected by said small ravine with approximate coordinates of N 5081648, E 485155.
		S 02°05' E	333.9	Descending precipitously down a ravine
	6			
		S 22°25' W	76.0	
	7			
		S 6°10' W	110.5m	
	8			
		S 00°59' W	87.9m	
	9			
		S 27°53' W	160.0m	

Quad Name	Angle Point	Bearing	Distance Meters	Description
Paradise				
	10			Descending precipitously down a ravine
		S 39°57' W	127.1	
	11			
		S 18°42' W	108.1	
	12			
		S 31°43' W	71.2	
	13			A point in the center of Peavine Creek where it is intersected by said ravine with approximate coordinates of N 5080645, E 484896.
		N 51°43' W	191.3	Descending the centerline of Peavine Creek
	14			
		N 77°38' W	185.0	
	15			
		N 68°44' W	294.1	
	16			
		S 88°54' W	192.5	
	17			
		S 82°03' W	169.9	
	18			A point on the West Section Line of said Section 28 where it is intersected by the Centerline of said Peavine Creek with approximate coordinates of N 5080882, E483930.
		N 0°47' E	1087.8	Along the West Section Line of said Section 28
	1			Point of Beginning

Total Length of Traverse: 4722 meters

Total Area: 334.5 acres more or less

Definition of Intent

The boundary description of the Horse Pasture Ridge Research Natural Area is as shown on the maps and descriptive text enclosed in this document.

Where the boundary is described as following a topographical feature, the actual location of the feature will control the described courses identifying that part of the said boundary. Unless specified in the description, calls to a stream will be to the thread, calls to a ridge shall be to the crest, calls to roads and trails will be to the centerline. Sections subdivision lines and original General Land Office corners will be established under the rules of the United States Public Land Survey System.

The boundary determined in the planning process was plotted on U.S.G.S 7 ½ minute quadrangles which were used as the base maps for creating manuscripts. Quadrangle Table Mountain was used.

Manuscripts at 1:24,000 were digitized using an Altek AC40 digitizer and Arc/Info software. UTM Zone 11 projection was used with NAD 1927, and since, converted into NAD 83 Oregon Washington Albers projection (Region 6 Forest Service standard).

Nodes were placed at each reference point. Extraneous vertices (over 250 feet) were removed manually using National Agriculture Imagery Program (NAIP} digital orthophotography (1-meter 4-band flown in 2012) and 20 foot contour elevation map of the state of Oregon and Washington derived from the National Elevation Dataset (NED) for reference. Reference point coordinates were generated using ArcGIS 10.3.1software, "Feature vertices to point" tool. Bearings and distances between vertices were created when reference point coordinates were exported into AutoCad. Bearings, distances, and coordinates in the enclosed descriptions are based on NAD 83 Oregon Washington Albers.

SECTION 2-ADMINISTRATIVE

SIGNATURE PAGE

For
RESEARCH NATURAL AREA ESTABLISHMENT RECORD
Horse Pasture Ridge Research Natural Area
Wallowa-Whitman National Forest
Wallowa County, Oregon

The undersigned certify that all applicable land management planning and environmental analysis requirements have been met and that boundaries are clearly identified in accordance with FSM 4063.21, Mapping and Recordation and FSM 4063.41 5.e(3) in arriving at this recommendation.

Prepared by,

Date 10-12-2016

Jenifer Ferriel, Ecologist
Umatilla National Forest Service

Recommended by

Date 11-07-2016

Sabine Mellmann-Brown, Area Ecologist
Malheur, Umatilla, and Wallowa-Whitman National Forests

Recommended by

Date 11-15-16

Kris Stein, District Ranger
Wallowa Mountain District

Recommended by

Date 11/15/16

Thomas Montoya, Forest Supervisor
Wallowa-Whitman National Forest

Concurrence of

Date 2/21/17

Robert D. Mangold, Director
Pacific Northwest Research Station

SECTION 3-TEXT

Introduction

Horse Pasture Ridge RNA is located in Wallowa County and is administered by the Wallowa Valley Ranger District of the Wallowa-Whitman National Forest. The dominant plant associations in this 338 acre (137 hectares) RNA are Idaho fescue (*Festuca idahoensis*)-prairie junegrass (*Koeleria cristata)* and Idaho fescue-bluebunch wheatgrass (*Agropyron spicatum*) in ridge top communities. This site typifies late-seral plant communities on steep terrain and banded rock cliffs.

Justification Section

Justification

Horse Pasture Ridge fulfills a natural areas representation need for Bluebunch wheatgrass-Idaho fescue-arrowleaf balsamroot (*Balsamorhiza sagittata)* community type in the Blue Mountains (Oregon Natural Heritage Advisory Council, 2010). In addition, this RNA represents other intact native bunchgrass communities, including Idaho fescue-prairie junegrass and Idaho fescue-bluebunch wheatgrass.

Principal Distinguishing Features

Horse Pasture Ridge RNA contains the following distinguishing features: Idaho fescue-prairie junegrass and Idaho fescue – bluebunch wheatgrass plant associations in ridge top communities. A key geologic feature is a large outcropping of welded tuff (unique in the Columbia River basalts of northeast Oregon). The Oregon sensitive plant Englemann's Daisy (*Erigeron engelmannii var. davisii*) is found on Horse Pasture Ridge and within the RNA.

Objectives

Research Natural Areas are tracts of wildlands designated for research, education, and to maintain biological diversity on National Forest System lands. (Forest Service Manual [FSM] 4063; Wilson et al. 2009). Objectives for establishing RNAs include (1) maintaining representative areas of high quality ecosystem; (2) preserving and maintaining genetic diversity, including threatened, endangered, and sensitive species; (3) protecting areas against human-caused environmental disruptions; (4) serving as reference areas for study of ecological processes; (5) providing onsite and extension educational activities; (6) serving as baseline areas for measuring long-term ecological change; (7) serving as control areas for comparing results from manipulative research; and (8) monitoring effects of resource management techniques and practices (FSM 4063.02)

Land Management Planning

Horse Pasture Ridge RNA was proposed as a candidate RNA by the Wallowa-Whitman National Forest to include notable vegetation communities occurring in the northern Blue Mountains. It was included as a candidate RNA in the Final Environmental Impact Statement for the Wallowa-Whitman National Forest (USDA 1990a) and the Forest Plan (USDA 1990b).

Management Prescription

Standards and guidelines for RNAs, Management Area 12, address vegetation

management under several different headings (USDA Forest Service 1990b). The prime consideration in managing Research Natural Areas is maintenance of natural conditions and processes. RNAs are protected against human activities that directly or indirectly modify the integrity of the ecological processes to the extent practicable (FSM 4063.3.1). No scheduled timber harvest will occur in the RNA and firewood cutting will be prohibited.

The decision to manage for insect and disease outbreaks or invasive plants will be made on a case-by-case basis with removal of non-native species being of highest priority. Where management activities are prescribed, they shall be as specific as possible and have minimal impact to other components of the ecosystem.

Use or Control of Fire and Grazing

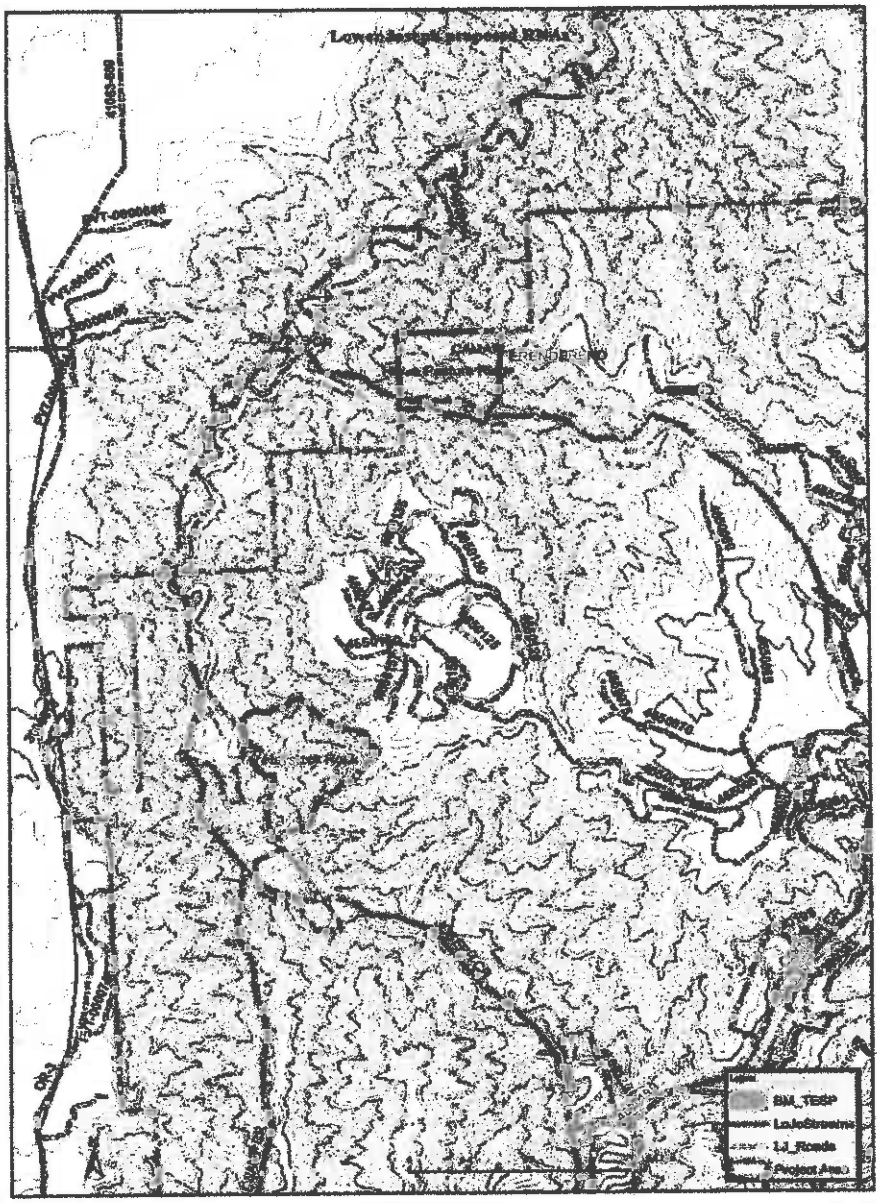
Lightning-ignited fires will be allowed to burn in this RNA. Prescribed fire will be used only in conjunction with approved research projects or when needed to meet RNA management goals for vegetation, wildlife, and natural processes. Fire suppression will use methods and equipment that minimize site disturbance to the special features for which this area is being designated. Livestock grazing has not been used as a technique to maintain ecological processes in this RNA.

APPENDIX 1. ECOLOGICAL EVALUATION

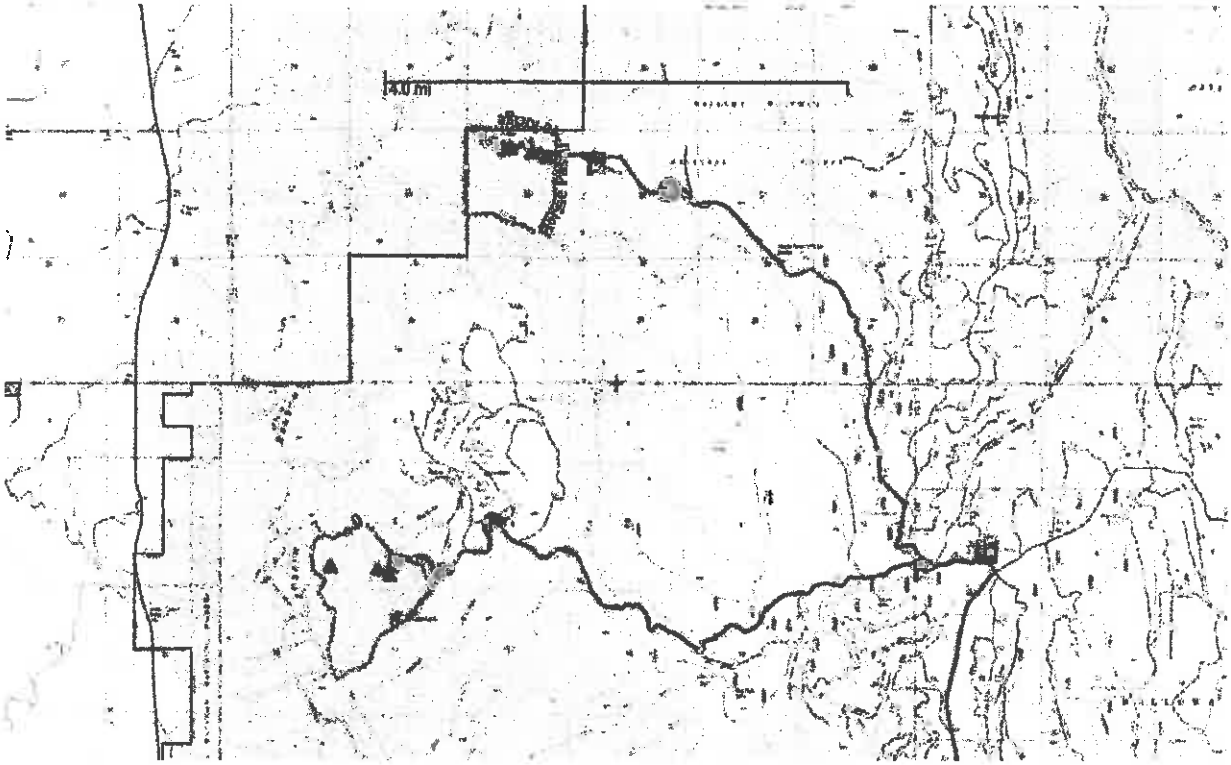
Physical Site Description and Climatic Conditions

Location

Maps 1 and 2 show the location of Horse Pasture Ridge RNA. The RNA is located in Wallowa County and is administered by the Wallowa Valley Ranger District of the Wallowa-Whitman National Forest.



Location of Horst Pasture Ridge RNA



Route to Horse Pasture Ridge RNA

Size

Total area for Horse Pasture Ridge RNA is 338 acres.

Elevation Range

Elevations range from 4460 feet (1360 m) at the top of the ridge down to approximately 2740 feet (836 m).

Access

Vehicle access is by way of Hwy 3 north of Enterprise Oregon approximately 14 miles to Forest Road 46; Turn right on Forest Road 46 and go approximately 26.5 miles to the junction of Forest Road 46 and Forest Road 4650. Drive west on 4650 to the junction of 4655 and turn north on 4655, going to road 045, to road 050, then continue out on Horse Pasture Ridge until you reach an timbered saddle that is an obvious stopping point for full size vehicles (approximately 6.0 miles total). Park there and hike approximately 1/4 mile to the RNA boundary.

Climatic Data

Eastern Oregon has a temperate continental climate, characterized by arid summers with occasional evening convection thunderstorms and cold winters with the majority of the annual precipitation falling as snow. The closest weather station is in Enterprise, Oregon and should be a fair approximation for Horse Pasture Ridge with differences attributed to Enterprise being under greater influence of the Wallowa Mountains. The station receives 17.6 inches (44.7 cm)

annual precipitation with a mean annual temperature of 43.4 F (6.33 C). Summer high temperatures range into the upper 90's F while winter temperatures can drop to the -20's F.

Ecological Description

Ecoregion

Horse Pasture Ridge RNA is located in the Northwestern portion of the Blue Mountains ecoregion (ONHAC 2010).

Map and Description of Plant Community Types

The Lower Joseph Creek watershed analysis (USDA Forest Service 2001) notes this area is representative of Idaho fescue/prairie junegrass ridgetop communities, Idaho fescue/bluebunch wheatgrass ridgetop communities, and Idaho fescue/bluebunch wheatgrass/arrowleaf balsamroot communities.

The vegetation is primarily bunchgrasses with the exception of a few patches of dry forest in north and east-facing exposures of the draws below Horse Pasture Ridge.

Flora List

Scientific Name	Common Name
Achillea millefolium	yarrow
Agropyron spicatum	bluebunch wheatgrass
Alyssum alyssoides	pale alyssum
Amelanchier alnifolia	western serviceberry
Antennaria stenophylla	narrow leaved pussytoes
Arnica cordifolia	heart leaf arnica
Aster conspicuus	showy aster
Balsamorhiza sagittata	arrowleaf balsamroot
Besseya rubra	kitten-tails
Blepharipappus scaber	blepharipappus
Brickellia grandiflora	large flowered brickellia
Brodiaea douglasii	Douglas' brodiaea
Bromus brizaeformis	rattlesnake brome
Bromus commutatus	meadow brome
Bromus japonicus	Japanese brome
Bromus mollis	soft brome
Bromus tectorum	cheatgrass
Calamagrostis rubescens	pinegrass
Calochortus elegans	northwestern mariposa lily
Calochortus macrocarpus	sagebrush mariposa lily
Camassia quamash	camas
Castilleja hispida	harsh paintbrush
Castilleja spp.	yellow paintbrush

Cirsium spp.	thistle
Clarkia pulchella	pink-fairies
Collomia linearis	narrow leaf collomia
Crepis acuminata	long leaved hawksbeard
Epilobium paniculatum	tall annual willow-herb
Erigeron engelmannii v. davisii	Engelmann's daisy
Eriogonum heracleoides	Wyeth's creamy buckwheat
Eriophyllum lanatum	Oregon sunshine
Festuca idahoensis	Idaho fescue
Frasera speciosa	giant frasera
Geum triflorum	red avens
Gilia aggregata	sky-rocket gilia
Helianthella uniflora	Douglas' helianthella
Heuchera grossulariifolia	gooseberry leaved alumroot
Hieracium albertinum	Scouler's hawkweed
Holodiscus discolor	ocean-spray
Juniperus occidentalis	western juniper
Koeleria cristata	prairie junegrass
Lactuca serriola	prickly lettuce
Lepidium densiflorum	prairie pepper-grass
Lithospermum ruderale	wayside gromwell
Lomatium ambiguum	Wyeth biscuitroot
Lomatium cous	cous biscuitroot
Lomatium triternatum	nine leaf desert parsley
Lupinus sericeus	silky lupine
Microsteris gracilis	slender phlox
Mimulus nanus	dwarf monkey-flower
Myosotis micrantha	strict forget-me-not
Penstemon deustus	white penstemon
Penstemon fruticosus	shrubby penstemon
Phacelia heterophylla	vari-leaf phacelia
Phacelia linearis	thread-leaf phacelia
Philadelphus lewisii	Lewis' mock-orange
Phlox longifolia	long-leaved phlox
Phlox viscida	sticky phlox
Physocarpus malvaceus	mallow ninebark
Pinus ponderosa	Ponderosa pine
Poa nevadensis	Nevada bluegrass
Poa sandbergii	Sandberg's bluegrass
Polygonum douglasii	Douglas' knotweed
Polygonum majus	wiry knotweed

Potentilla glandulosa	glandular cinquefoil
Prunus virginiana	common chokecherry
Pseudotsuga menziesii	Douglas-fir
Ribes cereum	wax currant
Ribes inerme	white stem gooseberry
Rosa woodsii	pear-hip rose
Scutellaria angustifolia	narrow-leaved skullcap
Sedum lanceolatum	lance-leaf stonecrop
Sisymbrium altissimum	tumble mustard
Symphoricarpos albus	common snowberry
Symphoricarpos oreophilus	mountain snowberry
Tragopogon dubius	yellow salsify
Zigadenus venenosus	meadow death-camas

Fauna List

Scientific Name	**Common Name**
Reptiles	
Charina bottae	Rubber Boa
Coluber constrictor	Racer
Masticophis taeniatus	Striped Whipsnake
Pituophis catenifer	Gopher Snake
Thamnophis elegans	Western Terrestrial Garter Snake
Thamnophis sirtalis	Common Garter Snake
Sceloporus occidentalis	Western Fence Lizard
Eumeces skiltonianus	Western Skink
Crotalus oreganus	Western Rattlesnake
Birds	
Aeronautes saxatalis	White-throated swift
Archilochus alexandri	Black-chinned hummingbird
Selasphorus rufus	Rufous hummingbird
Stellula calliope	Calliope hummingbird
Chordeiles minor	Common nighthawk
Phalaenoptilus nuttallii	Common poorwill
Charadrius vociferus	Killdeer
Gallinago delicata	Wison's snipe
Cathartes aura	Turkey vulture
Columba livia	Rock pigeon
Zenaida macroura	Mourning dove
Aquila chrysaetos	Golden eagle
Buteo jamaicensis	Red-tailed hawk
Buteo regalis	Ferruginous hawk
Buteo swainsoni	Swainson's hawk
Falco mexicanus	Prairie falcon
Falco sparverius	American kestrel

Callipepla californica	California quail
Alectoris chukar	Chukar
Bonasa umbellus	Ruffed grouse
Dendragapus obscurus	Blue grouse
Meleagris gallopavo	Wild turkey
Perdix	Gray partridge
Eremophila alpestris	Horned lark
Bombycilla cedrorum	Cedar waxwing
Passerina amoena	Lazuli bunting
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Cyanocitta stelleri	Steller's jay
Pica hudsonia	Black-billed magpie
Chondestes grammacus	Lark sparrow
Junco hyemalis	Dark-eyed junco
Melospiza lincolnii	Lincoln's sparrow
Melospiza melodia	Song sparrow
Passerculus sandwichensis	Savannah sparrow
Passerella iliaca	Fox sparrow
Pooecetes gramineus	Vesper sparrow
Spizella breweri	Brewer's sparrow
Spizella passerina	Chipping sparrow
Carduelis tristis	American goldfinch
Carpodacus cassinii	Cassin's finch
Carpodacus mexicanus	House finch
Coccothraustes vespertinus	Evening grosbeak
Loxia curvirostra	Red crossbill
Petrochelidon pyrrhonota	Cliff swallow
Riparia	Bank swallow
Stelgidopteryx serripennis	Northern rough-winged swallow
Tachycineta thalassina	Violet-green swallow
Agelaius phoeniceus	Red-winged blackbird
Euphagus cyanocephalus	Brewer's blackbird
Molothrus ater	Brown-headed cowbird
Sturnella neglecta	Western meadowlark
Xanthocephalus	Yellow-headed blackbird
Dumetella carolinensis	Gray catbird
Poecile atricapillus	Black-capped chickadee
Poecile rufescens	Chestnut-backed chickadee
Dendroica coronata	Yellow-rumped warbler
Dendroica petechia	Yellow warbler
Dendroica townsendi	Townsend's warbler
Geothlypis trichas	Common yellowthroat
Icteria virens	Yellow-breasted chat
Oporornis tolmiei	Macgillivray's warbler
Setophaga ruticilla	American redstart
Wilsonia pusilla	Wilson's warbler
Regulus calendula	Ruby-crowned kinglet
Regulus satrapa	Golden-crowned kinglet

Sturnus vulgaris	European starling
Piranga ludoviciana	Western tanager
Catherpes mexicanus	Canyon wren
Cistothorus palustris	Marsh wren
Salpinctes obsoletus	Rock wren
Troglodytes aedon	House wren
Troglodytes	Winter wren
Catharus guttatus	Hermit thrush
Catharus ustulatus	Swainson's thrush
Ixoreus naevius	Varied thrush
Myadestes townsendi	Townsend's solitaire
Sialia curucoides	Mountain bluebird
Sialia mexicana	Western bluebird
Turdus migratorius	American robin
Contopus cooperi	Olive-sided flycatcher
Contopus sordidulus	Western wood-peewee
Empidonax difficilis	Pacific slope flycatcher
Empidonax hammondii	Hammond's flycatcher
Empidonax oberholseri	Dusky flycatcher
Empidonax occidentalis	Cordilleran flycatcher
Sayornis saya	Say's phoebe
Tyrannus verticalis	Western kingbird
Vireo cassinii	Cassin's vireo
Vireo gilvus	Warbling vireo
Colaptes auratus	Northern flicker
Melanerpes lewis	Lewis's woodpecker
Picoides albolarvatus	White-headed woodpecker
Picoides arcticus	Black-backed woodpecker
Picoides dorsalis	American three-toed woodpecker
Picoides pubescens	Downy woodpecker
Picoides villosus	Hairy woodpecker
Sphyrapicus nuchalis	Red-naped sapsucker
Sphyrapicus thyroideus	Williamson's sapsucker
Aegolius acadicus	Northern saw-whet owl
Asio otus	Long-eared owl
Bubo virginianus	Great horned owl
Glaucidium gnoma	Northern pygmy-owl
Megascops kennicottii	Western screech-owl
Otus flammeolus	Flammulated owl
Strix nebulosa	Great gray owl
Mammals	
Ovis canadensis	Bighorn Sheep
Cervus elaphus	Elk
Odocoileus hemionus	Mule Deer
Canis latrans	Coyote
Canis lupus	Gray Wolf
Vulpes	Red Fox
Puma concolor	Cougar/Mountain Lion
Mustela frenata	Long-tailed Weasel

Taxidea taxus	American Badger
Antrozous pallidus	Pallid Bat
Myotis californicus	California Myotis
Myotis ciliolabrum	Western Small-footed Myotis
Myotis yumanensis	Yuma Myotis
Sylvilagus nuttallii	Mountain Cottontail
Peromyscus maniculatus	North American Deermouse
Erethizon dorsatum	North American Porcupine
Marmota flaviventris	Yellow-bellied Marmot

Geology

Plateau uplift, lava flows, and canyon down-cutting have sculpted the Lower Joseph Watershed into its present landscape. Columbia River basalt is the dominant geologic unit (USGS 1979). Stream cut canyons dissect moderately thick lava flows interspersed with flow breccia and older plagioclase-phyric basalt. A key geologic feature in Horse Pasture Ridge RNA is a large outcropping of welded tuff (unique in the Columbia River basalts of northeast Oregon).

Soils

Soils were formed in loess and ash mixed with residuum and colluvium from basalt, andesite or welded tuff. Most of the soils in the area are shallow and well drained, combined with small areas of deeper soil, also well drained.

Topography

Horse Pasture Ridge RNA is named for the ridge that runs east-west along the north part of the RNA. The top of the ridge is about 4460 feet (1360 m). A series of five finger ridges run from the top of Horse Pasture Ridge down to Peavine Creek, descending to around 2740 feet (836 m). The slopes are steep and banded with exposed rock.

Aquatic and Riparian Features

Canyons and slopes within the Horse Pasture Ridge RNA all appear to be dry without any springs or seeps notes. No springs were noted on existing topographic USGS maps or FS maps. There is a livestock water pond on top of the ride to east of the RNA boundary, approximately 0.5 miles away.

Rare, threatened, endangered, or sensitive species

Spalding's catchfly (*Silene spaldingii*) is a USFWS Threatened Species and potential habitat is suspected in the Table Mountain Allotment (Lower Joseph Creek Restoration Project, Wallowa-Whitman National Forest, Ongoing 2014); No populations of Spalding's catchfly have been found. However, 2014 field surveys (G. Lind) were likely too early to find this species. The only Forest Service Sensitive plant species known to occur within and adjacent to the RNA is Engelmann's Daisy (*Erigeron engelmanni var. davisii*). Sensitive species with potential to occur include: Snake River Daisy (*Erigeron disparipilus*), and Hazel's Prickly Phlox (*Leptodactylon pungens ssp. hazeliae*).

Resource Information

Minerals
At present, there are no active mining claims in the Lower Joseph River Watershed. The general geology (basalt lava flows) limits the mineral potential within the RNA.

Grazing
The condition of this area was evaluated in 2003 by the Wallowa Mountains Office range manager and botanist. It was determined that plant communities were in good to excellent condition and basically ungrazed by domestic livestock with the exception of the northeastern boundary where livestock were once salted near the RNA perimeter.

Grazing has been a concern in the past. The area is located within the Horse Pasture Ridge Unit of the Table Mountain C&H Allotment. This allotment rests or defers use on all pastures at least every third year. In 2011 Horse Pasture Ridge unit was rested. Allowed utilization is 10%.

A livestock water pond development is just east of the RNA on Horse Pasture Ridge. This brings livestock toward the ridgeline at the top of the RNA.

Timber Values
The top of Horse Pasture Ridge and the small portion of north-facing slope to the north of the ridge is forested. The RNA is primarily bunchgrass grassland on steep south-facing slopes.

Watershed Values
Horse Pasture Ridge RNA is located in the Lower Joseph Creek Watershed. Steep and deep canyons create a large variety of habitats for plants and animals.

Recreational Use
Use appears very limited due to difficult access to the RNA along the Horse Pasture Ridge which is just a two track 4x4 high clearance access for the last couple of miles. Hunting is likely the primary recreational use. Bighorn sheep (5-6 animals) were sighted at the RNA (Lind, 2014)

Plant and Wildlife Values
There are known sites for Engelmann's daisy in the Horse Pasture Ridge RNA, and just outside of the boundary to the east along main ridgeline access road. Forest Service Sensitive plant species with potential to occur include: Snake River Daisy and Hazel's Prickly Phlox

Adjacent Lands
Private land abuts the eastern boundary of Horse Pasture Ridge. Bureau of Land Management lands bound the north edge of the RNA.

Transportation and Road System
There are no designated roads or trails within the RNA, although there is an informal two track 4x4 ending at the top of the ridge, which ends outside of the RNA.

Fences and Protective Barriers
Fencing for livestock does not exist along the boundaries of the RNA.

Historical Information

History of Establishment

Regional Forester John Butruille recommended the establishment of the Horse Pasture Ridge Research Natural Area in the Wallowa-Whitman National Forest Land and Resource Management Plan dated April 1990 which is incorporated as appendix 3 to this document. That recommendation was the result of an analysis of the factors listed in 36 CFR 219.25 and Forest Service Manual 4063.41. The results of the Regional Forester's analysis are documented in the Final Environmental Impact Statement for the Wallowa-Whitman National Forest Land and Resource Management Plan and the Establishment Record for the Horse Pasture Ridge Research Natural Area which are available to the public.

Research and Educational Use and Interest

Ecology Plots by Charlie Johnson, Zone Ecologist, or the Wallowa Whitman National Forest Ecology group are noted in map 4 below. These plots were re-photographed during the 2014 survey by G. Lind. See photos below (all photos taken June 12, 2014 by G. Lind). The ecology plots monitor vegetation changes over time.

Cultural and Heritage

There are no documented cultural resources within the Horse Pasture Ridge RNA. A cultural resource inventory has not been conducted in the RNA.

Disturbance History

The Joseph Creek Range Analysis (2005) noted that the RNA had been affected by the 1986 Joseph Creek Fire. Livestock grazing is occurring but is considered to be light.

Occurrence of Exotic Species

The Lower Joseph Creek Range Analysis (2005), Wallowa-Whitman National Forest, notes the presence of scotch thistle (*Onopordum acanthium*) and diffuse knapweed (*Centaurea diffusa*) for the Table Mountain allotment. Scotch thistle infestation is associated with private pasture lands and is declining in the allotment. The diffuse knapweed is noted as "no change/stable" status for the allotment. Neither scotch thistle nor diffuse knapweed have been found in the RNA and records show the closest weed sites are >3 miles away.

Evaluation of Specific Management Recommendations on the RNA

Principal Management Issues and Potential or Existing Conflicts

Horse Pasture Ridge RNA is steep and remote. There are signs of light cattle use at the top of the RNA, and there is likely occasional use by hunters.

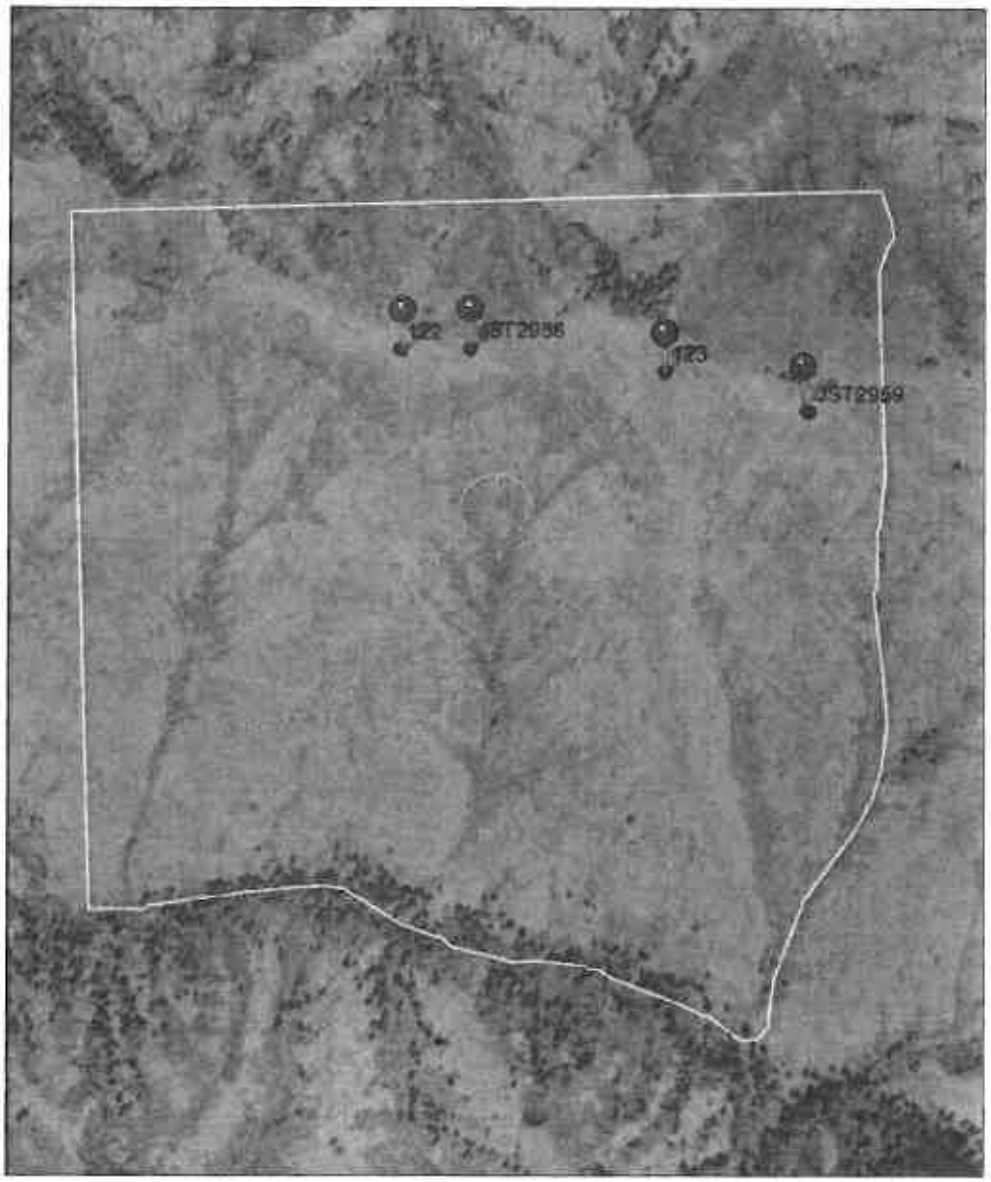
Special Management Area

Horse Pasture Ridge is designated management area 12, or Research Natural Area in the current forest plan and is managed as an RNA. On USFS lands to the east and south, the RNA is surrounded by management area 3, big game habitat.

Other Information

Permanent Research Plots/Photo Points

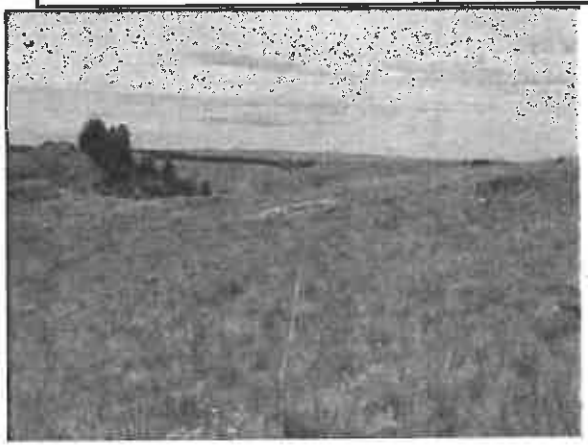
Ecology Plots by the WWNF Ecology group are noted in map 4 below. These plots were re-photographed during the 2014 survey by G. Lind. See photos below (all photos taken June 12, 2014 by G. Lind).



Locations of Ecology Plots

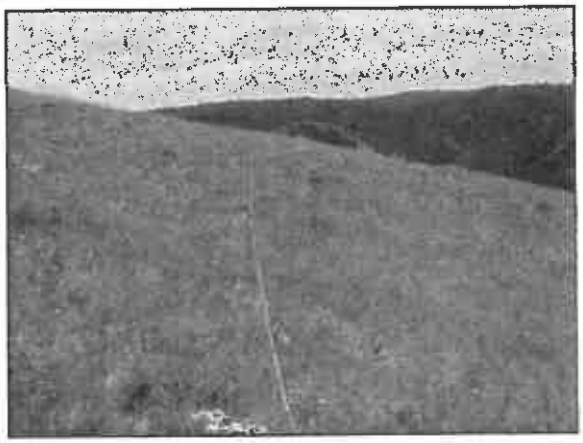
Horse Pasture Ridge RNA established Plots/Photopoints

Plot #	GPS WGS 84*	UTM *
#122	45.88893, -117.20061	4 84432E, 50 81722N
#123	45.88848, -117.19545	4 84836E, 50 81674N
#JST 2958	45.83981, -117.22058	4 85049E, 50 81604N
#JST 2959	45.88785, -117.19265	4 84540E, 50 81720N

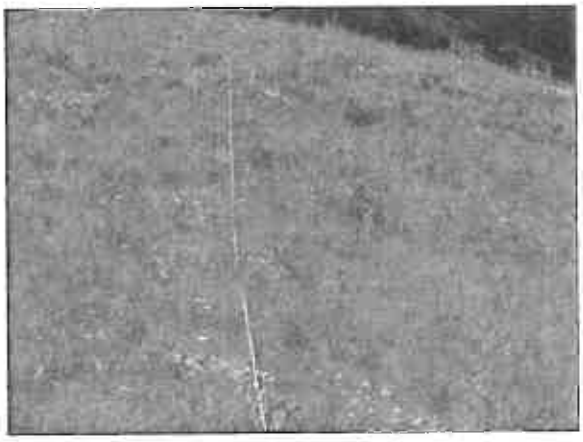


Plot #122 view from 0'

Plot #122 view from 0'



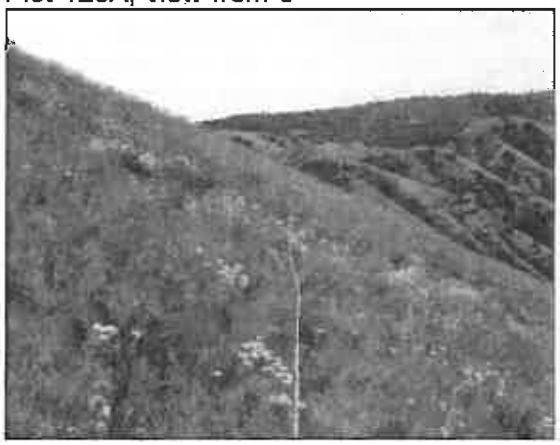
Plot#122 view from 100'



Plot#122 view from 100'

Plot 123A, view from 0'

Plot 213A, view from



Plot 123A, view from 100'

Plot 123A, view from 100'

Plot JST 2958

Plot JST 2959

Photographs: A larger album of all photos taken by G. Lind in 2014 for both RNAs can be found at this link: https://picasaweb.google.com/117725403025106999373/WWNFRNAProject02?authuser=0 & authkey=Gv1sRgCP-I3trN5sLv7wE&feat=directlink

Potential Research Topics

Horse Pasture Ridge and Haystack Rock were chosen by Charlie Johnson, former Area Ecologist for northeast Oregon as a paired research opportunity. Some possible research topics include:

Ecology of bunchgrass ecosystems
Disturbance ecology of bunchgrass ecosystems
Grassland pollinators
Grassland predators and prey
Geology of Joseph Canyon
Soil depth and plant distribution

Administration Records and Protection

The District Ranger at the Wallowa Mountain District is responsible for direct administration, and, in accordance with approved forest plans and/or project prescriptions, management of established RNAs (FSM 4063.04b.5). The Forest Supervisor of the Wallowa-Whitman National Forest is responsible for executing approved management plans for the RNA; administering, managing, and protecting the RNA; and coordinating with the Station Director or Director's designee to implement needed changes in management or protection (FSM 4063.04b.4).

In consultation with the Forest Supervisor and District Ranger, Station Directors have authority to approve all management plans and to oversee and coordinate approved research for RNAs outside congressionally designated areas (FSM 4063.04b.1b). The RNA Coordinator in the Research Station is designated as the lead contact person for all such requests. All plant and animal specimens collected in the course of research will be properly preserved and maintained within university, state, or federal agency herbaria and museums, approved the Pacific Northwest Research Station.

Records for the Horse Pasture Ridge RNA will be maintained in the following offices:

Forest Supervisor, Wallowa-Whitman National Forest, Baker City, OR

District Ranger, Wallowa Mountain District, Enterprise, OR

Station Director, Pacific Northwest Research Station, Portland, OR

Forestry Sciences Laboratory, Pacific Northwest Research Station, Corvallis, OR

Archiving

The Pacific Northwest Research Station will be responsible for maintaining the RNA research data file and list of herbarium and species samples collected. The Forestry Sciences Laboratory in Corvallis, Oregon maintains a research database and lists of species for all RNAs in the region. Computerized files for the RNA will also be maintained at the Forestry Sciences Laboratory.

Bibliography

Bailey, R.G., et al eds. 1994. Ecoregions and Subregions of the United States. USDA Forest Service. (Maps).

Clarke, S.E. and S.A. Bryce, eds. 1997. Hierarchical subdivisions of the Columbia Plateau and Blue Mountains ecoregions, Oregon and Washington. Gen. Tech. Rep. PNW-GTR-395. Portland, OR: USDA Forest Service, PNW Research Station. 114 p.

Croft, L.K., W.R. Owen, J.S. Shelly. 1997. Interior Columbia Basin Ecosystem Management Project Analysis Of Vascular Plants. http://www.icbemp.gov/.

Grossman, D.H., et al. 1998. International classification of ecological communities: terrestrial vegetation of the United States. Volume I. The National Vegetation Classification System: development, status, and applications. The Nature Conservancy, Arlington, VA, USA.

Johnson, C.G. and S.A. Simon. 1987. Plant associations of the Wallowa-Snake Province: Wallowa-Whitman National Forest. USDA Forest Service, Wallowa-Whitman National Forest, R6-ECOL-TP-255A-86.

Lind, Greg. 2014. Haystack Rock and Horse Pasture Ridge pRNA Survey Report. On file at the Wallowa-Whitman Supervisor's Office, Baker City, OR.

National Oceanic and Atmospheric Administration. 2001. Climatological data annual summary. Western Regional Climate Center. (http://www.wrcc.dri.edu).

Oregon Natural Heritage Advisory Council. 2010. Oregon Natural Areas Plan. Oregon Biodiversity Information Center, Institute for Natural Resources – Portland, Portland State University, Portland, OR. 198pp.

Oregon Natural Heritage Program. 2003. Oregon Natural Heritage Plan. Department of State Lands, Salem, OR. 167 pp.

USDA, NRCS. 2007. The PLANTS Database (http://plants.usda.gov, 13 December 2007). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.

USDA 1990a. Final environmental impact statement: land and management resource plan. Wallowa-Whitman National Forest. Baker City, OR.

USDA 1990b. Land and resource management plan. Wallowa-Whitman National Forest. Baker City, OR.

USDA Forest Service. 2001. LOWER JOSEPH Watershed Assessment. Wallowa-Whitman National Forest, Wallowa Valley Ranger District and Hells Canyon National Recreation Area.

USDA Forest Service. 2005. LOWER JOSEPH Range Analysis. Wallowa-Whitman National Forest, Wallowa Valley Ranger District and Hells Canyon National Recreation Area.

USDA Forest Service 2015. Draft Botany Specialist Report for Lower Joseph Creek Restoration Project. http://www.fs.usda.gov/projects/wallowa-whitman/landmanagement/projects

Wilson, Todd M., Reid Schuller, Russ Holmes, Curt Pavola, Robert A. Fimbel, Cynthia N. McCain, John G. Gamon, Pene Speaks, Joan I. Seevers, Thomas E. DeMeo, and Steve Gibbons. July 2009. Interagency Strategy for the Pacific Northwest Natural Areas Network. U.S. D.A. Forest Service, PNW Research Station Portland, Oregon. General Technical Report PNW-GTR-798

APPENDIX 2. NEPA ENVIRONMENTAL ASSESSMENT

The establishment of Haystack Rock RNA and Horse Pasture Ridge RNA was proposed under an Environmental Impact Statement (EIS) as part of the Lower Joseph Restoration Project. The establishment of the RNAs required a separate Record of Decision because the establishment of the RNAs is a permanent amendment to the Wallowa Whitman Forest Plan.

The Lower Joseph Restoration Project EIS can be accessed using the following link:

http://www.fs.usda.gov/wps/portal/fsinternet/!ut/p/c5/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gDfxMDT8MwRydLA1cj72BTUwMTAwgAykeaxRtBeY4WBv4eHmF-YT4GMHkidBvgAI6EdIeDXIvfdrAJuM3388jPTdUvyA2NMMgyUQQAyrgQmg!!/dl3/d3/L2dJQSEvUUt3QS9ZQnZ3LzZfS000MjZOMDcxT1RVODBJN0o2MTJQRDMwODQ!/?project=43379

Or in more simple language, from the internet website for the Wallowa-Whitman National Forest, select Land Management, select Projects, select Lower Joseph Restoration Project.

APPENDIX 3. COPY OF RELEVANT SECTIONS OF FOREST PLAN REFERENCING RNA

Chapter 4, page 83
MANAGEMENT AREA 12 (1 5,160 ACRES)
(RESEARCH NATURAL AREAS)

Description
The objectives for establishing RNA's are to preserve examples of all significant natural ecosystems for comparison with those influenced by humans, to provide educational and research areas for ecological and environmental studies, and to preserve gene pools for typical and rare and endangered plants and animals.

RNA's typify important forest, shrubland, grassland, alpine, aquatic, and geologic types and other natural situations that have special and unique characteristics of scientific interest and importance Activities in RNAs are limited to research, study, observations, monitoring, and kinds of educational activities that are nondestructive and nonmanipulative.

A research natural area establishment report will be prepared for each recommended area These studies will determine the boundaries of the areas. Until the establishment reports are signed by the Chief of the Forest Service, the areas designated by this plan are recommendations. Proposed RNA's will be protected from uses which would reduce their suitability for RNA designation The Indian Creek RNA has been established by the Chief Following establishment, a management plan (approved by the District Ranger) will be developed for each RNA. Additional RNAs may be proposed during the life of this Plan to fill RNA needs identified in Appendix H to the EIS.

Direction
- Watershed. Apply Forest-wide standards and guidelines.
- Wildlife. Prevent the introduction of non-native species.
- Timber. Timber harvest will not occur unless for research purposes
- Range. Objectives for grazing will be defined in situations where grazing is needed to establish or maintain vegetative communities in research natural areas were livestock grazing is not part of the management prescription,
- the Regional Forester and Station Director shall, as appropriate, establish a level of acceptable casual or incidental livestock use that can be tolerated and is consistent with the management prescription for the research natural area.
- Transportation. Roads and trails will normally be the minimum necessary to provide access for research and education objectives. Off-road vehicle use will be prohibited.

- Research Prepare establishment reports and management plans for each proposed RNA. In addition to the one existing research natural area, 18 areas are recommended for addition to the Research Natural Area System:

Lightning Creek	Government Draw	Mt. Joseph
Alum Beds	Indian Creek (existing RNA)	Vance Knoll
Bob Creek	Horse Pasture Ridge	Pt Prominence
West Razz Pond	Lake Fork	Basin Creek
Razz Lake	Pleasant Valley	Haystack Rock
Bills Creek	Little Granite	Cougar Meadow
Duck Lake	Craig Mountain Lake	

- Recreation Manage these areas to accommodate recreational use similar to the management areas surrounding them. Discourage public recreation use if levels become so high as to be incompatible with the primary objective. Where special orders are needed to limit, restrict, or control specific activities such as camping, seasons of use, or other uses, that are not compatible with the objectives of the research natural area, the Forest Supervisor shall issue orders pursuant to 36 CFR 261, subpart B, to protect an area's features Any such orders shall incorporate the special closure provisions of 36 CFR 261.53
- Landscape Management. Apply Forest-wide standards and guidelines.
- Landownership. Retain these lands in Federal ownership and acquire private lands as opportunity or need occurs.
- Minerals. Recommend formally classified RNA's for withdrawal from mineral entry.
- Fire. Design suppression activities to minimize site disturbance. Prescribed fires will be used
- only in conjunction with approved research projects The minimum acceptable suppression response will be "confine" at all FILS.
- Insects and Diseases The decision on treatment of Forest pests will be made on a case-by case basis Where pest management activities are prescribed, they shall be as specific as possible against target organisms and induce minimal impact to other components of the ecosystem.
- Other. Prohibit the gathering of fuelwood for commercial or home use.

Planning Assumptions
Timber: There will be no timber harvest
Watershed: Watershed condition and water quality and quantity will approximate pristine conditions
Wildlife: Timber stands which are currently in an old-growth condition will continue to provide old growth habitat. Natural tree mortality will provide snag habitat for snag-dependent species at 100 percent of potential.
Fire: No fuel treatment activity will occur unless compatible with RNA objectives. Fuel will be allowed to accumulate at natural rates. Prescribed fires from unplanned ignitions will be used consistent with the management plans for specific RNA's.

Record of Decision and Establishment Order

Establishment of Haystack Rock and Horse Pasture Ridge Research Natural Areas (Lower Joseph Creek Restoration Project)

Wallowa-Whitman National Forest Land and Resource Management Plan Amendment Number 47

USDA Forest Service
Pacific Northwest Region

Wallowa Valley Ranger District, Wallowa-Whitman National Forest
Wallowa County, Oregon

Haystack Rock proposed Research Natural Area: T4N R45E sections 7, 8, 17, and 18
Horse Pasture Ridge proposed Research Natural Area: T5N R45E section 28

Decision and Reason for the Decision

Background

In the interest of landscape learning and streamlining NEPA, establishment of two Research Natural Areas (RNAs) was analyzed as part of the Lower Joseph Creek Restoration Project (LJCRP) Final Environmental Impact Statement (FEIS). Research Natural Areas are designated for research and educational opportunities, to maintain biological diversity on National Forest System lands, and are selected to complete a national network of ecological areas. The Horse Pasture Ridge (338 acres) and Haystack Rock (425 acres) RNAs were proposed for establishment in the 1990 Wallowa-Whitman National Forest (WWNF) Land and Resource Management Plan (Forest Plan). Both are within the Lower Joseph Creek Restoration Project area and each still maintains all the qualities unique for RNA designation. The establishment of the two RNAs requires a forest plan amendment, as described below. Research Natural Area establishment was proposed under both action alternatives of the LJCRP FEIS. The LJCRP FEIS also documents the analysis of effects of a no action alternative which did not include establishment of the two RNAs.

Decision and Rationale

Based upon my review of all alternatives, I have decided to establish the Horse Pasture Ridge and Haystack Rock RNAs, as considered in Alternatives 2 and 3 of the LJCRP FEIS (FEIS page 141). I am also approving a forest plan amendment, which is required to establish RNAs. The objective is to maintain the natural condition of the areas; therefore no forest products or minerals would be removed, livestock grazing patterns would not be changed, fire activity would be limited to suppression only (unless fire is part of an approved research project), off road vehicles would be excluded, and recreation use would be managed at a low intensity level. Environmental consequences disclosed in the WWNF Forest Plan FEIS are still valid, and conditions and effects have not changed. Management strategies would not change under the establishment, and no adverse or irreversible environmental consequences are expected.

WWNF Forest Plan objectives for establishing RNAs are to preserve examples of all significant natural ecosystems for comparison with those influenced by humans, to provide educational and research areas for ecological and environmental studies; and to preserve gene pools for typical and rare and endangered plants and animals (Forest Plan page 4-83). RNAs typify important forest, shrubland, grassland, alpine, aquatic, and geologic types and other natural situations that have special and unique characteristics of scientific interest and importance. The Horse Pasture Ridge RNA will contribute to the national network of RNAs by providing an example of Idaho fescue-prairie Junegrass, and Idaho fescue –blue bunch wheatgrass plant associations in ridge top communities. The Haystack Rock RNA will contribute to the national network of RNAs by providing an example of Idaho fescue-blue bunch wheatgrass-arrow leaf balsamroot and blue bunch wheatgrass-Sandberg's bluegrass-narrow-leaved skullcap plant associations. Both Haystack Rock and Horse Pasture Ridge RNAs will serve as untreated baseline study areas with respect to prescribed fire and other management activities (FEIS page 67).

In addition to meeting Forest Plan objectives, establishing these RNAs meets agency objectives including (1) maintaining representative areas of high quality ecosystem; (2) preserving and maintaining genetic diversity, including threatened, endangered, and sensitive species; (3) protecting areas against human-caused environmental disruptions; (4) serving as reference areas for study of ecological processes; (5) providing onsite and extension educational activities; (6) serving as baseline areas for measuring long-term ecological change; (7) serving as control areas for comparing results from manipulative research; and (8) monitoring effects of resource management techniques and practices (FSM 4063.02).

Under the Forest Plan, activities in RNAs are limited to research, study, observations, monitoring, and educational activities that are nondestructive and non-manipulative. Proposed RNAs are protected from uses which would reduce their suitability for RNA designation. Since both Horse Pasture Ridge and Haystack Rock were proposed under the Forest Plan (page 4-84) there will be no changes in management as a result of establishment.

This decision requires a forest plan amendment (FSM 4063.03). This decision amends the WWNF Forest Plan in conformance with the 1982 Planning Rule process[1], following Forest Service Manual direction (FSM 1926.51 - January 31, 2006), changing the designation of the Horse Pasture Ridge and Haystack Rock RNAs from "proposed" to "established" (Forest Plan page 4-82). The significance of the amendment was evaluated in accordance with FSM 1926.51 and FSM 1926.52, and found to be non-

[1] Forest Service Handbook 1909.12 – Land Management Planning Handbook Chapter 20 – Land Management Plan states: *Plan amendments started after May 9, 2015, must conform to the 2012 Planning Rule requirements. Before that date, plan amendments may be made following the 1982 Rule process or following the 2012 Planning Rule. (36 CFR§219.17(b)(2)).* This proposed action was developed and scoped prior to May 9, 2015. The Responsible Official has elected to follow the 1982 Planning Rule procedures for purposes of making this amendment.

significant according to this policy. The amendment will not alter multiple-use forest plan goals and objectives or adjust management area boundaries. The amendment will not alter the long-term relationship between levels of multiple-use goods and services originally projected for the WWNF, nor will it alter timber suitability. The amendment will not result in an important effect to the entire land management planning area. (See project record for details of evaluation). Opportunities for public participation and notification were provided as required.

In addition to my decision to amend the WWNF Forest Plan, an establishment record (see attached) has been prepared for each RNA for approval by the R6 Regional Forester with the concurrence of the PNW Station Director (FSM 4063.04b). A legal description, and land lines where Haystack Rock and Horse Pasture Ridge have boundaries in common with other landowners will be documented (FSM 4063.37) as a part of the establishment record process.

Other Alternatives Considered

In addition to the selected alternative, I also considered the no action alternative (LJCRP FEIS Alternative 1). A more detailed comparison of the effects of RNA establishment can be found on pages 73-75 in Chapter 3 of the LJCRP FEIS.

Alternative 1 – No Action

Under the no-action alternative, current management plans would continue to guide management of the project area. Under Alternative 1, the Horse Pasture Ridge and Haystack Rock proposed RNAs would remain as proposed RNAs and continue to be protected from uses that would reduce suitability for RNA designation. This management direction is listed in the WWNF Forest Plan, Pages 4-84 and 4-85, and would remain in effect until there is a revised Forest Plan or there is an amendment to this portion of the Forest Plan.

Public Involvement

The Notice of Intent to develop the LJCRP EIS was published in the Federal Register on January 9, 2014, and a legal notice of the comment period was published in the Baker City Herald. The Notice of Availability (NOA) of the DEIS for a 90 day comment period was published in the Federal Register, and Baker City Herald on November 14, 2014. The DEIS comment period ended on February 12, 2015.

Fifteen public meetings organized by the Wallowa-Whitman Forest Collaborative between August 2013 and August 2015 in-part focused on scoping results, methodologies used in alternative development, effects analyses, and collaborative consensus around RNA establishment and other project activities. Twelve meetings and conference calls, in addition to the joint public meetings in January and December 2014, were held with the Wallowa County Natural Resources Advisory Council to discuss the proposed action, public comments, planning issues and alternatives, and effects analyses, including those related to RNA establishment.

Two public field trips organized by the Wallowa-Whitman Forest Collaborative were held in the project area in August 2013 and June 2014, and two meetings with local permittees were held during development of the EIS. Public scoping did not identify RNA establishment as a significant issue. There were five comments submitted during scoping that were in favor of RNA establishment and two comments opposed to RNA establishment. Comments on the DEIS included two favorable comments regarding RNA establishment. For more information, see the analysis of public scoping in the project record.

Nez Perce Tribe Consultation and Coordination

More than 20 meetings and conference calls, and five field trips were held with the Nez Perce Tribe staff throughout the LJCRP planning process. Government-to-government meetings were held in July, 2014 and June, 2015. Detailed information on meetings and field trips with the Nez Perce Tribe is located in Appendix G of the LJCRP FEIS. The tribe strongly supported the establishment of Haystack Rock and Horse Pasture Ridge RNAs.

Findings Required by Other Laws and Regulations

This decision to establish Haystack Rock and Horse Pasture Ridge RNAs is consistent with the intent of the WWNF Forest Plan's long term goals and objectives, including forest management goals for research (Forest Plan page 4-12) and specific direction for Management Area 12 – Research Natural Areas (pages 4-84 and 4-85). Establishment of research natural areas has been sanctioned in regulations at 7 CFR §2.60(a) and 36 CFR §251.23, and 36 CFR §219.25 (1982, 1983). Direction for establishment is provided in Forest Service Manual 4063 and in "A Guide for Developing Natural Area Management and Monitoring Plans" written by the Pacific Northwest Interagency Natural Area Committee.

Environmentally Preferable Alternative

Alternative 2 (Modified Proposed Action) is the environmentally preferable alternative, because it would result in the least harm to the biological and physical environment, and best protects and preserves historic, cultural, and natural resources. This alternative provides the most long-term benefits for multiple resources.

Administrative Review or Objection Opportunities

This decision is subject to objection pursuant to procedures at 36 CFR 219 Subpart B. Public notice for the beginning of the objection period was made available following requirements at 36 CFR §219.52. A legal notice published in The Oregonian on July 15, 2016 began the 60-day objection period. The legal notice, as well as a "Dear Reader" letter circulated with the Final EIS, provided instructions for filing an objection with the reviewing officer. No objections were received. When no objection is filed, implementation may begin on, but no sooner than the fifth business day following the end of the 60-day objection filing period (§219.52).

Implementation

Implementation may begin immediately.

Contact Person

For additional information concerning this draft decision and the final environmental impact statement, please contact Dea Nelson, Environmental Coordinator & Planner, Wallowa-Whitman National Forest, by phone: 541-523-1216 or email: dnelson09@fs.fed.us.

[signature] 4.17.17

JAMES M. PEÑA
for Regional Forester

Date

Attached: Establishment Orders and Establishment Records for Haystack Rock and Horse Pasture Ridge RNAs