

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE



SIGNATURE PAGE

for

RESEARCH NATURAL AREA ESTABLISHMENT RECORD

Dugout Creek Research Natural Area

Malheur National Forest

Grant 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 _____
Dick Vander Schaaf,
The Nature Conservancy

Prepared by Kristine L Shull Date 1/13/06
Kristine Shull, Wildlife Biologist,
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Recommended by Brooks Smith Date 1/15/06
Brooks Smith, District Ranger,
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Roger W. Williams, Forest Supervisor,
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TITLE PAGE

Establishment Record for
Dugout Creek Research Natural Area
within Malheur National Forest
Grant County, Oregon

ESTABLISHMENT RECORD FOR
DUGOUT CREEK RESEARCH NATURAL AREA
WITHIN MALHEUR NATIONAL FOREST
GRANT COUNTY, OREGON

INTRODUCTION

Dugout Creek Research Natural Area (RNA) is located along the North Fork of the Malheur River in the Blue Mountains Physiographic Province of Oregon. The dominant plant associations in the natural area are grand fir/ birchleaf spirea, ponderosa pine/common snowberry, grand fir/pinegrass, and ponderosa pine/pinegrass with elk sedge found interspersed with pine, grand fir and Douglas-fir. The site is forested with trees of several age classes present including a number of groves of impressive old growth ponderosa pines. The site typifies Blue Mountain forests on gentle to moderate slopes which historically were logged with relative ease due to their accessibility by tractor-based logging equipment. The natural area is centered on Dugout and Stink Creeks, which originates on the eastern boundary at an ecotone between the low sagebrush scabland and ponderosa pine forest and extends west between 1 mile and 1 ½ miles to the Wild and Scenic River boundary above the North Fork Malheur River. The site includes several minor ridges that have stands of mountain mahogany on them, lending diversity to the site and providing some additional wildlife habitat. The proposed RNA is not within a congressionally designated area.

Land Management Planning

Dugout Creek RNA was proposed as an RNA by the Malheur National Forest to meet unfilled natural area cell needs for a ponderosa pine/pinegrass and elk sedge community, and for a grand fir/pinegrass community as listed in the Oregon Natural Heritage Plan (Oregon Natural Heritage Advisory Council 2003)¹. It was included as a proposed RNA in the FEIS for the Malheur National Forest (USDA Forest Service 1990a), in the Forest Plan (USDA Forest Service 1990b) and in the Record of Decision (USDA Forest Service 1990c).

The site also contains a high quality representation of one additional natural community, mountain mahogany/bunchgrass, but it is not extensive enough to fill a cell need in the Oregon Natural Heritage Plan (Oregon Natural Heritage Advisory Council 1993). Dugout Creek and Stink Creek flow through the site but no significant riparian zone is associated with either of them, therefore no aquatic cells are adequately represented at the site. Dugout Creek RNA includes the following cell needs (or elements) in Blue Mountains Physiographic Province:

¹ Authors' names in parentheses refer to references cited.

TERRESTRIAL ECOSYSTEMS

16. Ponderosa pine/pinegrass community with elk sedge if possible.

32. Grand fir/pinegrass forest

OBJECTIVE

The objective of the Dugout Creek RNA is to preserve in a relatively undisturbed, by humans, condition the ponderosa pine and grand fir forest. The RNA will serve as a reference area for study, as a baseline area for determining long-term ecological changes, and as a monitoring area to determine effects of management techniques and practices applied to similar ecosystems.

JUSTIFICATION

Dugout Creek RNA was selected to meet unfilled RNA cell needs for ponderosa pine community with pinegrass and elk sedge, and grand fir community with pinegrass. The site is representative of low to mid elevation areas with moderate slopes that contain old growth ponderosa pine in the Blue Mountains (Oregon Natural Heritage Plan 2003). Such sites have been extensively tractor-logged in the past and are rare to find in as good a condition as represented at Dugout Creek.

PRINCIPAL DISTINGUISHING FEATURES

Dugout Creek RNA contains the following principal features:

1. Ponderosa pine forest: The ponderosa pine forest is the principal natural feature of the RNA with a number of groves of old growth trees present on the slopes of the site. The overstory is dominated by ponderosa pines that reach 4 feet (1.2 m) in diameter while the understory contains pine as well as Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*) and an occasional western juniper (*Juniperus occidentalis*). The herb layer is dominated by either elk sedge or pinegrass, which indicates the presence of two distinct plant associations (Johnson and Clausnitzer 1992). Pinegrass dominates the herb layer in associations where there is an accumulation of volcanic ash in the soil. Elk sedge figures prominently in the understory herb layer where ash is absent, and it often is associated with warmer and drier sites than those favored by pinegrass.

2. Grand fir forest: The grand fir/pinegrass association is a nearly shrubless community dominated by grand fir (*Abies grandis*), Douglas-fir (*Pseudotsuga menziesii*), and ponderosa pine (*Pinus ponderosa*) with high coverage by pinegrass and elk sedge. Western larch (*Larix occidentalis*) occurs as a minor overstory component in less than 50% of the stands and

lodgepole pine (*Pinus contorta*) occurs in less than 20% of the stands. This community is found on droughty soils and warm aspects, typically at elevations ranging from 4,050 feet to 6,500 feet (1220 – 1970m). Soil textures at the surface are loamy sand, sandy loam, and silt loam with low water-holding capacity and dominated by volcanic ash parent material. The forb composition has low coverage by a few species; prominent forbs are the hawkweeds, lupines, strawberries, and heartleaf arnica. Two additional grand fir communities in the RNA are grand fir/elk sedge and grand fir/birchleaf spirea, with the dominant understory shrub or grass species determining the plant association.

LOCATION

Maps 1, 2, and 3 show the location of Dugout Creek RNA. The RNA is located on the Prairie City Ranger District of the Malheur National Forest. The center of the RNA is at latitude 44°12' 12" north and longitude 118° 22' 10" west. The 908 acre (367 ha.) site lies within Sections 1, 2, 11, 12 Township 16 South, Range 35 East; Section 6 Township 16 South, Range 36 East; and Section 31 Township 15 South, Range 36 East (Map 3).

Boundary

Basis of bearing is astronomic north. Basis of elevation is mean sea level as shown on the USGS 7.5 minute topographic quadrangle maps Crane Prairie, Oregon (1990 provisional edition) and Flag Prairie, Oregon. A boundary description is in Appendix 1.

The boundary is modified from the proposed boundary in the Forest Plan. The southern and eastern boundary would correspond closely with the boundary proposed in the Forest Plan and would be west of the 1675243 road. The western boundary will coincide with the Wild and Scenic River boundary. The northern boundary and west end of the southern boundary would be adjusted to the ridge north Stink Creek and the ridge south of Dugout Creek, respectively (Maps 2 and 3). The forested edge along the western boundary separates the scabland from the forest characteristics (old growth pine) for which the RNA was selected.

Reasons for the change in boundaries:

- 1) Extending the boundary to the North Fork Malheur Wild & Scenic River boundary includes more area of old growth pine forest. The western boundary will match the Wild & Scenic River boundary
- 2) There will be less concern with the grazing strategy by not including the scabland.
- 3) The eastern boundary will be easily located on the ground, will be posted, and will include no roads in the RNA.

4) The northern and southern boundaries will be easier to describe and locate where they follow ridgelines.

5) Moving the southeast corner of the boundary to northwest of the 1675243 road will make it easier to describe and locate the boundary on the ground. Excluding the short distance of the road will avoid conflicts with the North Fork Burn project. The location northwest of the road will provide an easy boundary for the prescribed fire and a space between the RNA and the prescribed fire project.

6) A block of land between the Wild & Scenic River corridor and the RNA proposed in the Forest Plan is unroaded with low possibility of access due to class 4 riparian corridors at both the north and south ends and steep terrain. The block of land includes plant associations that contain old growth pine in near natural condition as the rest of the RNA. It makes good sense to include that block of land in the RNA.

Area

Total area for the Dugout Creek Research Natural Area is about 908 acres (367 hectares).

Elevations

Elevations range from 5,040 feet (1,513 m) along the North Fork Malheur Wild and Scenic River boundary at the western edge of the RNA to 5,840 (1,754 m) at the northeastern edge of the site.

Access

The Dugout Creek RNA is located along the North Fork of the Malheur River approximately 35 miles (56 km) southeast of Prairie City, Oregon. To get to the RNA proceed south out of Prairie City on County Road 62 for 11 miles to the junction with Forest Road 13. Follow Forest Road 13 east and south for 22 miles to the junction with Forest road 16 which runs along the North Fork of the Malheur River. Follow road 16 for 3 miles to the junction with Forest road 1675 (same as 1675000) and continue south for 3 miles, crossing the North Fork Malheur River and passing the North Fork Malheur Forest Campground. The RNA begins approximately 200 yards south of the campground and up the ridge to the east near where the road crosses Stink Creek. The RNA is accessed upslope from the road. An alternative access point to the RNA is from the east in the vicinity of Tub Spring via unnumbered logging roads. These roads take off from Forest Road 16 in Section 31, T15S, R 36E. A Prairie City Ranger District transportation system map is necessary to locate the eastern access point.

Maps

Dugout Creek RNA is located on USGS 7.5 minute topographic quadrangle maps, Crane Prairie, Oregon (1990 provisional edition) and Flag Prairie, Oregon. The Malheur National Forest Recreation Map, 1987, is useful for ownership and general access information, however, this map does not delineate the RNA boundaries.

Photos

The following aerial photos of the Dugout Creek RNA site are available in the Forest Supervisor's and District Ranger's offices:

4001-145, (8/6/2001)	4401-126 (8/6/2001)
4001-146, (8/6/2001)	4401-127 (8/6/2001)

AREA BY TYPES

Vegetation of the RNA has been surveyed on ecological plots at the site (Johnson 1997 personal communication) in preparation for this document. The following determination of cover types and plant associations were made from the survey information and from air photo interpretation. Map 4 depicts the locations of the natural communities or associations described below.

The most current information regarding plant associations present in the RNA is described in the plant association guide for the Blue and Ochoco Mountains (Johnson and Clausnitzer 1992). The associations are identified for the RNA and all but 23 acres correlate to types described in Johnson and Clausnitzer (1992).

	GIS Acres	Calculated Hectares
<u>SAF Cover Types</u> (Eyre 1980)		
210 Interior Douglas-fir	84	34
213 Grand fir	373	151
237 Interior Ponderosa Pine	354	143
238 Western Juniper	23	9
Mixed Conifer forest	10	4
Non-forested	64	26
Total	908	367

Kuchler Types (Kuchler 1966)

11	Western ponderosa forest (<i>Pinus</i>)	377	153
14	Grand fir-Douglas-fir (<i>Abies - Pseudotsuga</i>)	444	179
24	Juniper steppe woodland (<i>Juniperus-Artemisia-Agropyron</i>)	23	9
51	Wheatgrass-bluegrass (<i>Agropyron-Poa</i>)	49	20
	Other shrubland (<i>Cercocarpus</i>)	15	6
	Total	908	367

Plant Associations (Johnson and Clausnitzer 1992)

1)	Ponderosa pine/pinegrass (<i>Pinus ponderosa/Calamagrostis rubescens</i>)	96	39
2)	Ponderosa pine/elk sedge (<i>Pinus ponderosa/Carex geyeri</i>)	14	6
3)	Ponderosa pine/mountain-mahogany/elk sedge (<i>Pinus ponderosa/Cercocarpus ledifolius/Carex geyeri</i>)	21	8
4)	Ponderosa pine/mountain-mahogany/Idaho fescue- bluebunch wheatgrass (<i>Pinus ponderosa/Cercocarpus ledifolius/ Festuca idahoensis-Agropyron spicatum</i>)	45	18
5)	Ponderosa pine/mountain-mahogany/Wheeler's bluegrass (<i>Pinus ponderosa/Cercocarpus ledifolius/Poa nervosa wheeleri</i>)	32	13
6)	Ponderosa pine/bitterbrush/Ross' sedge (<i>Pinus ponderosa/Purshia tridentata/Carex rossii</i>)	22	9
7)	Ponderosa pine/common snowberry (<i>Pinus ponderosa/Symphoricarpos albus</i>)	125	51
8)	Douglas-fir/pinegrass (<i>Pseudotsuga menziesii/Calamagrostis rubescens</i>)	64	26
9)	Douglas-fir/elk sedge (<i>Pseudotsuga menziesii/Carex geyeri</i>)	20	8
10)	Grand fir/pinegrass (<i>Abies grandis/ Calamagrostis rubescens</i>)	113	46
11)	Grand fir/elk sedge (<i>Abies grandis/Carex geyeri</i>)	95	38
12)	Grand fir/birchleaf spirea (<i>Abies grandis/Spiraea betulifolia</i>)	164	66
13)	Juniper/mountain big sagebrush/Idaho fescue- bluebunch wheatgrass (<i>Juniperus occidentalis/Artemisia tridentata vaseyana/ Festuca Idahoensis-Agropyron spicatum</i>)	23	9

14) Mountain mahogany/Idaho fescue-bluebunch wheatgrass (<i>Cercocarpus ledifolius/Festuca idahoensis-Agropyron spicatum</i>)	15	6
15) Stiff sagebrush/Sandberg's bluegrass (<i>Artemisia rigida/Poa sandbergii</i>)	39	16
16) Stiff sagebrush/Sandberg's bluegrass-onespike oatgrass (<i>Artemisia rigida/Poa sandbergii-Danthonia unispicata</i>)	10	4
Mixed Conifer Forest	10	4
Total	908	367

PHYSICAL AND CLIMATIC CONDITIONS

Physical Conditions

Dugout Creek RNA is located on moderately steep, west-facing slopes above the North Fork of the Malheur River in the Blue Mountains of Oregon. The upslope side of the RNA begins at a broad bench that drops off on all sides to streams, springs and continuous forest; the bench itself is without water features and includes a mix of scabland and open forest stands. The eastern border of the RNA begins at the edge of the bench and is demarcated by rimrock with rock outcrops also found below the rimrock for several hundred meters. Downslope, beyond the rock outcrops, the undulating terrain is covered with deep soils and is broken by several auxiliary ridges that are distinguished by their abundant surface rock and shallow soils. There are several small drainages within the boundaries of the RNA that flow in shallow ravines on the site but only Dugout Creek and Stink Creek are named perennial streams on the site.

The underlying bedrock at the RNA is volcanic in origin and consists of medium to pale gray basaltic andesite that originated from vents in the nearby Strawberry and Lookout Mountains (Canyon City geologic quadrangle map, 1966). There may be sedimentary rock mixed into the lower layers of the volcanics but these are buried quite deep and not readily encountered. Overtop of the weathered volcanics a layer of pumice and ash was deposited 7000 years ago from the explosion of Mt. Mazama, located in the southern Cascade Mountains of Oregon. The pumice and ash quickly eroded and is a primary component of the soils which support the forest stands at the site today.

Soils are derived primarily from aurally deposited pumice mixed with decomposed underlying bedrock. Deposits of ash on the north-facing slopes are deeper than elsewhere, due to lower soil temperatures fostering more mesic conditions and more vegetative growth resulting in less erosion.

Climatic Conditions

The eastern Oregon climate is characterized by warm summers and cold winters. Most of the limited precipitation falls as snow during the winter with significant rains often falling during the spring as well. Summers are dry with evening thunderstorms occurring in July and August. Dugout Creek RNA is within the Blue Mountains Physiographic Province and receives typical eastern Oregon mountain weather. Summer winds are predominantly from the northwest and are usually light to moderate. East winds may occur in the fall and spring, blowing at higher velocities and causing drying conditions that enhance the fire hazard for the season. During the winter, storms come in from the southwest bringing snow while occasional storms from the northwest bring frigid weather.

The closest recording NOAA weather station with complete yearly records is located in Seneca, Oregon, 30 miles (48 km) to the west of the RNA. A weather station situated at Unity, Oregon is closer to the RNA but it does not have consistent data to determine average conditions because of missed recordings at the station. Climatic conditions at Seneca should be a fair approximation for Dugout Creek RNA with differences between the two sites being attributed to the RNA being located in more mountainous terrain compared to Seneca, which resides in a high valley. These differences likely result in a slight increase in annual precipitation and a slightly lower average temperature at the RNA. The station receives an annual precipitation of 13.15 inches (33.40 cm) and the mean annual temperature is 39.8 °F (4.3 °C). The Blue Mountains receive significant precipitation during the summer in association with thunderstorms, especially in August and September. Summer high temperatures regularly reach into the high 80's°F (low 30's °C), while winter lows often dip into the 20's °F (-2 to -7 °C) or lower. The monthly climatic data for Seneca averaged over the past 54 years is listed below.

Climatic Records for Seneca, Oregon
Elevation 4661 feet (1421 m)
(National Oceanographic and Atmospheric Administration 1995)

Month	Temperature		Precipitation	
	°F	°C	inches	cm
January	20.9	-6.2	1.36	3.45
February	26.2	-3.2	1.02	2.59
March	32.0	0	1.18	3.00
April	38.7	3.7	.99	2.51
May	45.9	7.7	1.34	3.40
June	53.5	11.9	1.11	2.82
July	59.0	15.0	.58	1.47

August	57.9	14.4	.87	2.21
September	49.0	9.4	.66	1.68
October	40.4	4.7	.91	2.31
November	31.5	-0.3	1.49	3.78
December	23.1	-4.9	1.64	4.16
Mean Annual	39.8	4.3		
Total Precipitation			13.15	33.40

DESCRIPTION OF VALUES

Flora

The flora of Dugout Creek RNA is representative of ponderosa pine dominated forest communities in the Blue Mountains physiographic province. There are four main plant associations represented in the RNA that are targeted and there is almost complete overlap in species found in the two ponderosa pine associations. The additional 14 plant associations also have old growth pine characteristics and are intermixed with the target plant associations. The flora has not been systematically collected or studied other than those taxa encountered during surveys conducted during the course of the drafting of the Establishment Record and taxa recorded in ecological inventory plots at the site. No state or federal threatened, endangered or sensitive plant species are known to occur within the RNA. Species identifications were determined from Hitchcock and Cronquist (1973) and Hickman (1993) and trees were determined from Little (1979). Observations and plot data collected by the US Forest Service Area Ecologist, Charlie Johnson (personal communication) and Vander Schaaf (1997) have resulted in the following list of plants.

Scientific name	Common name
<hr/>	
TREES	
<i>Abies grandis</i>	grand fir
<i>Larix occidentalis</i>	larch
<i>Pinus ponderosa</i>	ponderosa pine
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Juniperus occidentalis</i>	western juniper
SHRUBS AND SUBSHRUBS	
<i>Artemisia arbuscula</i>	low sagebrush
<i>Artemisia tridentata</i> var. <i>vaseyana</i>	mountain big sagebrush

Scientific name

Common name

<i>Cercocarpus ledifolius</i>	mountain mahogany
<i>Chrysothamnus viscidiflorus</i>	green rabbitbrush
<i>Ribes viscosissimum</i>	sticky currant
<i>Symphoricarpos albus</i>	common snowberry
<i>Symphoricarpos oreophilus</i>	mountain snowberry

FORBS

<i>Achillea millefolium</i>	yarrow
<i>Angelica arguta</i>	Lyall's angelica
<i>Arnica cordifolia</i>	heartleaf arnica
<i>Balsamorhiza sagittata</i>	arrowleaf balsamroot
<i>Berberis repens</i>	creeping Oregon grape
<i>Calochortus sp.</i>	mariposa lily
<i>Castilleja miniata</i>	common paintbrush
<i>Chimophila umbellatum</i>	prince's pine
<i>Claytonia lanceolata</i>	western springbeauty
<i>Erigeron inoratus</i>	rayless daisy
<i>Fragaria vesca</i>	strawberry
<i>Helianthella uniflora</i>	Rocky Mountain sunflower
<i>Hieracium albertinum</i>	western hawkweed
<i>Lupinus caudatus</i>	tailcup lupine
<i>Mimulus guttatus</i>	yellow monkeyflower
<i>Orobanche corymbosa</i>	flattopped broomrape
<i>Osmorhiza occidentalis</i>	western sweet-cicely
<i>Phacelia heterophylla</i>	virgate phacelia
<i>Scutellaria antirrhinoides</i>	skullcap
<i>Urtica dioica</i>	stinging nettles

GRAMINOIDS

<i>Agropyron spicatum</i>	bluebunch wheatgrass
<i>Bromus carinatus</i>	California brome
<i>Bromus tectorum</i>	cheatgrass
<i>Calamagrostis rubescens</i>	pinegrass
<i>Carex geyeri</i>	elk sedge
<i>Carex rossii</i>	Ross' sedge
<i>Glyceria elata</i>	tall mannagrass
<i>Poa nervosa</i>	Wheeler's bluegrass
<i>Stipa occidentalis</i>	Western needlegrass

Dugout Creek RNA has four target plant associations represented within its boundaries (Map 4). The mountain mahogany woodland occurs as a discrete entity being restricted to shallow soils and/or ridges at the site. The other three associations, ponderosa pine/elk sedge, ponderosa pine/pinegrass, and grand fir/pinegrass, occur as a mosaic across the site being differentiated by relative percent covers of their dominant tree species and understory graminoid species. The site is dominated by old growth ponderosa pine and fir forests that are in excellent ecological condition having survived a number of wildfires over the centuries that have left their fire scars on the base of larger trees. The forests are a mix of age classes from small seedlings and saplings to old growth trees in excess of 300 years of age. A typical stand contains a few old growth ponderosa pine trees, a larger number of mid seral aged trees that may include grand fir and Douglas-fir as well as ponderosa pine, and several clumps of saplings and seedlings of all species. The understory is species poor with elk sedge and pinegrass making up 50-90% of the understory cover with only another 6-10 species present in a stand. Total understory cover is approximately 50% while overstory tree cover ranges from 25-40% and understory tree cover ranges from 34-60%. Plot data from the RNA indicates that mistletoe is evident in the stands and insect damage has occurred in the tops of trees (Johnson, personal communication). In general, stand structure is variable across the site providing considerable structural diversity within the RNA.

The forested stands begin just beneath the rimrock that forms the division with the low sagebrush scablands to the east. The ponderosa pine and fir forest continues downslope to the lower edge of the RNA which is at the Wild and Scenic River boundary of the above the North Fork Malheur River. The forest stands occur on nearly level benches that run across the sloping ground as well as on the moderate slopes of the site which are broken by rocky outcrops, minor drainages and at least two auxiliary ridges that run parallel to the slope. The two small drainages that occur on the RNA, Dugout and Stink Creeks, are dominated by ponderosa pine and have only very narrow riparian zones that do not contain well developed riparian plant communities. Riparian vegetation present along Dugout Creek includes *Angelica arguta*, *Urtica dioica*, and *Glyceria elata*.

The two ponderosa pine associations in the RNA are distinguished from each other by the relative covers of their herbaceous understories. The ponderosa pine/pinegrass association is found on soils that contain an ash cap over varied substrates (Johnson and Clausnitzer 1992). These soils retain more soil moisture than those without the ash cap, which are more typically occupied by the ponderosa pine/elk sedge association. Ponderosa pine/pinegrass association has significant cover of both pinegrass and elk sedge with pinegrass dominant while the ponderosa pine/elk sedge association has relatively minor cover of pinegrass but has significant cover of Idaho fescue and bluebunch wheatgrass. Pinegrass is quite restricted by hotter, drier sites, which favor elk sedge.

The grand fir/pinegrass association is a nearly shrubless community dominated by grand fir, Douglas-fir, and ponderosa pine with high coverage by pinegrass and elk sedge. This community

is found on droughty soils and warm aspects. The forb composition is limited with low coverage by a few species. Prominent forbs are the hawkweeds, lupines, strawberries, and heartleaf arnica.

Two prominent auxiliary ridges within the RNA are surrounded by rock outcrops and have considerable surface rock and shallow soils. On these ridges occur small examples of mountain mahogany/Idaho fescue-bluebunch wheatgrass plant association. The mountain mahogany woodland is the distinguishing characteristic of this association which has a bunchgrass understory in contrast to the ponderosa pine understories. Mountain mahogany persists on rocky ridges that are protected from wildfires by lack of fine fuels to carry fire into the stands. Without the rocky slopes or talus mountain mahogany is readily consumed by fire and does not resprout. Mountain mahogany is important for native ungulates both as browse and as thermal cover. In addition, on the lower slopes above Stink Creek there is at least one site located on a convex slope that is very arid and supports only sparse mountain big sagebrush and bluebunch wheatgrass. At the eastern boundary the topography changes to nearly level terrain. There are abundant surface rock and shallow rocky soils here with a concomitant change in vegetation from ponderosa pine forest to low sagebrush scabland. These stands add to the community level diversity of Dugout Creek RNA.

Fauna

Wildlife species have not been systematically studied or inventoried in Dugout Creek RNA. Observations noted during surveys conducted at the site as well as from surveys on nearby areas are included below. Species have the potential to be encountered in the RNA as determined by the presence of suitable habitat at the site are also included in the list (Burt and Grossenbieder 1976; National Geographic Society 1987; Nussbaum et al 1983).

<u>Scientific name</u>	<u>Common name</u>
Iguanidae	
<i>Phrynosoma douglasii</i>	Short-horned lizard
<i>Sceloporus occidentalis</i>	Western fence lizard
<i>Sceloporus graciosus</i>	Sagebrush lizard
<i>Uta stansburiana</i>	Side-blotched lizard
Scincidae	
<i>Eumeces skiltonianus</i>	Western skink
Teiidae	
<i>Cnemidophorus tigris</i>	Western whiptail snake

Boidae*Charina bottae*

Rubber boa

Colubridae*Coluuber constrictor mormon*

Western yellowbelly racer

Hypsiglena torquata

Night snake

Masticophis taeniatus

Striped whipsnake

Pituophis melanoleucus

Gopher snake

Thamnophis elegans

Western terrestrial garter snake

Thamnophis sirtalis

Common garter snake

Viperidae*Crotalus viridus*

Western rattlesnake

Ambystomatidae*Ambystoma macrodactylum*

Long-toed salamander

Bufo*Bufo boreas*

Western toad

Hylidae*Hyla regilla*

Pacific treefrog

Pelobatidae*Speo intermontana*

Great Basin spadefoot toad

Ranidae*Rana luteiventris*

Columbia spotted frog

Cathartidae*Cathartes aura*

Turkey vulture

Accipitridae*Accipiter cooperii*

Cooper's hawk

Accipiter striatus

Sharp-shinned hawk

Accipiter gentilis

Northern goshawk

Buteo jamaicensis

Red-tailed hawk

Buteo swainsonii

Swainson's hawk

Aquila chrysaetos

Golden eagle

Falconidae*Falco sparverius*

American kestrel

Falco mexicanus

Prairie falcon

Phasianidae

Alectois chukar
Bonasa umbellus
Callipepla californica
Dendragapus obscurus
Meleagris gallopavo

Chukar
 Ruffed grouse
 California quail
 Blue grouse
 Wild turkey

Columbidae

Zenaida macroura

Mourning dove

Strigidae

Aegolius acadicus
Asio otus
Bubo virginianus
Glaucidium gnoma
Otus flammeolus
Otus kennicottii

Northern saw-whet owl
 Long-eared owl
 Great horned owl
 Northern pygmy owl
 Flammulated owl
 Western screech-owl

Caprimulgidae

Chordeiles minor

Common nighthawk

Apodidae

Chaetura vauxi

Vaux's swift

Trochilidae

Archilochus alexandri
Selasphorus platycercus
Selasphorus rufus
Stellula calliope

Black-chinned hummingbird
 Broad-tailed hummingbird
 Rufous hummingbird
 Calliope hummingbird

Picidae

Picoides pubescens
Picoides villosus
Picoides albolarvatus
Colaptes auratus
Dryocopus pileatus
Sphyrapicus nuchalis
Sphyrapicus thyroideus

Downy woodpecker
 Hairy woodpecker
 White-headed woodpecker
 Northern flicker
 Pileated woodpecker
 Red-naped sapsucker
 Williamson's sapsucker

Tyrannidae

Contopus borealis
Contopus sordidulus

Olive-sided flycatcher
 Western wood-pewee

Empidonax minimus
Empidonax oberholseri
Empidonax trailii
Empidonax wrightii
Myiarchus cinerascens
Sayornis saya
Tyrannus verticalis

Least flycatcher
Dusky flycatcher
Willow flycatcher
Gray flycatcher
Ash-throated flycatcher
Say's phoebe
Western kingbird

Hirundinidae

Hirundo pyrrhonota
Stelgidopteryx serripennis
Tachycineta bicolor
Tachycineta thalassina

Cliff swallow
Northern rough-winged swallow
Tree swallow
Violet-green swallow

Corvidae

Perisoreus canadensis
Cyanocitta stelleri
Corvus corax
Gymnorhinus cyanocephalus

Gray jay
Steller's jay
Common raven
Pinyon jay

Paridae

Parus atricapillus
Parus gambeli

Black-capped chickadee
Mountain chickadee

Certhiidae

Certhia americana

Brown creeper

Sittidae

Sitta carolinensis
Sitta canadensis
Sitta pygmaeus

White-breasted nuthatch
Red-breasted nuthatch
Pygmy nuthatch

Troglodytidae

Catherpes mexicanus
Salpinctes obsoletus
Thryomanes bewickii
Troglodytes aedon

Canyon wren
Rock wren
Bewick's wren
House wren

Muscicapidae

Catharus ustulatus
Myadestes townsendi

Swainson's thrush
Townsend's solitaire

Regulus satrapa
Sialia currucoides
Sialia mexicana
Turdus migratorius

Bombycillidae
Bombycilla cedorum

Sturnidae
Sturnus vulgaris

Vireoniidae
Vireo solitarius

Emberizidae
Amphispiza belli
Dendroica coronata
Dendroica nigrescens
Dendroica petechia
Oporonis agilis
Wilsonia pusilla
Piranga ludoviciana
Chlorura chlorura
Spizella passerina
Sternella neglecta
Passerina amoena
Passerculus sandwichensis
Pheucticus melanocephalus
Poocetes gramineus
Chondestes grammacus
Spizella breweri
Junco hyemalis
Melospiza melodia
Molothrus ater
Vermivora ruficapilla

Fringillidae
Carpodacus cassinii
Carpodacus mexicanus
Loxia curvirostra
Carduelis pinus
Coccothraustes vespertinus

Golden-crowned kinglet
Mountain bluebird
Western bluebird
American robin

Cedar waxwing

European starling

Solitary vireo

Sage sparrow
Yellow-rumped warbler
Black-throated gray warbler
Yellow warbler
MacGillivray's warbler
Wilson's warbler
Western tanager
Green-tailed towhee
Chipping sparrow
Western meadowlark
Lazuli bunting
Savannah sparrow
Black-headed grosbeak
Vesper sparrow
Lark sparrow
Brewer's sparrow
Dark-eyed junco
Song sparrow
Brown-headed cowbird
Nashville warbler

Cassin's finch
House finch
Red crossbill
Pine siskin
Evening grosbeak

Pinicola enucleator

Pine grosbeak

Soricidae

Sorex merriami

Merriam's shrew

Sorex obscurus

Dusky shrew

Sorex preblei

Malheur shrew

Sorex vagrans

Vagrant shrew

Vespertilionidae

Myotis lucifugus

Little brown myotis

Myotis yumanensis

Yuma myotis

Myotis evotis

Long-eared myotis

Myotis subulatus

Western small-footed bat

Myotis volans

Long-legged myotis

Myotis californicus

California myotis

Anthrozous pallidus

Pallid bat

Lasionycteris noctivagrans

Silver-haired bat

Eptesicus fuscus

Big brown bat

Euderma maculata

Spotted bat

Pipistrellus hesperus

Western pipistrelle

Plecotus townsendii

Townsend's big-eared bat

Procyonidae

Procyon lotor

raccoon

Leporidae

Lepus americanus

Snowshoe hare

Sciuridae

Eutamias minimus

Least chipmunk

Eutamias amoenus

Yellow-pine chipmunk

Citellus beldingi

Belding's ground squirrel

Citellus columbianus

Columbian ground squirrel

Citellus lateralis

Golden-mantled ground squirrel

Glaucomys sabrinus

Northern flying squirrel

Marmota flaviventris

Yellow-bellied marmot

Tamiasciurus hudsonicus

Red squirrel

Geomyidae

Thomomys talpoides

Northern pocket gopher

Heteromyidae

Perognathus parvus
Dipodomys ordi

Great Basin pocket mouse
Ord kangaroo rat

Cricetidae

Clethrionomys gapperi
Microtus longicaudus
Microtus montanus
Microtus richardsoni
Onychomys leucogaster
Peromyscus crinitus
Peromyscus maniculatus
Reithrodontomys megalotis
Neotoma cinerea
Lagurus curtatus

Southern red-backed vole
Longtail vole
Mountain vole
water vole
Northern grasshopper mouse
Canyon mouse
Deer mouse
Western harvest mouse
Bushy-tailed woodrat
Sagebrush vole

Zapodidae

Zapus princeps

Western jumping mouse

Erethizontidae

Erethizon dorsatum

Porcupine

Canidae

Canis latrans

Coyote

Ursidae

Ursus americanus

Black bear

Mustelidae

Gulo gulo
Martes americana
Mustela erminea
Mustela frenata
Mustela vison
Taxidea taxus

California wolverine
Marten
Short-tailed weasel
Long-tailed weasel
Mink
Badger

Felidae

Felis rufus
Felis concolor

Bobcat
Mountain lion

Cervidae

Odocoileus hemionus

Mule deer

Cervus canadensis

Elk

Antilocapridae

Antilocapra americana

Pronghorn

Aquatic

Aquatic habitats represented in Dugout Creek RNA are Dugout and Stink Creeks as well as in the intermittent runoff channels that can be found in other ravines at the site. The creeks and intermittent drainages are not known to support resident fish populations but likely provide habitat for amphibians during the spring and summer months. There is one spring in the RNA, Tub Spring, which has a low flow for much of the year. The RNA boundaries run downslope to the floodplain of the North Fork of the Malheur River but the boundaries stop short of the actual floodplain. Even in high flood times, flood waters would not encroach in the RNA. The North Fork of the Malheur River is designated as a scenic river under the federal Wild & Scenic Rivers Act. Temporary boundaries for the scenic river extend 1/4 mile (0.4 km) from each bank, which is the shared boundary with the western edge of the RNA.

Geology

The geology of Dugout Creek RNA has not been studied in detail and texts of Oregon geology do not address the area except in the most general terms (Baldwin 1964). The Blue Mountains are primarily composed of sedimentary rock dating back to the late Permian period (250 million years ago) that has been uplifted and folded. Many of the better known formations in the Blue Mountains date from the Tertiary period and contain important early mammal fossil remains. Overlying these early sedimentary formations are deep, extensive layers of basalt that have proved to be highly resistant to erosion and thus persist across much of the landscape.

The underlying bedrock at the RNA is volcanic in origin and consists of medium to pale gray basaltic andesite that originated from vents in the nearby Strawberry and Lookout Mountains, which are 10 miles (16 km) northwest of the site (USDI Geologic Survey, 1966). There may be sedimentary rock mixed into the lower layers of the volcanics but these are buried quite deep and not readily encountered. Overtop of the weathered volcanics a layer of pumice and ash was deposited 7000 years ago from the explosion of Mt. Mazama in the southern Oregon Cascades Mountains. The resulting deposits of ejecta ranged widely in depth depending upon proximity to the site of origin and colluvial action. The rapid decomposition of the pumice and ash resulted in unique soils being rapidly formed in the Blue Mountains which then fostered much of the vegetation that is present there today.

The current landscape of the RNA is dominated by a nearly thousand foot (305 m) deep valley carved by the North Fork of the Malheur River along the western edge of the RNA. The RNA resides on the west-facing slope of this river valley. The slope varies from 30-50% in steepness with a number of gentle benches running across the face of it. The benches contain some of the larger stands of trees although almost the entire slope is forested in ponderosa pine. Most of the face of the slope is convex in relief. The slope is cut by two perennial drainages, Stink Creek and Dugout Creek, and several smaller unnamed ravines. These channels are actively downcutting at normal rates as there have been almost no management activities at the site that would affect these rates. Portions of the named creeks are becoming quite incised where the slope is most steep.

Soils

Soils are derived primarily from aerially deposited pumice mixed with decomposed underlying bedrock. Deposits of ash on the north-facing slopes are deeper than elsewhere, due to lower soil temperatures fostering more mesic conditions and more vegetative growth, resulting in less colluvial soil movement and erosion.

The soils in the Dugout Creek RNA are generally characterized as being moderately deep residual and colluvial soils on slopes that range from 5% on top to 50% near outcrops. Most of these soils can support some degree of coniferous tree growth and the majority of them support dense, vigorous stands of ponderosa pine. The Malheur Forest Soil Resource Inventory (1974) shows seven soil mapping units present within the boundary of the RNA (Map 5). Mapping units are analogous to soil types with special reference being made to the landforms on which they are found as well as to the vegetation present on them. The soil mapping units are described below. Some mapping units shown in Map 5 may be combined and have a letter associated with the numbers. For example mapping unit 44C141 is a combination of mapping unit 44 and mapping unit 141.

Mapping Unit 44:

Mapping unit 44 is most often found on steep sideslopes that have gradients of 30 to 70 percent. Soils are composed of gravelly and cobbly loam derived from weathered basalt and andesite; gravel and cobble make up between 30 to 60 percent of the soil profile. A large portion of the soil surface is composed of rock and cobble, the intervening soil has a weak to moderate, fine to very fine crumb and granular structure. Soil depth ranges from 8-15 inches. The soil color is very dark grayish brown to dark brown with weak to moderate, fine to very fine crumb and granular structure. These soils support western juniper, mountain mahogany, and big sagebrush with bluebunch wheatgrass, Idaho fescue, and Sandberg's bluegrass in the understory.

Mapping Unit 46:

Mapping Unit 46 occurs on nearly flat terrain or slopes having a gradient less than 30 percent. Soils are excessively drained with moderate permeability. The surface layers are very dark grayish brown to dark brown with flat and angular rock fragments comprising 30 to 60% of the surface. These soils have gravelly loam texture derived from weathered basalt and andesite. This soil is slightly sticky to sticky and plastic when wet. Soil depth ranges from 8 to 15 inches and supports western juniper, mahogany, scattered ponderosa pine, and big sagebrush overstory with ground cover of Sandberg's bluegrass and wheatgrass.

Mapping Unit 47:

Mapping Unit 47 occurs on upland flats and sideslopes with gradients less than 30 percent. Soils are excessively drained, gravelly to very gravelly and cobbly loam derived from weathered basalt and andesite; gravel and cobble content range from 30 to 70 percent. Soil depth is very shallow, between 4 and 12 inches. The soil is very dark grayish brown to dark brown in color with a weak, fine to very fine, crumb and granular structure. These soils support scabland vegetation characterized by stiff and low sagebrush with bluebunch wheatgrass and Sandberg's bluegrass in the understory.

Mapping Unit 141:

Typically this map unit occurs on upland flats and slopes with gradients less than 30% with a general south aspect. This is a well drained soil with moderate permeability. It has loam to gravelly loam surface texture and gravelly and cobbly loam subsoil. Surface rock is platy and angular rock fragments making up 10 to 20% of the soil surface. The soil is very dark gray to very dark grayish brown. Soil material is derived from andesite, basalt, and softer interflow materials. Soil depth ranges from 12 to 30 inches with gravel and cobble content increasing with depth. The soil is sticky and slightly plastic to plastic when wet. This soil supports ponderosa pine with ground vegetation of fescue, wheatgrass, elk sedge, and Sandberg's bluegrass.

Mapping Unit 142:

Mapping Unit 142 occurs on upland flats and sideslopes with gradients less than 30 percent; aspect is variable but tends more southerly as elevation increases. Soils are well drained having rapid permeability in the surface soil and moderate in the subsoil. Soils are classified as silty loam derived from volcanic ash with subsoil derived from weathered basalt and andesite. Gravel and cobble content ranges upwards to 50 percent with more of it found in the subsoil than in surface layers. Soil color is very dark grayish brown to brown in surface layers and brown to dark brown in subsurface layers. Surface layers are massive in character while subsurface layers are considered to have moderate, fine to very fine, subangular and angular blocky structure. Soil depth varies from 12 to 36 inches. These soils support ponderosa pine, Douglas-fir and white fir with elk sedge and pinegrass in the understory.

Mapping Unit 143:

Mapping Unit 143 occurs on steep southerly sideslopes with gradients over 30 percent. Soils are well drained with moderate permeability. They are classified as loam to gravelly loam surface soils and gravelly and cobbly loam subsoil derived from weathered andesite, basalt and interflow material. Gravel and cobble content ranges up to 60 percent. The color of surface layers are very dark gray to very dark grayish brown with weak, fine to very fine structure; subsoil is brown to dark brown in color with moderate, fine to very fine subangular and angular blocky structure. Soil depths range from 12 to 30 inches. These soils support ponderosa pine forests with Idaho fescue, bluebunch wheatgrass, elk sedge and Sandberg's bluegrass in the understory.

Mapping Unit 148:

Mapping Unit 148 occurs on steep sideslopes with slopes over 30 percent; the aspect tends to become more southerly with increasing elevation. Soils are well drained with rapid to moderate permeability in surface soils and subsoil, respectively. Surface soils are classified as silt loam derived from volcanic ash while subsoil is gravelly and cobbly loam derived from andesite, basalt and soft interflow material. Gravel and cobble content range upwards to 50 percent, generally increasing with depth. The color of surface soils is very dark grayish brown to brown and the structure is massive; color of subsoil is brown to dark brown with moderate, fine to very fine subangular and angular blocky structure. Soils are moderately deep, 12 to 48 inches in depth. The mapping unit is dominated by ponderosa pine, Douglas-fir and white fir with elk sedge and pinegrass understories.

Lands

Dugout Creek RNA is bordered on all sides by lands which are managed by the Malheur National Forest. Lands to the north, south and east of the RNA are classified as Management Areas 1 and 2, General Forest and Rangeland, in the Malheur Forest Plan (1990a). These adjacent lands are managed for timber production and livestock forage production as well as other multiple uses on a sustained-yield basis. Immediately to the west of the RNA are lands classified as Management Area 22 which refers to the North Fork Malheur River, a federally designated scenic river under the Wild & Scenic River Act.

The management of adjacent lands for timber production and grazing may have implications for the management of the RNA. The Forest Plan indicates that even-aged silvicultural systems will be emphasized in timber harvest, thus clearcuts may occur adjacent to the natural area impacting light and nutrient regimes as well as presenting a risk of blowdown. There is also a slightly increased risk of human caused fire during timber harvest activities. Timber emphasis areas nearby may make it more difficult to allow prescribed natural fires to burn in the RNA if there is a risk they may impact adjacent plantations or stands. Fire scars are prominent on the older trees throughout the RNA, indicating that the forest had survived numerous fires in the past.

Cultural Resources

There are no known cultural resources located within the Dugout Creek RNA. A complete cultural resources inventory has not been conducted in the RNA.

IMPACTS AND POSSIBLE CONFLICTS

Grazing Resources

Livestock grazing has been on-going in and adjacent to the RNA for some time. Dugout Creek RNA is in the North Fork grazing allotment. The allotment is grazed from June 18 until October 17 each year by 450 cow-calf pairs totaling 2376 animal unit months (AUMs) for the season. Use by cattle is somewhat limited to the valley bottom of the North Fork Malheur River and the lower reaches of Dugout and Stink Creeks, outside the RNA. Because the RNA is not fenced, there could be livestock use within the RNA, but at this point the use is casual and incidental and not creating a problem for the purpose the RNA is being established. Due to lack of water during much of the summer season and steep terrain, use by livestock in the RNA has no lasting effect on the composition and structure of the vegetation. Conflicts with livestock management are not expected and no change in management, such as enclosure fencing, is recommended at this time. Livestock grazing will need to be monitored for impacts to the natural vegetation targeted in the ponderosa pine and grand fir plant communities. Boundary fencing may be required should livestock grazing increase.

Mineral Resources

There are no reported hardrock mining claims in Dugout Creek RNA. Mineral resources are not usually associated with lands such as those found within the RNA. The RNA will be proposed for withdrawal of mineral entry upon formal establishment.

Timber Values

Designation and establishment of the RNA will formally remove the site from potential timber harvest. The RNA is surrounded by Malheur National Forest lands whose primary goal is to emphasize timber production (Management Area 1). If the site were not an RNA part of it would likely be classified as the adjacent lands are which have a timber production emphasis. The remainder of the site would have other management classifications including Old Growth (Management Area 13), Visual Corridors (Management Area 14), Wild and Scenic River (Management Area 22), and Non-Anadromous Riparian Areas (Management Area 3A).

Almost the entire RNA is forested with all stands occurring on gentle to moderate slopes that would be relatively easy to harvest with tractor-based logging systems. While scheduled timber harvest will not occur on the RNA there is a potential for impact to the RNA if timber is cut adjacent to the RNA. Timber harvests adjacent to the RNA may also result in invasions of exotic plant and animal species as well as may result in blowdown in the natural area, although it is unlikely that any clearcutting will occur next to the RNA.

Surrounding lands have had timber harvests in the past under selective cutting and clearcutting regimes with recent harvests have taken place along the upper edge of the RNA. Fire suppression in the area has played a role in the decrease of old growth pine and the resulting increase in understory species such as Douglas-fir and grand fir throughout the RNA.

Watershed Values

There are insignificant watershed values present at Dugout Creek RNA given the presence of the two small creeks on the site. The North Fork Malheur River, below the RNA, is a designated Scenic river under the Wild & Scenic Rivers Act and contains populations of bull trout, a federally threatened species protected under the Endangered Species Act. The riparian zones of Stink Creek and Dugout Creek are quite narrow due to the narrow canyons of the stream courses and thus there is little riparian vegetation within the RNA. Nevertheless, the riparian zones are still important and likely support a diverse wildlife assemblage. There is one known spring, Tub Spring, and there may be small seeps along the creeks and evidence of runoff channels on the slopes after rain storms and in the spring.

Recreation Values

Dugout Creek RNA receives limited recreation use, primarily in the fall from hunters. Casual recreation use has not impacted the RNA to date. Recreational use and identification of the site as an RNA on general forest recreation maps should be discouraged.

Wildlife and Plant Values

There are no listed threatened or endangered plant or wildlife species within the RNA to date. No sensitive plant species are located within the RNA. There are 3 sensitive animal species that have the potential for occurrence in the RNA. The Columbia spotted frog is suspected on the Malheur (R6 Sensitive Animal list 2004) and may occur in the creeks or springs where slow moving or standing water exists, most likely in the spring of the year or after a rain event. The gray flycatcher is suspected on the Malheur and may be found along the openings at the eastern edge of the RNA. California wolverine are documented on the Malheur and may travel through

the forested portion of the RNA. The RNA does not have habitat values for a wolverine home range. Establishing the area as an RNA would have no effect on either of those species, and may help to protect habitat.

Three featured species listed in the Forest Plan may occur in the RNA. The two grouse species, ruffed grouse and blue grouse, may be found within the RNA boundary and pronghorn antelope may use the plateau.

Special Management Area Values

There is one congressionally designated, special management area adjacent to the RNA, the North Fork Malheur designated Scenic River corridor. An Environmental Assessment and Management Plan for the North Fork Malheur Scenic River was prepared in 1992. This plan identifies scenery, geology, wildlife habitat, and fisheries as the outstandingly remarkable values for the river. Resource element standards are prescribed in the plan to protect these outstandingly remarkable values. Establishment and management of the RNA would not conflict with these standards and would help to maintain the outstandingly remarkable values.

Adjacent Private Lands

There are no private lands adjacent to the RNA.

MANAGEMENT PRESCRIPTION

Management and protection of Dugout Creek RNA will be directed towards maintaining natural ecological processes. Activities of humans or livestock that disturb or modify ecological processes will be discouraged.

Dugout Creek RNA is included, along with other RNAs, in the Malheur National Forest Plan in Management Area 9, Research Natural Areas (USDA Forest Service 1990b). Standards and guidelines for management of the Management Area are described in the Forest Plan.

Vegetation Management

Standards and guidelines for RNAs, Management Area 9, address vegetation management under several different headings (USDA Forest Service 1990b). The overall management direction for all RNAs is to preserve the naturally occurring physical and biological processes at the site. No scheduled timber harvest will occur in the natural area and firewood cutting will be prohibited.

Wildfire will be actively suppressed unless a fire management plan approved by the Director of the Pacific Northwest Research Station provides for letting natural fires burn under specific prescriptions. Fire suppression will use methods and equipment that will minimize disturbance to the special features of the area. Prescribed burning will be used only as specified in approved research projects or when needed to meet RNA management goals.

Other natural ecological processes such as insect and disease outbreaks shall not be suppressed within the RNA unless it threatens lands outside the RNA boundaries. Monitoring of the RNA is recommended in order to track any outbreaks that may occur.

Introduced species and weedy native species are a minor concern at the RNA. At this time cheatgrass (*Bromus tectorum*) is the only known significant weed infestation and may be found only along the eastern edge of the boundary, occurring in scattered patches within sagebrush dominated openings in the forest and across the low sagebrush scablands. Monitoring in the form of annual surveys of the RNA should be conducted to detect weedy invasions and to track the spread of cheatgrass into other natural communities in the natural area.

Livestock grazing in the RNA will be discouraged. At this time incidental use has occurred from the active allotment and adjacent allotments. As stated in the Forest Plan, livestock grazing should be permitted only where essential to maintain a specific vegetative type for which the RNA was established. Boundary fencing may be used to exclude livestock.

Transportation Plan

No roads or trails occur in the RNA nor are any planned for this area. Most of the RNA is located within an area of the Malheur National Forest that is largely unroaded, the Flag Creek RARE II area.

Fences and Protective Barriers

Fencing for livestock does not exist along the boundaries of the RNA. Livestock use levels are currently low in the RNA such that fencing is not necessary at this time. If at a future date livestock use in the RNA increases, fencing should be a top priority for protection of the site.

There are no signs at the site denoting the presence of the RNA. There is little need for protective barriers at the site as there are no significant roads or trails which enter the site nor is there easy vehicular access to the site due to topography.

ADMINISTRATION RECORDS AND PROTECTION

Administration and protection of Dugout Creek RNA will be the responsibility of the Malheur National Forest. The District Ranger, Prairie City Ranger District, has direct responsibility for management of the RNA.

The Director of the Pacific Northwest Research Station will be responsible for any studies or research conducted in the area, and requests to conduct research in the RNA should be referred to that office. The RNA Scientist in the Research Station is designated as the lead contact person for all such requests. The Director will evaluate research proposals and coordinate all studies and research in the area with the District Ranger. All plant and animal specimens collected in the course of research conducted in the area will be properly preserved and maintained within university or federal agency herbaria and museums, approved by the Pacific Northwest Research Station.

Records for the Dugout Creek RNA will be maintained in the following offices:

Forest Supervisor, Malheur National Forest, John Day, Oregon
District Ranger, Prairie City Ranger District, Prairie City, Oregon
Director, Pacific Northwest Research Station, Portland, Oregon
Forest Sciences Laboratory, 3200 Jefferson Way, Corvallis, Oregon

Archiving

The Portland office of the Pacific Northwest Research Station will be responsible for maintaining the Dugout Creek RNA research data file and list of herbarium and species samples collected. The Forest Sciences Lab in Corvallis, Oregon is establishing a data base for maintaining research data and lists of species for all RNAs in the region. Computerized files for the RNA will be maintained at the Forest Sciences Lab.

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Appendix

United States
Department of
Agriculture

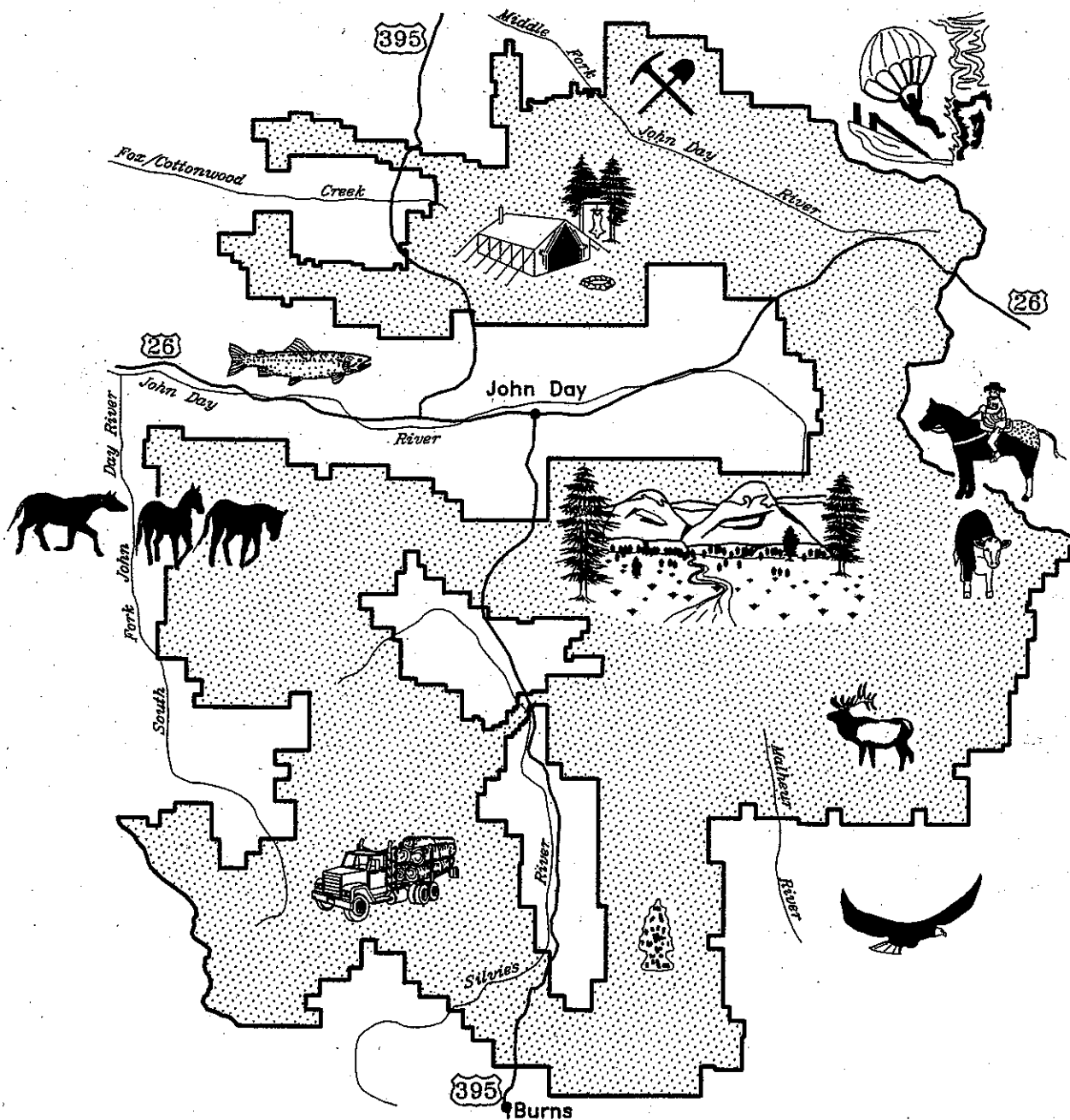
Forest Service

Pacific
Northwest
Region

1990

Land and Resource Management Plan

Malheur National Forest



MANAGEMENT AREA 9 (750 acres) - RESEARCH NATURAL AREAS (RNAs)

- 1. **Description** Management Area 9 contains one existing research natural area (RNA), Canyon Creek and four proposed RNAs, Dixie Butte, Baldy Mountain, Dugout Creek, and Shaketable. Canyon Creek and Baldy Mountain are both within the Strawberry Mountain Wilderness (Management Area 6A). The Shaketable area is located in the Shaketable Semi-Primitive Non-Motorized area. The Dixie Butte Proposed Research Natural Area is located near the top of Dixie Butte. Dugout Creek is located near the North Fork Malheur River campground. The acres within this management area are only those acres outside the wilderness (Shaketable, Dixie Butte and Dugout Creek). These areas are shown on management area maps.
- 2. **Goals** Provide areas for nonmanipulative research, observation, and study of undisturbed ecosystems. Maintenance of the natural processes within each area will be the prime consideration. Proposed areas shall be managed to maintain their RNA qualities.
- 3. **Standards** General management direction for RNAs is described below. For the existing Canyon Creek Research Natural Area more specific management direction is contained in its establishment report. For proposed RNAs, more specific direction will be developed upon establishment and incorporated into this Forest Plan as amendments.

RESOURCE ELEMENT STANDARDS

The Forest-wide management direction included in Chapter IV, Section E, of this Plan applies to this management area unless superseded by the following standards:

- Recreation**
 - 1. Prohibit recreational use that threatens research or educational values.
 - 2. Prohibit developed recreation sites.
 - 3. Discourage dispersed recreation sites.
- Visuals**
 - 4. Manage to achieve retention visual quality level (see Management Area 14, Standard No. 17).
- Wilderness**
 - 5. Ensure that, where RNAs overlap with wilderness, wilderness use is consistent with RNA objectives and that research activities will also be compatible with wilderness management.
- Fish and Wildlife**
 - 6. Dead and defective tree habitat will be provided at natural levels.
- Range**
 - 7. Permit livestock grazing only where essential to maintain a specific vegetative type for which the RNA was, or will be, established. Boundary fencing may be used to exclude livestock.
- Timber**
 - 8. Exclude scheduled timber harvest. Lands are classified as "unsuitable" for timber management.

MANAGEMENT AREA 9

Minerals

9. Prohibit firewood cutting.

Lands

10. Recommend withdrawal upon establishment if not already withdrawn.

Facilities

11. Retain National Forest lands.

12. Allow temporary structures, such as gauging stations and instrument shelters, only if needed to meet research natural area objectives. The Pacific Northwest Experiment Station Director must approve, in consultation with the Forest Supervisor, any improvements or temporary facilities.

Roads

13. Build new roads only when they contribute to RNA objectives or to the protection of the RNA. Maintain existing roads as directed by management area objectives.

Trails

14. Maintain existing trails commensurate with use. Reconstruct trails where needed to provide for public safety and to reduce environmental damage.

15. Move existing trails out of RNAs as the opportunity occurs.

Utility Corridors

16. Manage this area as a Category 1 Avoidance area for the location of utility corridors.

Protection

Fire Management

17. Use prescribed burning, if needed, to perpetuate the vegetation for which the RNA was established or proposed.

18. Control all wildfires within RNAs as quickly as possible. However, if fires within any area are desirable, develop a fire management action plan to allow planned and natural ignitions to burn when within prescription.

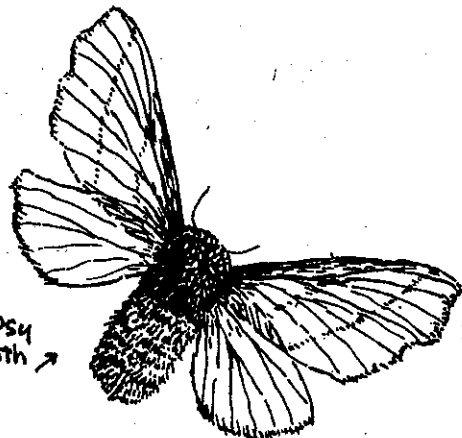
Insects and Disease

19. Take action against endemic or epidemic levels of insects or diseases in accordance with the direction given in the establishment report.

4. Schedule of Management Practices

No management practices are scheduled for Management Area 9.

Gypsy
Moth →



United States
Department of
Agriculture
Forest Service

Pacific
Northwest
Region

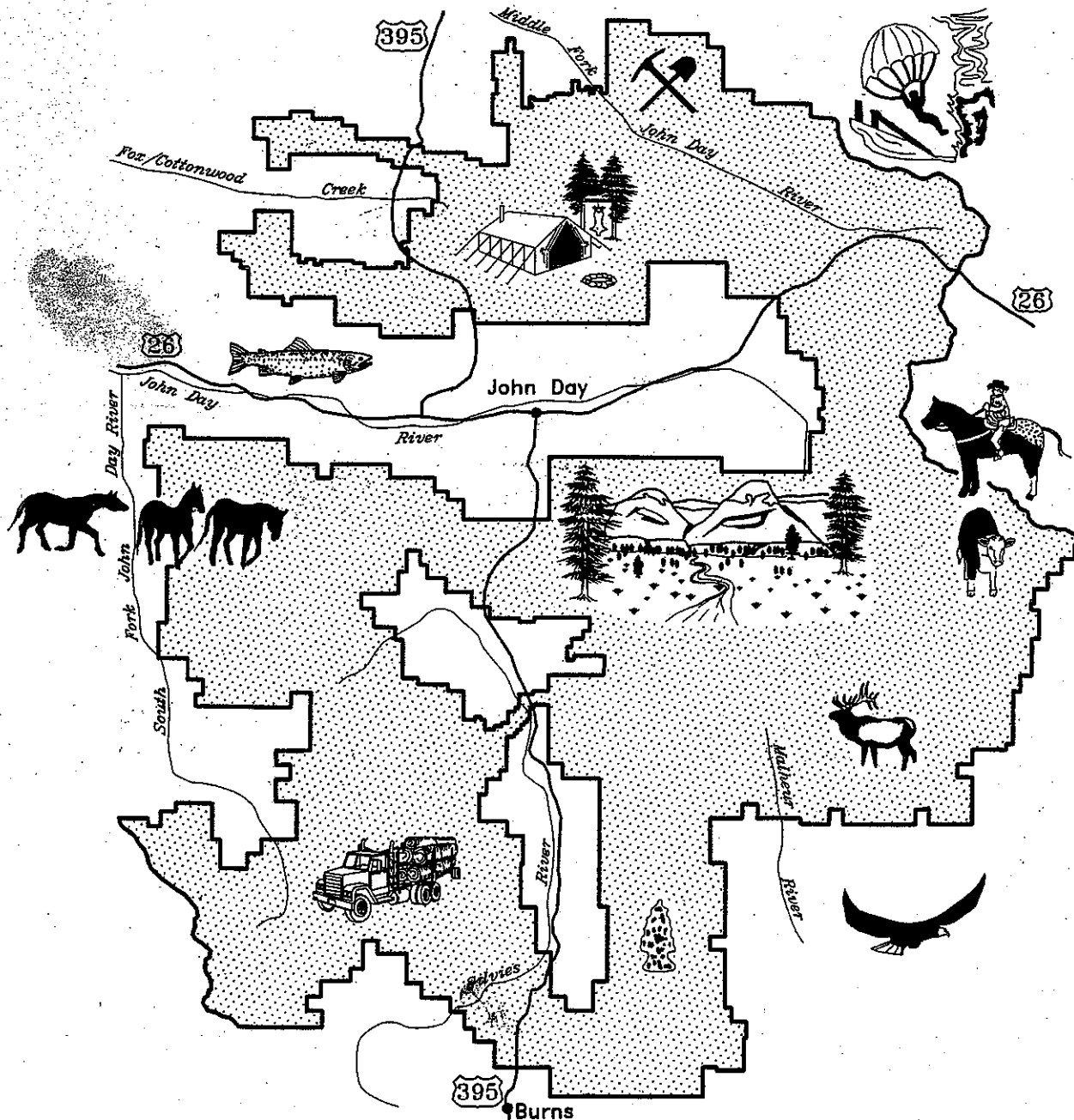
1980



Appendices - Final Environmental Impact Statement

Land and Resource
Management Plan

Malheur National Forest



- e. Management Area 5 (1) Purpose:
This was developed to address the issue of winter roost habitat for bald eagles. The purpose was to confine activities in suitable areas to those which maintain and enhance this habitat.
- (2) Criteria and Assumptions:
Use uneven-aged timber management to maintain stands or enhance roost habitat.
- Comply with the Bald Eagle Recovery Plan.
- Develop standards and costs using management practices to achieve above objectives.
- f. Management Areas 6A, 6B and 6C (1) Purpose:
This was developed to address the issue of how to manage the Forest's two existing wildernesses and any proposed wildernesses.
- (2) Criteria and Assumptions:
The wilderness prescription would be applied to the Wildernesses.
- Wilderness prescriptions are applied to roadless areas proposed for wilderness designation.
- g. Management Area 7 (1) Purpose:
This was developed to address the preservation and protection of areas with outstanding natural scenic views.
- (2) Criteria and Assumptions:
Commodity production is subordinated to preservation of aesthetic values.
- Recreation management is generally at the semiprimitive, nonmotorized level.
- Develop standards and costs to meet the above objectives.
- h. Management Area 8 (1) Purpose:
This was developed to address the preservation and protection of areas of significant historical, geological, botanical, zoological, paleontological, or other special characteristics.
- (2) Criteria and Assumptions:
Commodity production is subordinated to preservation of special interest values.
- The primary use of these areas is dispersed nonmotorized recreation.
- Standards and costs are developed to meet the above objectives.
- i. Management Area 9 (1) Purpose:
This was developed for application to Research Natural Areas. This prescription was designed to provide continued management of the existing Canyon Creek Research Natural Area, and as an option for designating additional areas for the same type of management.

(2) Criteria and Assumptions:
Where existing uses are in effect, and no change in management is contemplated,
pattern management practices after current approved direction.
Develop standards and costs using commonly accepted management practices currently
in use.

j. Management Area 10 (1) Purpose:
To provide recreation opportunities for people seeking a high degree of isolation
from the sights, sounds, and results of human activity.

(2) Criteria and Assumptions:
Commodity production is subordinated to preservation of isolated areas with
minimum alteration.

Develop standards and costs to meet the above objectives and accepted management
practices.

k. Management Area 11 (1) Purpose:
To provide motorized recreation opportunities for people seeking a
natural-appearing environment with a moderate degree of isolation.

(2) Criteria and Assumptions:
Commodity production is subordinated to preservation of a natural-appearing
environment.

Develop standards and costs consistent with the above objectives and accepted
management practices.

l. Management Area 12 (1) Purpose:
To provide recreation opportunities for people seeking developed facilities such
as campgrounds, picnic areas, boating sites, etc.

(2) Criteria and Assumptions:
Applies to sites classified as development level 3 or higher.

No commodity production.

Develop standards and costs consistent with above objectives and accepted
management practices.

m. Management Area 13 (1) Purpose:
This was developed to address the issue of managing tentatively suitable timber
lands for old-growth dependent species of plants and animals. The purpose was to
provide for suitable existing and future old-growth habitat while still permitting
timber harvesting to occur. The prescriptions were designed to answer the
question of what levels of old growth must be managed Forest-wide in order to
maintain minimum viable populations of old growth dependent species, as well as
provide for ecosystem diversity and other aesthetic values..

L E G A L D E S C R I P T I O N

The following is a product of the computer projections and as such the bearings and distances are rounded to the nearest minute and foot. The calls to topography and monuments hold. This description is a product of a GIS map with an ortho overlay which are used to interpolate the calls, any attempt to reproduce this description on the ground needs to be done using the ortho and the map in conjunction with this description. The point #'s in this description correspond to numbers generated in GIS. Point #1 is in NWNE of Sec 11, T16S, R35E, W.M. The RNA is in Secs. 1, 2, 11, 12, T16S, R35E and Sec. 6, T16S, R36E and Sec. 31, T15S, R36E W.M..

Pt. #1 which is a point on the wild and scenic river boundary and is the point of beginning and is on a ridge running westerly.

#1) THENCE North 00 degrees 00 minutes East for a distance of 86 feet to a point on a ridge, along the wild and scenic river boundary;
THENCE North 14 degrees 08 minutes East for a distance of 688 feet to a point, along the wild and scenic river boundary;
THENCE North 34 degrees 59 minutes East for a distance of 67 feet to a point in a draw, along the wild and scenic river boundary;
THENCE North 22 degrees 20 minutes West for a distance of 431 feet to a point on a minor ridge, along the wild and scenic river boundary;
THENCE North 26 degrees 34 minutes West for a distance of 183 feet to a point, along the wild and scenic river boundary;
THENCE North 48 degrees 07 minutes West for a distance of 213 feet to a point, along the wild and scenic river boundary;
THENCE North 05 degrees 34 minutes East for a distance of 286 feet to a point on a minor ridge, along the wild and scenic river boundary;
THENCE North 08 degrees 57 minutes East for a distance of 276 feet to a point, along the wild and scenic river boundary;
THENCE North 86 degrees 06 minutes East for a distance of 88 feet to a point, along the wild and scenic river boundary;
#10) THENCE North 43 degrees 00 minutes East for a distance of 814 feet to a point in a minor draw, along the wild and scenic river boundary;
THENCE North 21 degrees 05 minutes West for a distance of 253 feet to a point, along the wild and scenic river boundary;
THENCE North 00 degrees 00 minutes East for a distance of 158 feet to a point on a minor ridge, along the wild and scenic river boundary;
THENCE North 03 degrees 48 minutes West for a distance of 740 feet to a point, along the wild and scenic river boundary;
THENCE North 30 degrees 19 minutes East for a distance of 184 feet to a point on a draw along the wild and scenic river boundary;
#15) THENCE North 62 degrees 40 minutes West for a distance of 701 feet to a point on a ridge and the wild and scenic river boundary;
#16) Leaving the wild and scenic river boundary, THENCE North 30 degrees 07 minutes East for a distance of 151 feet to a point on a ridge;
THENCE North 66 degrees 42 minutes East for a distance of 470 feet to a point on a ridge;
THENCE North 58 degrees 53 minutes East for a distance of 677 feet to a point on a ridge;
THENCE North 71 degrees 07 minutes East for a distance of 1063 feet to a point on a ridge;
#20) THENCE North 63 degrees 09 minutes East for a distance of 618 feet to a point on a ridge #20;
THENCE North 58 degrees 00 minutes East for a distance of 330 feet to a point on a ridge;

THENCE North 76 degrees 52 minutes East for a distance of 651
feet to a point;
THENCE North 52 degrees 24 minutes East for a distance of 269
feet to a point;
THENCE North 74 degrees 35 minutes East for a distance of 162
feet to a point;
#25) THENCE South 86 degrees 06 minutes East for a distance of 529
feet to a point;
THENCE South 73 degrees 15 minutes East for a distance of 108
feet to a point in a minor draw;
THENCE South 59 degrees 57 minutes East for a distance of 228
feet to a point in a minor draw;
THENCE South 66 degrees 01 minutes East for a distance of 317
feet to a point;
THENCE South 81 degrees 40 minutes East for a distance of 324
feet to a point;
#30) THENCE South 34 degrees 39 minutes East for a distance of 264
feet to a point;
THENCE South 51 degrees 30 minutes East for a distance of 225
feet to a point;
THENCE North 76 degrees 28 minutes East for a distance of 667
feet to a point;
THENCE North 20 degrees 10 minutes East for a distance of 221
feet to a point;
THENCE North 44 degrees 15 minutes East for a distance of 376
feet to a point;
#35) THENCE North 70 degrees 13 minutes East for a distance of 242
feet to a point;
THENCE North 40 degrees 45 minutes East for a distance of 210
feet to a point;
THENCE South 83 degrees 57 minutes East for a distance of 133
feet to a point;
THENCE North 43 degrees 31 minutes East for a distance of 190
feet to a point;
THENCE South 07 degrees 41 minutes East for a distance of 202
feet to a point;
#40) THENCE South 34 degrees 31 minutes West for a distance of 268
feet to a point in a draw;
THENCE South 52 degrees 06 minutes West for a distance of 280
feet to a point in a draw;
THENCE South 19 degrees 38 minutes West for a distance of 286
feet to a point;
THENCE South 25 degrees 27 minutes East for a distance of 161
feet to a point;
THENCE South 82 degrees 56 minutes East for a distance of 334
feet to a point;
#45) THENCE North 66 degrees 51 minutes East for a distance of 577
feet to a point;
THENCE North 79 degrees 31 minutes East for a distance of 302
feet to a point;
THENCE North 65 degrees 35 minutes East for a distance of 167
feet to a point;
THENCE South 78 degrees 21 minutes East for a distance of 134
feet to a point;
THENCE South 45 degrees 44 minutes East for a distance of 385
feet to a point 50 feet westerly of road centerline;

THENCE South 84 degrees 05 minutes West for a distance of 223
feet to a point in a minor draw;
#105) THENCE South 72 degrees 32 minutes West for a distance of 613
feet to a point;
THENCE South 74 degrees 07 minutes West for a distance of 355
feet to a point;
THENCE South 39 degrees 43 minutes West for a distance of 621
feet to a point on a ridge;
THENCE North 54 degrees 27 minutes West for a distance of 504
feet to a point on a ridge;
THENCE South 70 degrees 28 minutes West for a distance of 464
feet to a point on a ridge;
#110) THENCE South 56 degrees 02 minutes West for a distance of 263
feet to a point which is the point of beginning and on a ridge and the
wild and scenic river boundary;

Said property contains 909 acres more or less.

DECISION NOTICE/DESIGNATION ORDER
Finding of No Significant Impact

Dugout Creek Research Natural Area
(Forest Plan Amendment # 62)

USDA Forest Service
Malheur National Forest
Prairie City Ranger District
Grant County, Oregon

An environmental assessment (EA) that discusses the Dugout Creek Research Natural Area (RNA) on the Prairie City Ranger District is available for public review at the Forest Supervisor's Office, Malheur National Forest in John Day, Oregon.

DECISION

I am deciding to select the proposed action as described in the 2005 *Dugout Creek Research Natural Area Environmental Assessment (EA)*. Specifically, I am deciding to designate the 908 acres located 35 miles (56 km) southeast of Prairie City, Oregon as the Dugout Creek RNA. The legal location of this tract covers Sections 1,2,11, and 12 of Township 16 South, Range 35 East; Section 6 of Township 16 South, Range 36 East, and Section 31 of Township 15 South, Range 36 East in Grant County.

This decision is a non-significant amendment to the Malheur National Forest Land and Resource Management Plan (LRMP) and the RNA will be managed in compliance with all relevant laws, regulations and Forest Service Manual direction regarding Research Natural Areas.

RATIONALE

My decision to establish the Dugout Creek RNA responds to the need to preserve an example of a significant natural ecosystem, preserve gene pools for this community type, and provide an educational and research area for study of these ecosystems. This designation formally recognizes that the site is representative of intact old growth ponderosa pines in the Blue Mountains, that it contains high quality natural communities of mountain mahogany and bunchgrass, and that it has been the focus of studies of fire behavior in dry pine forests and associated riparian areas.

PUBLIC INVOLVEMENT

Public comments on the proposal were invited with a scoping letter to interested parties on April 20, 2005. Comments received are available upon request from the Malheur National Forest.

ALTERNATIVES CONSIDERED

Two alternatives, the Proposed Action and No Action, were considered.

FINDINGS REQUIRED BY OTHER LAWS

After consideration of environmental consequences I have determined that the Proposed Action is consistent with other laws and regulations.

Consistency with Forest Plan Direction

The Proposed Action is consistent with the Malheur National Forest Land and Resource Management Plan Final Environmental Impact Statement, Record of Decision, the accompanying Land and Resource Management Plan, as amended (USDA Forest Service 1990), dated May 25, 1990.

FINDING OF NON-SIGNIFICANT FOREST PLAN AMENDMENT

Consistent with 36 CFR 219.14, this amendment used the provisions of the planning regulation in effect before November 9, 2000. The Forest Service Land and Resource Management Planning Handbook (Forest Service Handbook 1909.12) lists four factors to be used when determining whether a proposed change to a Forest Plan is significant or not significant: timing; location and size; goals, objectives and outputs; and management prescriptions.

Timing: The timing factor examines at what point over the course of the Forest Plan period the plan is amended. Both the age of the underlying document and the duration of the amendment are relevant considerations. The handbook indicates that the later in the time period, the less significant the change is likely to be. The amendment to designate the Dugout Creek RNA would remain in effect until the Forest Plan is amended or revised. The revised Forest Plan is scheduled to be approved in the spring of 2008.

Location and size: The key to location and size is context, or the relationship of the affected area to the overall planning area. "[T]he smaller the area affected, the less likely the change is to be a significant change in the Forest Plan." The planning area for the Malheur National Forest is about 1.5 million acres (Forest Plan, p. I-2). Under the Forest Management Plan, Research Natural Areas fall into Management Area (MA) 9 and would increase the total acreage in this MA by 908 acres.

Goals, Objectives, and Outputs: The goals, objectives and outputs factor involves the determination of "whether the change alters the long-term relationship between the level of goods and services in the overall planning area" (Forest Service Handbook 1909.12, section 5.3(c)). This criterion concerns analysis of the overall Forest Plan and the various multiple-

use resources that may be affected. In this criterion, time remaining in the 15 year planning period to move towards goals and achieve objectives and outputs are relevant considerations.

Objectives, standards, and guidelines of the amendment are specific to research natural areas. The amendment does not change the goals and objectives for other resources in the Forest Plan. Since the area has been managed under MA 9 since 1990, there would be no expectation of a change in timber, wildland fire or range management. Therefore, anticipated changes brought about by this amendment in the levels of resource activities and outputs projected for this planning period are not expected to be measurable.

Management Prescriptions: The management prescriptions factor involves the determination of (1), "whether the change in a management prescription is only for a specific situation or whether it would apply to future decisions throughout the planning area", and (2), "whether or not the change alters the desired future condition of the land and resources or the anticipated goods and service to be produced" (Forest Service Handbook 1909.12, section 5.32(d)). In this criterion, areas proposed as RNAs in MA9 were treated similar to designated RNAs under the description, goals and general management standards for the management area. In this respect, the proposed RNAs were anticipated by the Forest Management Plan (1990) to be designated at some future time . Although the amendment will officially designate the Dugout Creek RNA, the management prescription for the area would not change from current management. As discussed above in "goals, objectives, and outputs", the long-term levels of goods and services projected in the current plan for the 15 year planning period are not measurable changed by the RNA management direction.

Finding: On the basis of information and analysis contained the EA, and all other information available, it is my determination that adoption of the management direction reflected in my decision does not result in a significant amendment to the Forest Plan.

FINDING OF NO SIGNIFICANT IMPACT

Based on the analysis in the EA, I find that the establishment of the Dugout Creek RNA is not a major Federal action that would significantly affect the quality of the human environment, therefore an environmental impact statement is not needed. My rationale for this finding is as follows (40 CFR 1508.27):

Context

Although this decision is an addition to the national system of RNA's, both long-term and short-term physical and biological effects are limited to the local area. This decision preserves and protects intact ecosystems (Malheur National Forest 2005).

Intensity

- 1) There are no effects on public health or safety because this decision preserves intact ecosystems and does not have consequences to human well-being (Malheur National Forest 2005).
- 2) There are no significant direct, indirect, or cumulative impacts to the natural resources or other components of the human environment from designation of land as a RNA (Malheur National Forest 2005).
- 3) Effects on the human environment are not uncertain, do not involve unique or unknown risks, and are not likely to be highly controversial from designation of land as a RNA (Malheur National Forest 2005).
- 4) There are no known effects on historical or cultural resources, park lands, prime farm land, wild and scenic rivers or wetlands and floodplains. There are no known historical resources, park lands, prime farm lands, or wild and scenic rivers affected by this decision (Malheur National Forest 2005). The effect of establishing the RNA is to protect ecologically sensitive areas and therefore only beneficial effects are anticipated to any environmentally sensitive or critical area, including wetlands or floodplains (Malheur National Forest 2005).
- 5) The action is not likely to establish a precedent for future actions with significant effects because it is limited to a protective designation.
- 6) The project will not adversely affect any federally listed or proposed threatened or endangered species or their critical habitat since the designation decision does not implement any on-the-ground projects rather than potentially posting the RNA boundaries. Specifically, the determination of effects for endangered and threatened wildlife species or their habitats is No Impact. The determination of effects for sensitive species wildlife species is No Impact. There are no threatened or endangered plant species or their suspected habitat on the Malheur National Forest. Designating the research natural area will have no impact for sensitive plant species because there would be no environmental effects. In addition there are no listed aquatic species present within the designated area. There will be no negative impact on sensitive aquatic species.
- 7) The proposed action is consistent with federal, state and local laws and requirements imposed for the protection of the environment.

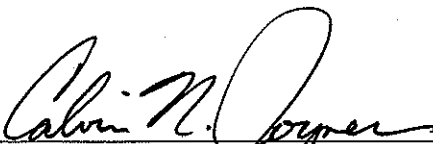
IMPLEMENTATION

Legal Notice of this decision will appear in the Oregonian, as newspaper of record for Regional Forester Decisions in Oregon. A copy of the legal notice will be mailed to all persons stating interest in the project. Implementation of this decision shall not occur within 7 calendar days following publication of the legal notice in the Oregonian.

APPEAL OPPORTUNITIES

This decision is subject to appeal under 36 CFR 217 but does not require notice and comment under 36 CFR 215. Any Notice of Appeal of this decision must be fully consistent with 36 CFR 217.9 (Content of Notice of Appeal) and must include the reasons for appeal. Written notice of appeal must be postmarked or received by the Appeal Deciding Officer, Abigail Kimbell, within 45 days of the date the legal notice appears in the Oregonian. Submit written notice of appeal to:

Chief, USDA Forest Service
ATTN: NFS Appeals
14th and Independence SW
P.O. Box 96090
Washington, D.C. 20090-6090



LINDA GOODMAN
Regional Forester

1002

3/16/07
Date

DUGOUT CREEK RESEARCH NATURAL AREA

ENVIRONMENTAL ASSESSMENT

USDA, Forest Service
Prairie City Ranger District
Malheur National Forest
Grant County, Oregon

Lead Agency:

USDA Forest Service
Malheur National Forest
P.O. Box 909
John Day, OR 97845

Responsible Official:

Regional Forester
Pacific Northwest Region
P.O. Box 3623
Portland, OR 97208

Purpose and Need for Action

Research Natural Areas (RNA) are designated for research and educational opportunities, to maintain biological diversity on National Forest land, and are selected to complete a national network of ecological areas in near natural condition. Establishment of research natural areas has been sanctioned in the Code of Federal Regulations in Section 7 CFR 2.42, 36 CFR 251.23, and 36 CFR 219.25. 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. As stated in this guide, each RNA is designated based on three major objectives: 1) To preserve examples of all significant natural ecosystems for comparison with those areas influenced by humans; 2) to provide educational and research areas for ecological and environmental studies and monitoring; and 3) to preserve gene pools for typical and rare and endangered plants and animals.

Dugout Creek was originally proposed for RNA designation in the Malheur National Forest Land and Resource Management Plan (Forest Plan) in 1990. The area proposed in the Forest Plan was about 270 acres. This establishment would increase the size of the RNA to about 908 acres. The area still maintains all the qualities unique for RNA designation, with the same target plant communities. The proposed area will contribute to the national network of RNA's by providing an example of natural old growth ponderosa pine/pinegrass and grand fir/pinegrass forest with old growth ponderosa pine trees, with high quality representation of one additional natural community of mountain mahogany/bunchgrass not extensive enough to fill a cell need. The Dugout Creek proposed RNA would preserve an example of a significant natural ecosystem, would preserve gene pools for this community type, and provide an educational and research area for study of these unique ecosystems.

In addition to meeting two unfilled natural area cell needs, the following elements make the proposed RNA of unique value:

- 1) The site is representative of low to mid-elevation areas with moderate slopes that contain old growth ponderosa pine in the Blue Mountains (Oregon Natural Heritage Advisory Council 1993). Such sites have been extensively tractor-logged in the past and are rare to find in as good a condition as represented in the Dugout Creek RNA.
- 2) The area also contains a high quality representation of one additional natural community, mountain mahogany/bunchgrass (1993).
- 3) The area has been the focus of studies for fire return intervals in dry ponderosa pine forests and associated riparian areas.

There are no known significant mineral resources within the area. Recreation use is light, consists of big game hunting, and is expected to continue. Loss of timber utilization is minimal because the area contains no roads and the block of suitable timber between the area currently identified in the Forest Plan as an RNA, management area 9, and the North Fork Malheur Wild and Scenic River corridor is inaccessible due to riparian habitat conservation areas. There are no threatened or endangered plants or animals known in the area, and there are no system roads or trails nor a need for system roads or trails in the RNA.

Proposed Action

The proposed action is to establish a 908-acre parcel on National Forest System land as the Dugout Creek Research Natural Area. A 270 acre portion of this parcel was proposed for establishment as an RNA in the 1990 Malheur National Forest Land and Resource Management Plan (Forest Plan). The additional acres for the RNA would be an allocation reduction for the following management areas: 23 acres of visual foreground, 91 acres of visual middle ground, 33 acres of riparian corridor (RHCA), estimated 16 acres of designated old growth, and about 475 acres of general forest and rangeland.

A block of land between the Wild & Scenic River corridor and the RNA proposed in the Forest Plan makes up the majority of the additional acres. It is unroaded with no possibility of access due to riparian corridors at both the north and south ends. The block of land making up the gap between the Wild & Scenic River and the proposed RNA includes plant associations that contain old growth pine in near natural condition as the rest of the RNA.

Once established, a management plan would be developed for the Dugout Creek RNA to maintain or enhance the plant communities represented within the area. The proposed action and formal designation of the RNA by the Regional Forester will amend the Forest Plan.

Environmental Setting

Dugout Creek RNA is located about 35 miles (56 km) southeast of Prairie City, Oregon (Map 2). The RNA is composed of intact plant communities that can serve as benchmarks for comparison with areas of similar vegetation that are intensively used. A full description of the Dugout Creek RNA is found in the Establishment Record.

Issues

A Nature Conservancy specialist initiated and prepared a draft Establishment Record in 1997.

Public participation in this project began when a scoping letter and map were mailed to interested publics on October 15, 1997. Two letters were received, one with comments favorable to establishing the RNA and one opposed. At that time the RNA was going to be expanded from 270 acres to 1,205 acres. The one respondent opposed to establishing the RNA disagreed with increasing the size because the additional plant communities were different ecosystems that needed to be independently analyzed. The respondent expressed concern that significant changes in Forest Plan land allocations were involved and the effects on management of other resources and changes in outputs needed to be disclosed.

Effects of Implementation

Proposed Action

The proposed action will designate in perpetuity 908 acres of National Forest land as the Dugout Creek Research Natural Area. The location of the proposed area is on the Malheur National Forest, approximately 35 miles southeast of Prairie City, Oregon in Sections 1, 2, 11, and 12 of Township 16 South, Range 35 East; Section 6 of Township 16 South, Range 36 East; and Section 31 of Township 15 South, Range 36 East. Once established, a management plan specific to the Dugout Creek area will be written. Interim management of the area will be followed as outlined in the Forest Plan, pages IV-95 and IV-96. The objective is to maintain the natural condition of the area. No forest products or minerals will be removed, livestock grazing patterns will not be changed, fire activity will be limited to suppression only, off road vehicles will be excluded, and recreation use will be managed at a low intensity level. Environmental consequences disclosed in the Forest Plan Final Environmental Impact Statement are still valid, and conditions and effects have not changed.

The effects of establishing the Dugout Creek RNA are described in the Final Environmental Impact Statement for the Forest Plan, Pages IV-30 and IV-67. Management strategies will change with establishment of the area, however no adverse or irreversible environmental consequences are expected.

No Action

The Dugout Creek area proposed for RNA status would remain as a proposed RNA and continue to be protected from uses which would reduce its suitability for RNA designation. This management direction is listed in the Forest Plan, Pages IV-95 and IV-96, and will remain in effect until there is an amendment to this portion of the Forest Plan or until a Forest Plan revision is completed.

The effects of not establishing the Dugout Creek RNA are the same as if it was established. The area would continue to be managed as an RNA, under management area 9 in the Forest Plan. The block of land between the Wild & Scenic River corridor and the original proposed RNA would remain unroaded with no possibility of access due to riparian corridors at both the north and south ends. There would be no allocation changes for any management area.

Consultation with Others

This proposed action was identified in an April 20, 2005 scoping letter with opportunity for public comment. Public comments are filed in the appendix of the Environmental Assessment.

DESIGNATION ORDER/DECISION NOTICE

An Order establishing Dugout Creek Research Natural Area

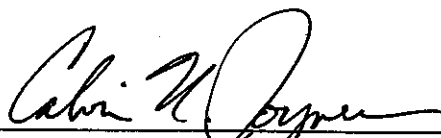
By virtue of the authority vested in me by the Secretary of Agriculture under regulations 7 CFR 2.42 and 36 CFR 251.23, this is my Designation Order to establish the Dugout Creek Research Natural Area. The Dugout Creek Research Natural Area shall be comprised of lands described in the section of the Establishment Record entitled "Location".

Regional Forester John Butruille recommended the establishment of the Dugout Creek Research Natural Area in the Malheur National Forest Land and Resource Management Plan dated May 25, 1990 which is incorporated into this document by reference. 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 Malheur National Forest Land and Resource Management Plan. The Establishment Record for the Dugout Creek Research Natural Area is available to the public.

The Dugout Creek Research Natural Area will be managed in compliance with all relevant laws, regulations and Manual direction regarding Research Natural Areas. The Dugout Creek Research Natural Area will be administered in accordance with the management direction identified in the Establishment Record. The Malheur National Forest Land and Resource Management Plan is hereby amended to be consistent with the management direction identified in the Establishment Record and this Designation Order. This direction will remain in effect unless amended pursuant to 36 CFR 219.10. This is a non-significant amendment of the Malheur National Forest Land and Resource Management Plan.

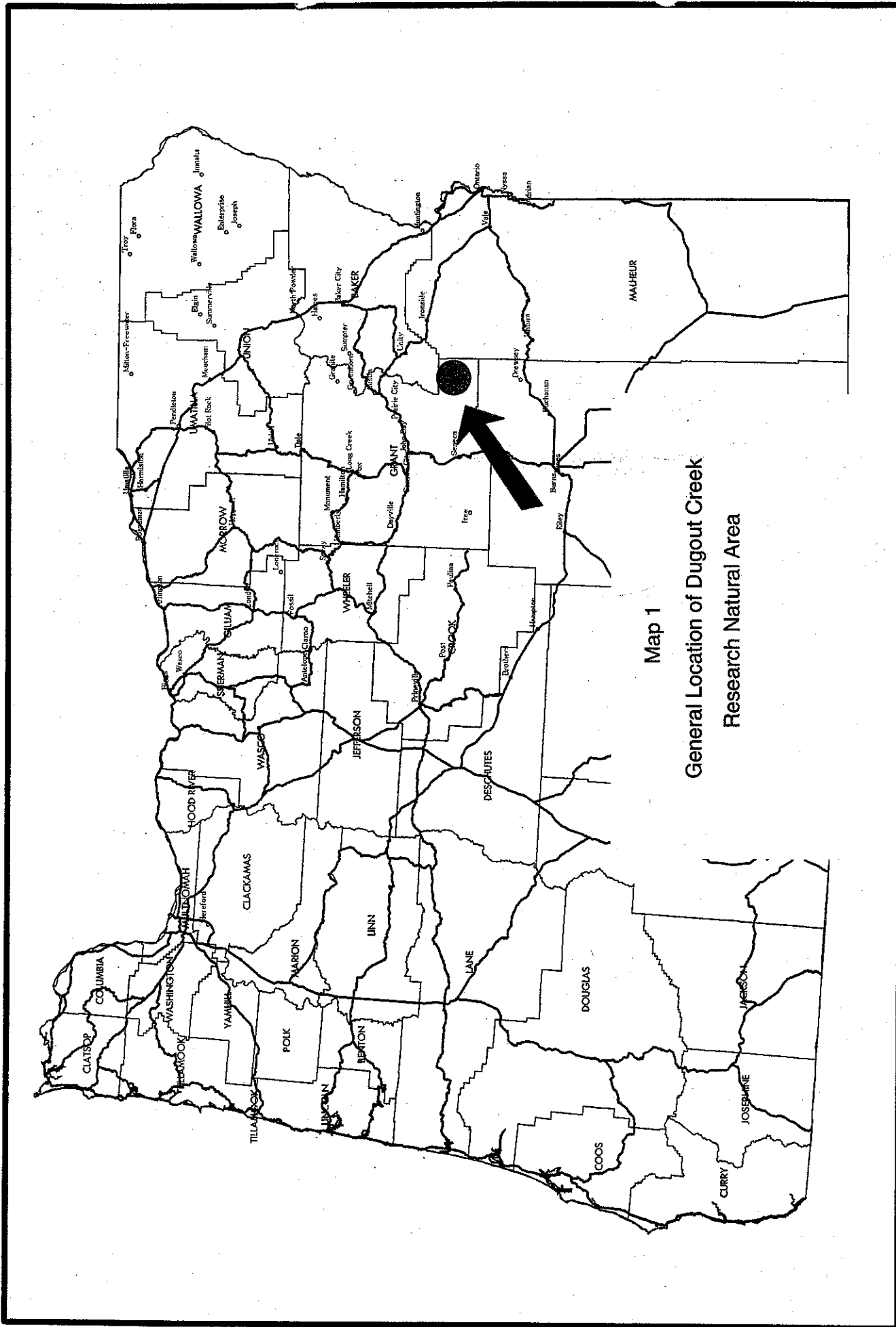
Based on the Environmental Analysis documented in the Malheur National Forest Land and Resource Management Plan, the Environmental Impact Statement, and the Establishment Record, I find that designation of the Dugout Creek Research Natural Area is not a major Federal action significantly affecting the quality of the human environment.

The Forest Supervisor of the Malheur National Forest shall notify the public of this amendment and will mail a copy of the Designation Order and amended direction to persons on the Malheur National Forest Land and Resource Management Plan mailing list.

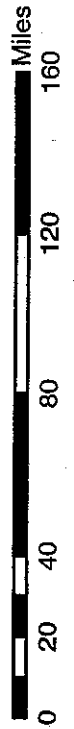


Linda Goodman, Regional Forester

3/16/07
Date

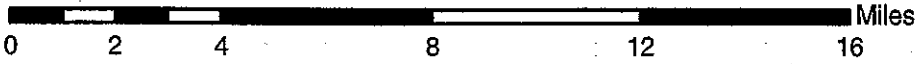
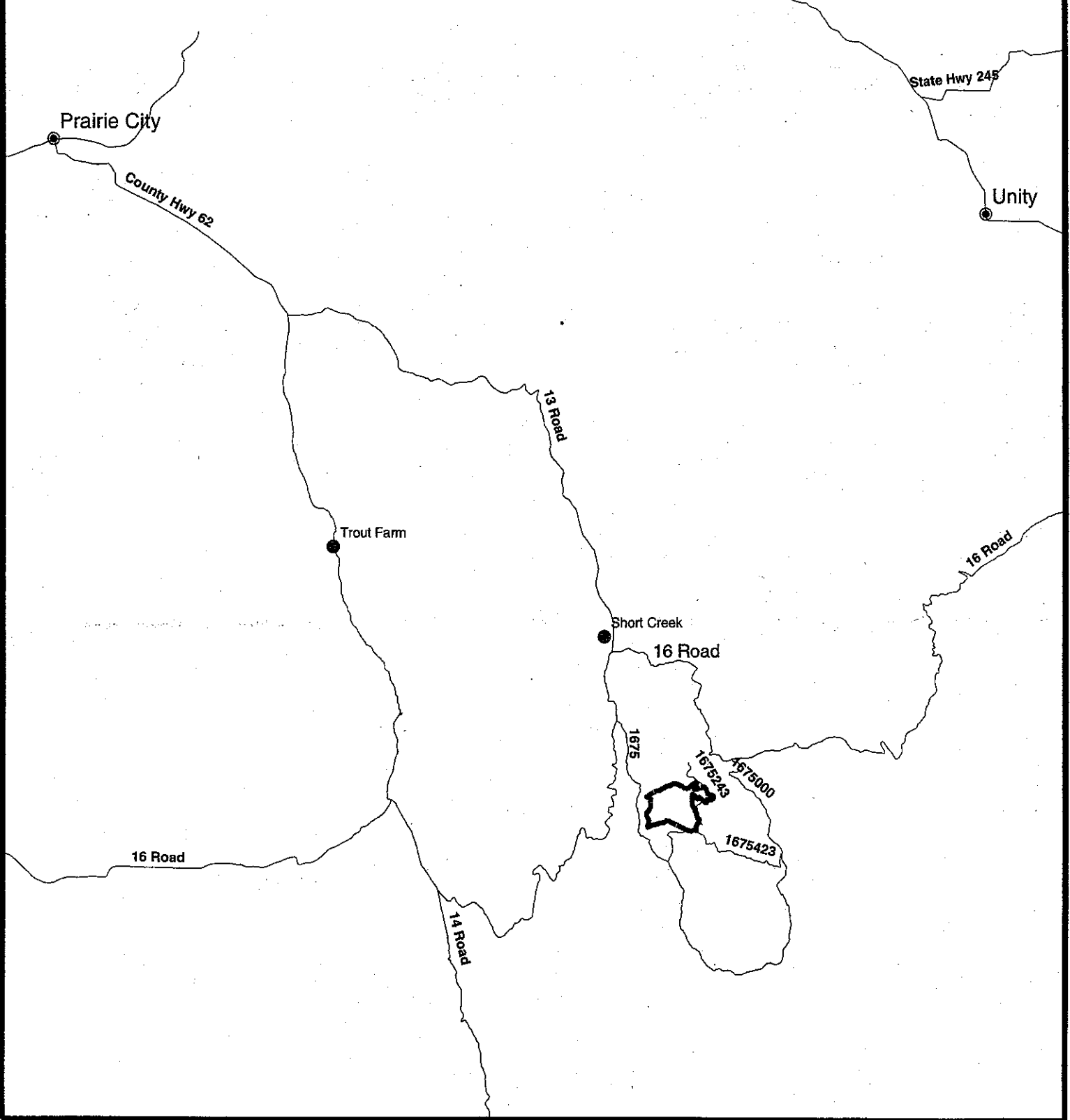


Map 1
 General Location of Dugout Creek
 Research Natural Area



Map 2

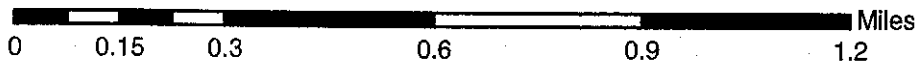
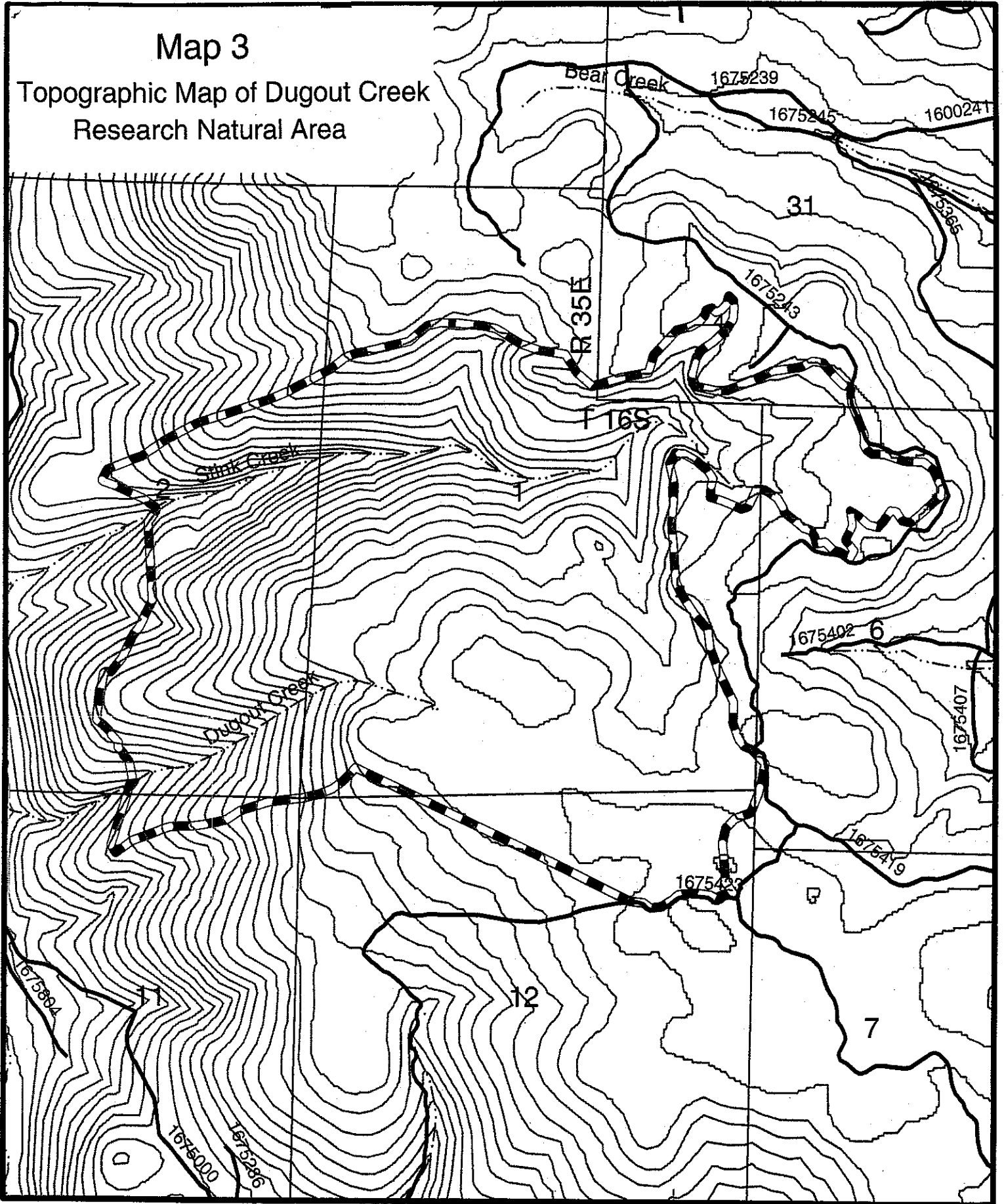
Specific Location of Dugout Creek Research Natural Area



Map produced by K. Shull 5/9/2005

Map 3

Topographic Map of Dugout Creek Research Natural Area



Map produced by K. Shull 5/9/2005

Map 5

Soil Mapping Units for Dugout Creek
Research Natural Area

