

Society of American Foresters Committee on Natural Areas

NATURAL AREA NOMINATION FORM

Instructions: Complete and forward to Committee along with a sketch type map of the area and a location map (highway map) indicating general location of proposed area. Information on past ownership and management, scientific or educational use, hydrologic features, rare plants or animals or other pertinent facts should be included. Please type. Photos, if available, will be welcomed.

Name of Proposed Natural Area: Canyon Creek Natural Area

Location: State: Oregon County: Grant Total Area: 700 Acres

Nearest Town and Distance: Seneca 10
Name Miles

Agency/Owner: USDA Forest Service

Administrative Unit: Malheur National Forest
Natl. Forest, Natl. Park, Wildlife Refuge, State, Univ., etc.

Address: 139 N.E. Dayton St., John Day, OR 97845

Permanence Afforded How: 36 CFR 251.23
Laws, Regulation, Will, Endowment, Letter of Agreement, etc.

Primary Forest Type:

SAF:	<u>237</u>	<u>Interior Ponderosa Pine</u>	<u>650</u>	Acres
	Type Number	Type Name	Type Area	

Dominant Trees: D.B.H. _____ Hgt. _____ Age _____

Other Important Types or Vegetation:

	Dominant Trees:	Name	D.B.H.	Hgt.	Age	Area
SAF Type, Number and Name:	_____	grasses and brush	_____	_____	_____	50
	_____	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____

Barren, Water, Buffer Zone, etc: none Acres
Area and Nature

Description of Vegetation and Other Distinguishing Characteristics: Virgin ponderosa
pine typical of Xeric (dry) forest sites in lower montane forest.

Elevation: 4700-5900 Feet Topography: Steep
Range and Average Level, Rolling, Steep, etc.

Geology and Soils Andesite, granite, volcanic ash / colluvial soils
Alluvial, Volcanic, Moraine, Podsol, Serpentine, Etc.

Washington, D. C.

By virtue of the authority vested in me by the act of June 4, 1897 (as amended) (30 Stat. 35), and in conformity with Regulation U-4 (sec. 251.23, chap. 2, title C.F.R.) pertaining to the management of the national forests, the Canyon Creek Natural Area, as established by Acting Chief V. L. Harper on March 4, 1953, is hereby designated, said area to be hereafter administered as a natural area subject to the provisions of Regulation U-4 and the instructions thereunder.

Aug. 2, 1960

V. L. HARPER

Date

Acting Chief, Forest Service

201 100

CANYON CREEK RESEARCH NATURAL AREA

A virgin ponderosa pine stand which also represents an important forest grazing type in the Blue Mountains of central and northeastern Oregon. Ground vegetation is dominated by pinegrass.

The Canyon Creek Research Natural Area was established August 2, 1960, as an example of virgin ponderosa pine and the most important forest live-stock range in the Blue Mountains of central and northeastern Oregon. The 283.5 ha (700-acre) tract is located in Grant County, Oregon, and is administered by the Bear Valley District (John Day, Oregon), Malheur National Forest. Un-fenced, topographic boundaries give it an irregular shape. It occupies portions of Sections 3, 4, 9 and 10 of T.15 S, R.32 E, Willamette Meridian. It lies at 44°17' north latitude and 119°52' west longitude.

Access and Accommodations

Access is rather difficult because the nearest road terminates approximately 2.413 km (1 1/2 miles) from the tract at a privately owned ranch. Directions should be obtained from the Bear Valley District Ranger together with a letter of introduction to the ranch owner. The rancher is most helpful when he knows a person has business on National Forest land, and he can give specific directions for following the correct jeep trail across his property. Public accommodations are available in Canyon City, 19.309 km (12 miles) north on U.S. 395 or 9.654 km (6 miles) south at Wickiup Camp. Primitive camps are located along Canyon Creek adjacent to the Natural Area, however, one should consider that all stream water on livestock range is a potential source of typhoid fever and should be boiled.

Environment

The Canyon Creek Research Natural Area varies from 1432.56 to 1798.32 m. (4700 feet to 5900 feet) elevation. Topography is a gentle, southerly facing enclosed basin which rises from Canyon Creek to moderately steep ridges on the northern and western edges. Slopes range from 5% to 40% with some exposed rocky outcrops of 80%. Drainage of the basin consists of an intermittent stream toward the western edge. Slopes face east, south and west.

The Natural Area contains both granitic and andesitic parent rocks and some volcanic ash deposits on its upper slopes. It apparently straddles the contact between Strawberry Mountain granitics and serpentines and some of the many andesitic and basaltic flows characteristic of the Blue Mountains.

Soils are variable. At lower elevations, residual and colluvial andesitic soils are common. At higher elevations, some residual and colluvial granitic soils are present in small patches. Generally, the upper slopes are covered by volcanic ash soils over either residual andesitic soils or residual granitic soils. They may be broadly classed as gray forest under timber cover and regosolic under juniper and bunchgrasses.

A modified continental climate prevails with cool, moist, partly cloudy winters and warm, dry, cloudless summers. Precipitation is moderate and seasonal, usually occurring as snow. Climatic data from John Day, (20 miles) north in a rain shadow valley, is as follows: 32.18 mm.

Biota

All forest in the area is dominated by ponderosa pine and is classed as SAF type 237. Acreage by tree species and volume is as follows:

<u>Acre Volume</u>	<u>Percent Composition</u>	<u>Net Acres</u>
12,000 b.f.	Pine 90%, Douglas-fir 5%, grand fir 5%	30.375 (75 acres)
5,000 b.f.	Pine 80%, western larch 10%, Douglas-fir 5%, grand fir 5%	70.875 (175 ")
14,000 b.f.	Pine 100%	157.95 (390 ")
3,000 b.f.	Pine 100%	4.05 (10 ")
Grass and brush		20.25 (50 ")
		283.5 (700 ")

Ponderosa pine clearly dominates the forest. Percent composition given above is based upon board foot volume. Both Douglas-fir and grand fir tend to become dominant in the understory as reproduction with increasing elevation suggesting that pine is not climax over the entire area. Hall (1967, 1968) has suggested that the Ponderosa pine/pinegrass community is generally successional to a grand fir dominated community. Since fir seed source is located at upper elevations and to the west side of the tract, distributions of fir reproduction may be associated more with seed source than elevation.

Ground vegetation is dominated by pinegrass (Calamagrostis rubescens) with such associated species as Carex geyeri, Fragaria species, Lupinus caudatus, Hieracium scouleri, Arnica cordifolia, Ceanothus velutinus, and Vaccinium scoparium. To a large extent, C. velutinus is over mature, decadent, and dead. It seems to have deteriorated due to natural causes without conditions suitable for natural seed germination, such as ground fire. This pine/pinegrass community is the most important grazing type in the Blue Mountains. It occupies more land area than all other range vegetation combined. Palatable species are Calamagrostis rubescens and Carex geyeri. Forage production averages 600 pounds per acre under 40% to 50% tree cover. As fir reproduction increases, forage production decreases and species composition changes. With overgrazing, these plants tend to decrease and unpalatable forbs and annual grass increase. This condition is moderately common near livestock water along Canyon Creek.

A few non-forest communities are present in the Natural Area. Most common is the Juniperus occidentalis/Agropyron spicatum association on shallow soils. Commonly associated species are Cercocarpus ledifolius, Poa secunda

272.1552 kg
per hectare

Bromus tectorum, Carex geyeri, Crepis acuminata, Achillea millefolium, Berberis repens, Danthonia unispicata, and Koeleria cristata. Some rock outcrops contain Ceanothus velutinus with Prunus emarginata, Salix scouleriana, Carex geyeri, and Poa pratensis. A rather dense forest of Douglas-fir/Larch/Vaccinium scoparium is present along the dry creek and east slope at the tract's west edge. Associated species are ponderosa pine, grand fir, Osmorhiza chilensis, Salix scouleriana, Carex geyeri, Hieracium albiflorum, and Calamagrostis rubescens. Tree cover approaches 90%.

Mule deer (Odocoileus hemionus) commonly browse in the area. Rocky Mountain elk (Cervus canadensis) occasionally winter in and near the location. Other common animals are chickarees (Tamiasciurus douglasii), golden-mantled ground squirrels (Citellus lateralis), and whitefooted deermice (Peromyscus maniculatus).

History of Disturbance

Fire scars are common on ponderosa pine. They indicate a long history of ground fires which occurred at 15- to 20-year intervals until 1910 when fire control was initiated. Presumably, these fires tended to maintain ponderosa pine and Ceanothus velutinus and discourage Douglas-fir and grand fir.

Sheep grazing was common in the area until 1946 when it was terminated. Current game use is moderate to high resulting in moderate to severe hedging of palatable browse plants. This condition is expected to continue.

No other disturbance has been recorded since establishment.

Research

No research in the tract is known.

Special research opportunities in the area include (1) long-term study of natural forest succession since fire control, (2) evaluation of seed source in relation to fir reproduction distribution, (3) effect of various soils and topography on biomass production under a rather homogeneous macroclimate and, (4) evaluation of game use on subordinate vegetation.

The most recent aerial photographs and special maps available are the following:

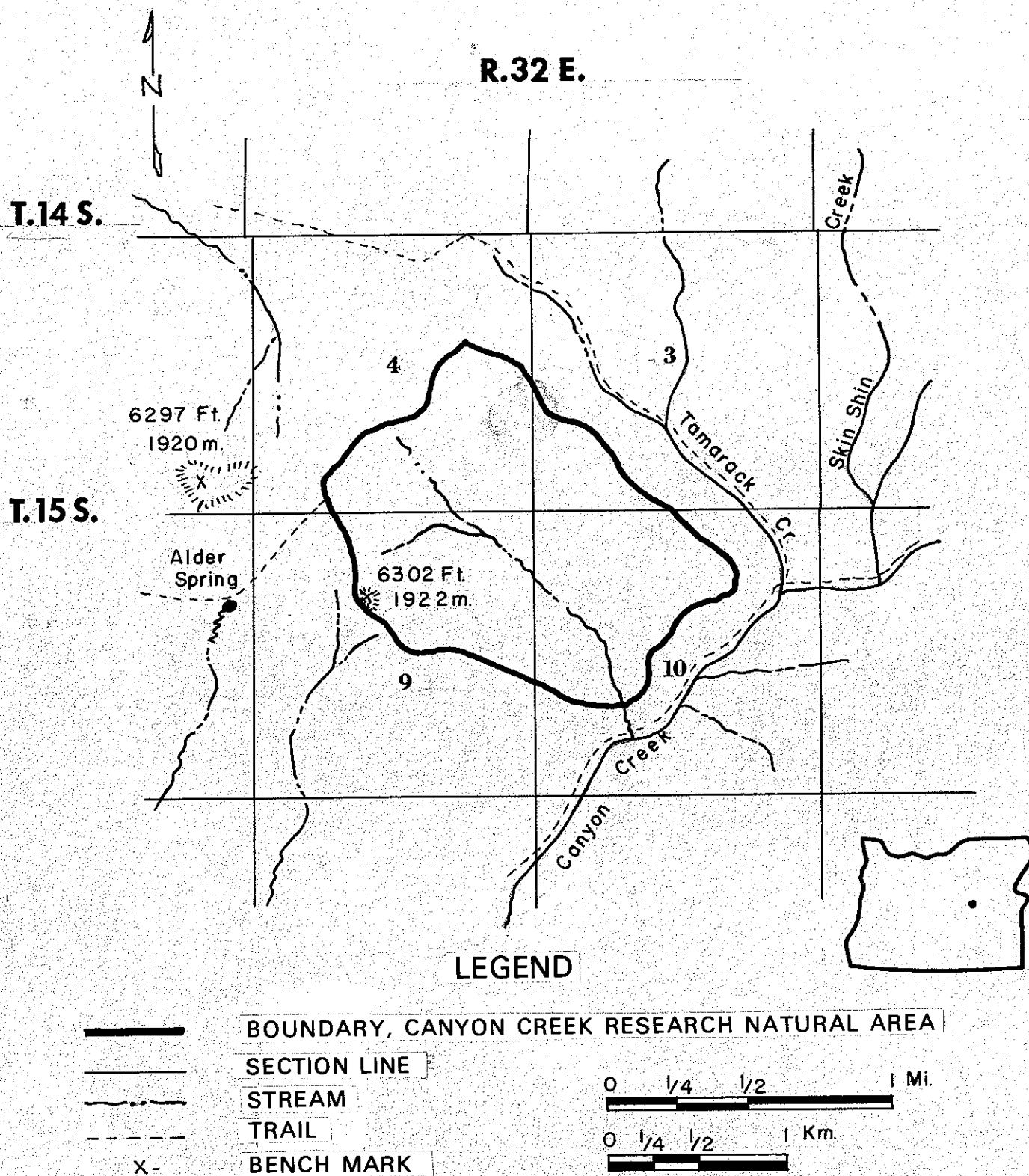


Figure CC-1.- Canyon Creek Research Natural Area,
Grant County, Oregon.