POKER JIM RIDGE RESEARCH NATURAL AREA

Supp1ement No. 16[1]

Sarah E. Greene and Bill Copeland[2]

The Research Natural Area described in this supplement is administered by the Fish and Wildlife Service of the U.S. Department of the Interior as part of the Hart Mountain National Antelope Refuge. Fish and Wildlife Service Research Natural Areas are administered through Area Offices; scientists wishing to use the Poker Jim Ridge Research Natural Area should contact both the Assistant Regional Director: Wildlife Resources (U .S. Fish and Wildlife Service, 500 N.E. Multnomah Blvd., Portland, Oregon 97232) and the Refuge Manager (Hart Mountain National Antelope Refuge, P.O. Box 111, Lakeview, Oregon 97630). The Refuge Manager supervises management activities at the refuge and coordinates scientific work on the Research Natural Area. For brief observational visits, permission may be obtained from the Refuge Manager.

The Research Natural Area described in this supplement is part of a Federal system of such tracts established for research and educational 'purposes. Each Research Natural Area constitutes a site where natural features are preserved for scientific purposes and natural processes are allowed to dominate. Their main purposes are to provide:

1. Baseline areas against which effects of human activities can be measured;
2. Sites for study of natural processes in undisturbed ecosystems; and
3. Gene pool preserves for all types of organisms, especially rare and endangered types. The Federal system is outlined in "A Directory of the Research Natural Areas on Federal Lands of the United States of America."[3]

Of the 96 Federal Research Natural Areas established in Oregon and Washington, 45 are described in "Federal Research Natural Areas in Oregon and Washington: A Guidebook for Scientists and Educators" (see footnote 1). Supplements to the guidebook describe additions to the system.

The guiding principle in management of Research Natural Areas is to prevent unnatural encroachments or activities that directly or indirectly modify ecological processes. Logging and uncontrolled grazing are not allowed, for example, nor is public use that might impair scientific or educational values. Management practices necessary for maintenance of ecosystems may be allowed.

Federal Research Natural Areas provide a unique system of publicly owned and protected examples of undisturbed ecosystems where scientists can conduct research with minimal interference and reasonable assurance that investments in long-term studies will not be lost to logging, land development, or similar activities. In return, a scientist wishing to use a Research Natural Area is obligated to:

1. Obtain permission from the appropriate administering agency before using the area;4

'Supplement No. 16 to "Federal Research Natural Areas in Oregon and Washington: A Guidebook for Scientists and Educators," by Jerry F. Franklin, Frederick C. Hall. C, T. Dyrness, and Chris Maser (U .S. Department of Agriculture, Forest Service, Pacific Northwest Forest and Range Experiment Station, 498 p., illus., 1972). The guidebook is available from the Superintendent of Documents, U.S. Government Printing Office, Washington. D.C. 20402: stock number 001-001-00225-9.

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[2]Federal Committee on Ecological Reserves. A directory of the Research Natural Areas on Federal lands of the United States of America. Washington, D.C.: U.S. Department of Agriculture, Forest Service: 1977.

[4]Six agencies cooperate in this program in the Pacific Northwest: U.S. Department of Agriculture-Forest Service: U.S. Department of the Interior- Bureau of Land Management, Fish and Wildlife Service, and National Park Service: U.S. Department of Energy, and U.P. Department of Defense.

2. Abide by the administering agency's regulations governing use, including specific limitations on the type of research, sampling methods, and other procedures; and
3. Inform the administering agency on progress of the research, published results, and disposition of collected materials.

The purpose of these limitations is to:

1. Ensure that the scientific and educational values of the tract are not impaired;
2. Accumulate a documented body of knowledge about the tract; and
3. Avoid conflict between studies.

Research must be essentially nondestructive; destructive analysis of vegetation is generally not allowed, nor are studies requiring extensive modification of the forest floor or extensive excavation of soil. Collection of plant and animal specimens should be restricted to the minimum necessary to provide voucher specimens and other research needs. Under no circumstances may collecting significantly reduce population levels of species. Collecting must also be carried out in accordance with applicable State and Federal agency regulations. Within these broad guidelines, appropriate uses of Research Natural Areas are determined by the administering agency

POKER JIM RIDGE RESEARCH NATURAL AREA

Ridge and escarpment on a south-central Oregon fault block mountain, with *Juniperus occidentalis/Artemisia arbuscula, Artemisia sp./Agropyron spicatum* communities, and small amounts of *Artemisia tridentata* and associated species.

Poker Jim Ridge Research Natural Area (RNA) was established on November 30,1972, as an example of a juniper savannah dominated by *J. occidentalis, Artemisia arbuscula*[5] *Artemisia tridentata,* and *Agropyron spicatum* in the Basin and Range geological province of south-central Oregon, The Research Natural Area provides habitat for California bighorn sheep *(Ovis canadensis},*[6] mule deer *(Odocoileus hemionus),* and pronghorn antelope *(Antilocapra americana).* Poker Jim Ridge is in Lake County, 103 km (64 mi) northwest of Lakeview, in the Hart Mountain National Antelope Refuge, Fish and Wildlife Service, U.S. Department of the Interior. The 259-ha (640-acre) tract is located in S 1/2 Section 22, and N 1/2 Section 27, T. 34 S., R. 26 E., Willamette meridian Oat. 42°36' N., long. 119°38'30' W,). The RNA is not fenced.

[5]Scientific and common names of all plants appear in table PJ-l.

[6]Scientific and common names of all mammals appear in table PJ-2,

Table PJ-1—Plants in Poker Jim Ridge Research Natural Area[1,2]

Scientific name	Common name
Trees:	
Juniperus occidentalis Hook.	Western juniper
Shrubs:	
Artemisia arbuscula Nutt.	Low sagebrush
Artemisia tridentata Nutt.	Big sagebrush
Chrysothamnus nauseosus (Pall.) Britt.	Gray rabbit-brush
Chrysothamnus viscidiflorus (Hook.) Nutt.	Green rabbit-brush
Holodiscus dumosus (Hook.) Heller	Gland oceanspray
Juniperus communis L.	Common juniper
Purshia tridentata (Pursh) DC.	Bitter-brush
Ribes cereum Dougl.	Squaw currant
Forbs:	
Allium punctum Hend.[3]	Punctate onion
Arenaria kingii (Wats.) Jones	Sandwort
Astragalus filipes Torr.	Basalt milk-vetch
Astragalus lentiginosus Dougl.	Freckled milk-vetch
Astragalus obscurus Wats.	Arcane milk-vetch
Balsamorhiza serrata Nels. & Macbr.	Serrated balsamroot
Balsamorhiza sagittata (Pursh) Nutt.	Arrowleaf balsamroot
Castilleja sp. Mutis ex L. f.	Paintbrush sp.
Chaenactis douglasii (Hook.) H. & A.	Hoary chaenactis
Erigeron linearis (Hook.) Piper	Lineleaf fleabane

Table PJ-1—Plants in Poker Jim Ridge Research Natural Area[1, 2]—Continued

Scientific name	Common name
Eriogonum caespitosum Nutt.	Mat buckwheat
Eriophyllum lanatum (Pursh) Forbes	Common eriophyllum
Galium aparine L.	Cleavers bedstraw
Geum triflorum var. *ciliatum* (Pursh) Fasset	Prairiesmoke avens
Hydrophyllum capitatum var. *capitatum* Dougl. ex Benth	Ballhead waterleaf
Lomatium sp. Raf.	Biscuit-root
Lupinus spp. L.	Lupine species
Lupinus caudatus Kell.	Tailcup lupine
Orobanche fasciculata Nutt.	Clustered broomrape
Penstemon deustus Dougl.	Hot-rock penstemon
Penstemon humilis Nutt.	Lowly penstemon
Phlox hoodii Rich.	Hood's phlox
Phlox longifolia Nutt.	Long-leaf phlox
Scutellaria nana Gray	Dwarf skullcap
Trifolium sp. L.	Clover
Trifolium gymnocarpon Nutt.	Hollyleaf clover
Trifolium macrocephalum (Pursh) Poiret	Bighead clover
Zigadenus venenosus var. *venenosus* Wats.	Meadow death camas
Grasses:	
Agropyron spicatum (Pursh) Scribn. & Smith	Bluebunch wheatgrass
Bromus tectorum L.	Cheat grass
Danthonia unispicata (Thurb.) Munro	Onespike danthonia
Elymus cinereus Scribn. & Merr.	Giant wildrye
Festuca idahoensis Elmer	Idaho fescue
Koeleria cristata Pers.	Prairie junegrass
Poa sandbergii Vasey	Sandberg's bluegrass
Sitanion hystrix (Nutt.) Smith	Bottlebrush squirreltail
Stipa thurberiana Piper	Thurber's needlegrass

[1]Nomenclature follows Hitchcock and Cronquist, 1976.

[2]Plants listed have been verified; a complete survey has not been made.

[3]Cronquist and others, 1977.

Table PJ-2—Mammals in Poker Jim Ridge Research Natural Area

Order	Scientific name	Common name
Chiroptera	*Antrozous pallidus*	Pallid bat
	Eptesicus fuscus	Big brown bat
	Lasionycteris noctivagans	Silver-haired bat
	Lasiurus cinereus	Hoary bat
	Myotis californicus	California myotis
	Myotis evotis	Long-eared myotis
	Myotis lucifugus	Little brown myotis
	Myotis subulatus	Small-footed myotis
	Myotis thysanodes	Fringed myotis
	Myotis yumanensis	Yuma myotis
	Pipistrellus hesperus	Western pipistrel
	Plecotus townsendi	Western big-eared bat
	Tadarida molossa	Big freetail bat
Carnivora	*Canis latrans*	Coyote
	Felis concolor	Mountain lion
	Lynx rufus	Bobcat
	Mephitis mephitis	Striped skunk
	Mustela frenata	Longtail weasel
	Taxidea taxus	Badger
Rodentia	*Citellus beldingi*	Belding ground squirrel
	Citellus lateralis	Golden-mantled squirrel
	Erethizon dorsatum	Porcupine
	Eutamias minimus	Least chipmunk
	Lagurus curtatus	Sagebrush vole
	Lepus californicus	Blacktail jackrabbit
	Neotoma lepida	Desert woodrat
	Peromyscus maniculatus	Deer mouse
	Perognathus parvus	Great basin pocket mouse
	Peromyscus truei	Piñon mouse
	Sylvilagus idahoensis	Pygmy rabbit
Artiodactyla	*Antilocapra americana*	Pronghorn
	Odocoileus hemionus	Mule deer
	Ovis canadensis	Bighorn sheep

[1]Nomenclature follows Burt and Grossenheider (1976). Mammals listed are believed to use the area at some time of year. Information supplied by Ken Voget, Assistant Complex Manager (Sheldon-Hart Mountain Refuges, Lakeview, OR).

Access and Accommodations

The refuge may be approached from the southwest from Lakeview, by way of Plush, from the northwest off Highway 395 north of Lake Abert, or from Frenchglen 78 km (49 mi) east of refuge headquarters (fig. PJ-1). The Frenchglen road is unpaved and not easily traveled during the rainy season. Once in the refuge the Research Natural Area is reached from a patrol road 1/2 km (0.8 mi) west of refuge headquarters. Follow the patrol road north 6.4 km (4 mi) to a sign prohibiting vehicle access. At this point the road turns northeast along the ridge, and the center of the RNA is directly upslope of the bend (fig. P.J-2). The patrol road is slow, rocky, and difficult to travel during the dry season. When wet, the road becomes impassable for most vehicles.

Public camping is permitted at the hot spring south of the refuge headquarters. Depending on the season and current staffing, limited living accommodations for researchers are available at refuge headquarters. Researchers should contact the Refuge Manager for permission to use the facilities.

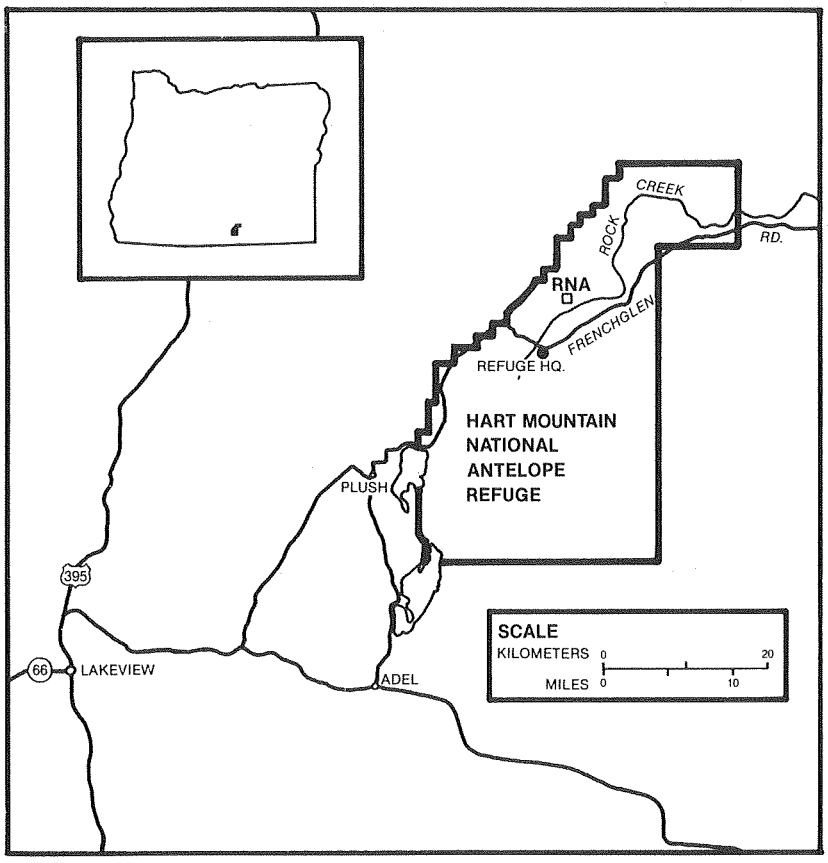

Figure PJ-1.—Location of Hart Mountain National Antelope Refuge.

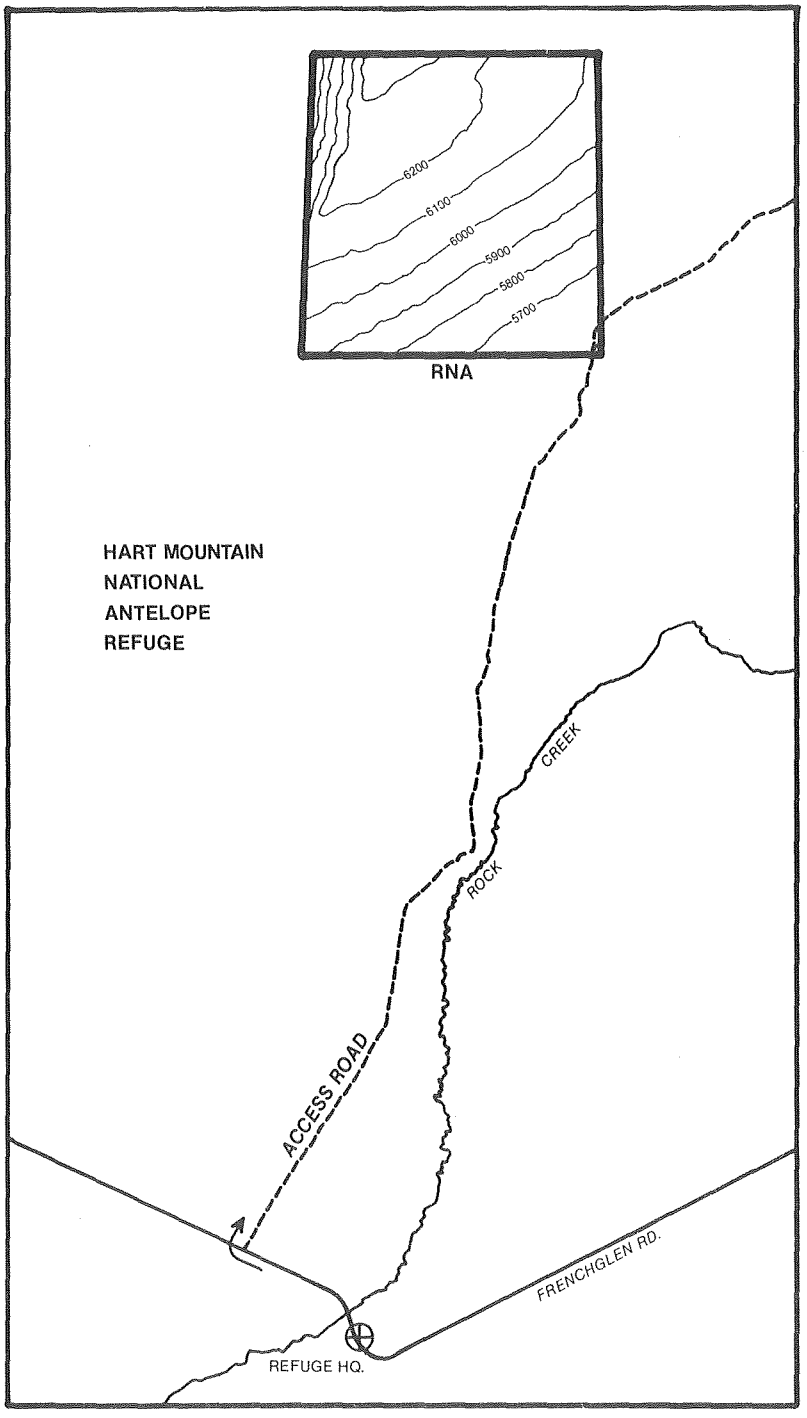

Figure PJ-2.—Access from refuge headquarters to Poker Jim Ridge.

Environment

Hart Mountain, Warner Mountain, and Poker Jim Ridge are named portions of a large fault-block mountain, composed of Miocene basalt. at the northern edge of the Basin and Range Province (Wells 1975). The upthrust resulted in a steep northwest-facing scarp rising over 1 066 m (3,500 ft) above the Warner Valley and a rolling southeast-facing surface that drops gently into the Catlow Valley.

The rocks in the Hart Mountain Refuge are all of Cenozoic age. They include flows of basalt and andesite, some rhyolite flows, flow breccias, tuffaceous sedimentary rocks, some partly welded ash-flow tuffs, and some young surficial deposits (Walker and Swanson 1968).

Poker Jim Ridge is a 12.8-km (8-mi) northeast-south west-trending basalt ridge overlooking the Warner Valley at the north end of the mountain mass. The Research Natural Area is located near the southwest end of the ridge. Ridgetop and moderate southeast slopes make up 239 ha (590 acres) of the RNA. Low rimrocks with associated steep talus slopes and irregularly scattered boulder fields are found below the ridgetop. The boulders vary from round to oval in shape as the slope steepens and range in size from 30 cm (12 in) to 100 cm (40 in) in diameter. The surface of the boulder fields is slightly elevated over that of the surrounding terrain (fig. PJ-3). The 20-ha (50-acre) northwest-facing section of scarp within the natural area consists of steep talus slopes and narrow rocky benches. The RNA rises from 1 703 m (5,590 ft) to 1 932 m (6,340 ft) above sea level.

Rock Creek and several vernal ponds are within 2.4 km (1.5 mi) of the southeast corner of the RNA.

Soils

Soils in the RNA are shallow and stony. Rocks cover 40 percent of the surface throughout the site. Clay shrinkage during dry periods results in prominent surface polygons 30 cm in diameter (fig. PJ-4). No specific soil studies of the natural area have been made, but the general soil description of the refuge[7] places the escarpment and the southeast slopes that support juniper woodland in the Rock Land association and the remainder of the area in the Floke-Olson association. The Soil Conservation Service range type-Juniper South Exposure-comprises part of the rock land mapping unit. This range type is described as occurring on steep south slopes of Poker Jim Ridge and Hart Mountain. The shallow, stony soils of the Juniper South Exposure type support open stands of *J. occidentlis* with *Artemisia arbuscula* or *A. tridentata* understory. The Juniper South Exposure range type is assumed coextensive with the *Juniperus* stands.

Stands of *A. arbuscula* and *A. tridentata* may occur on Floke-Olson soils. *A. tridentata* may occur on talus and boulder fields. These stands are most extensive near the bottom of Poker Jim Ridge, but they are also scattered throughout the RNA. Floke and Olson soils are aridsols. Floke soils are Xerollic Naduragids - fine montmoriIlonitic, frigid family. Olson soils are Xerollicdurargids-fine loamy, mixed frigid family. Both are characteristically associated with boulder fields (see footnote 7).

[7]Unpublished data, 1970, "Soil survey of the Hart Mountain National Antelope Refuge," by J. S. Cahoon. Report on file at Hart Mountain National Antelope Refuge. P.O. Box 111. Lakeview, Oregon 97630.

Climate

A modified continental climate prevails. Most precipitation occurs as snow during the cool, partly cloudy winters. Summers are warm and generally dry, although afternoon thundershowers are common mid-summer events. Droughts lasting 1 to 3 months are common. Climatic data from the wildlife refuge headquarters are:

Mean annual temperature	6.1°C	(43.6°F)
Mean January temperature	-2.6°C	(27.4°F)
Mean July temperature	17.2°C	(62.8°F)
Mean January minimum temperature	-7.5°C	(18.3°F)
Mean July maximum temperature	27.5°C	(81.5°F)
Average annual precipitation	270 mm	(10.63 in)
June through August precipitation	50 mm	(1.96 in)
Average annual snowfall	1692 mm	(66.6 in)

Figure PJ-3.—Boulder field with Artemisia tridentata *and* Juniperus occidentalis.

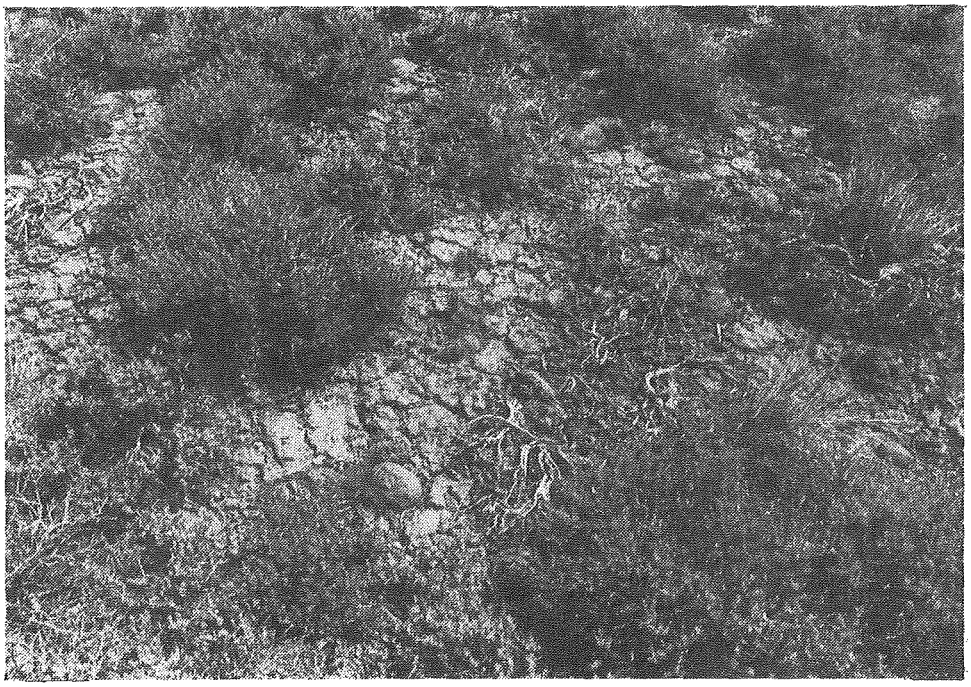

Figure PJ-4.—Soil surface polygons.

Biota

Plant Communities

Approximately 179 ha (440 acres) of the Poker Jim Ridge RNA can be classified as Society of American Foresters (SAF) forest cover type 238, Western Juniper (Eyre 1980), and Kuchler (1964) type 24, Juniper Steppe Woodland. Most of the 20 ha (50 acres) of *Artemisia tridentata,* the predominant *Artemisia* sp., is independent of the *J. occidentalis* and can be classified as Kuchler (1964) type 55, Sagebrush Steppe. *A. arbuscula* covers 40 ha (100 acres) and can also be placed in Kuchler's Sagebrush Steppe type. The entire natural area falls within the Shrub Steppe vegetation zone of Franklin and Dyrness (1973). Poker Jim Ridge RNA provides protection for the following ecosystems identified for protection within the Basin and Range geomorphic province (Dyrness and others 1975):

1. Western juniper/big sagebrush community (partial),
2. *Artemisia tnidentata/Agropyron spicatum* community (partial), and
3. *Artemisia arbuscula/Agropyron spicatum* community.

Franklin and Dyrness (1973) recognize *J. occidentalis* as occurring with *Artemisia arbuscula* but no community is described.

Most of the tract supports mixed-age stands of J. *occidentalis* with *A. arbuscula* dominating the shrub layer (fig. PJ-5). *J. occidentalis* community appears to be climax, as all age classes are present. One felled *J. occidentalis* was more than 150 years old, and the oldest trees are probably more than 200 years old (fig. PJ-6). A summary of species composition and cover for this community and others described below is presented in table PJ-3.

Three understory types can be distinguished based on differences in herbaceous species composition. On the shallowest soils *Poa sandbergii* is the herbaceous dominant; somewhat deeper soils are dominated by *Agropyron spicatum* and *Stipa thurberiana; Elymus cinereus* and *Balsamorhiza sagittata* become dominant in moist locations.

Species richness increases upslope, and total shrub and herb cover varies considerably. Grazing is heaviest on the lower slopes, but the extent to which differences in cover and diversity may be attributed to grazing is unknown. Additional understory species upslope include *Philox longifolia, Phlox hoodii, Eriophyllum lanatum, Lupinus caudatus, Koeleria cristata, Erigeron linearis,* and *Astragalus stenophyllus.*

Figure PJ-5.—Juniperus occidentalis *with* Artemisia arbuscula *and* Elymus cinereus *in the foreground.*

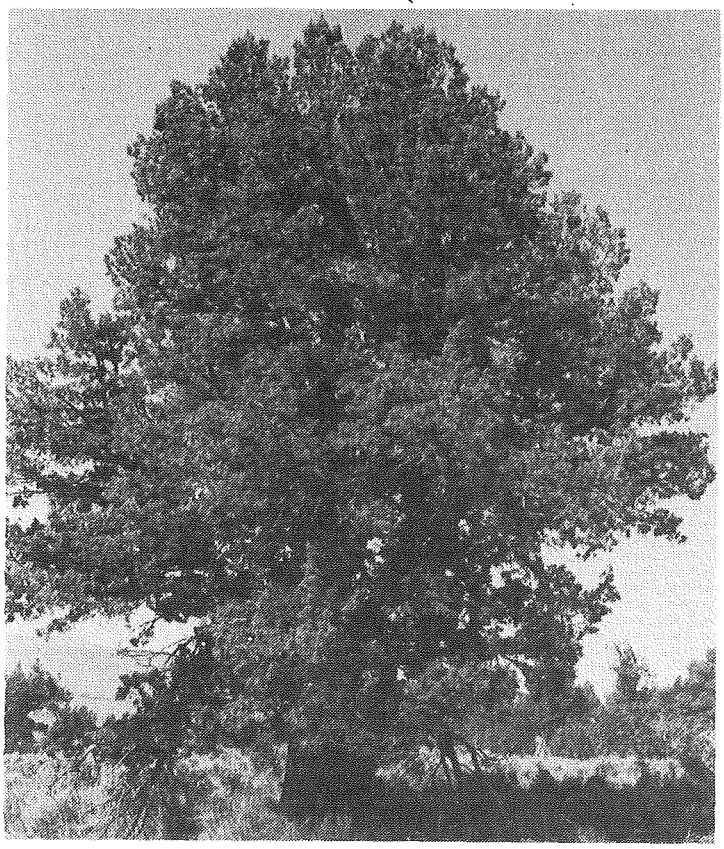

Figure PJ-6.—A Juniperus occidentalis *that is at least 150 years old.*

Table PJ-3—Average percent cover of species in plant communities, Poker Jim Ridge Research Natural Area[1]

	Juniperus occidentalis/ Artemesia arbuscula	*Artemisia arbuscula/ Agropyron spicatum*	*Artemisia tridentata- Chrysothamnus nauseosus/ Elymus cinereus*	*Artemisia tridentata- Holodiscus dumosus- Ribes cereum*
	Southeast slope	Ridgetop	Boulder field edge	Talus
Trees:				
Juniperus occidentalis	2	1		
Shrubs:				
Artemisia arbuscula	2	2		
Artemisia tridentata			3	3
Chrysothamnus nauseosus	1		2	
Chrysothamnus viscidiflorus		1		
Holodiscus dumosus				1-2
Ribes cereum		1		1
Herbs:				
Allium punctum		1		
Astragalus filipes	1	1		
Astragalus lentiginosus	1	1		
Astragalus obscurus		1	1	
Balsamorhiza sagittata	1	1	1-2	1
Balsamorhiza serrata		1		
Erigeron linearis	1	1		
Eriophyllum lanatum	1	1		
Galium aparine			1	
Hydrophyllum capitatum var. *capitatum*		1		
Lomatium sp.		1		
Lupinus sp.	1	1	1	1
Phlox hoodii		1		
Phlox longifolia		1		
Trifolium sp.		1		
Agropyron spicatum	1-2	2		1
Arenaria kingii		1		
Bromus tectorum	1		1	
Castilleja sp.		1		
Chaenactis douglasii		1		
Elymus cinereus	1	1	1-2	
Festuca idahoensis	1			
Geum triflorum var. *ciliatum*		1		
Koeleria cristata	1	1		
Orobanche fasciculata		1		
Penstemon deustus			1	1

Table PJ-3—Average percent cover of species in plant communities, Poker Jim Ridge Research Natural Area[1]—Continued

	Juniperus occidentalis/ Artemesia arbuscula Southeast slope	*Artemisia arbuscula/ Agropyron spicatum* Ridgetop	*Artemisia tridentata- Chrysothamnus nauseosus/ Elymus cinereus* Boulder field edge	*Artemisia tridentata- Holodiscus dumosus- Ribes cereum* Talus
Penstemon humilis		1		
Poa sandbergii	1	1	1	1
Scutellaria nana		1		
Sitanion hystrix	1	1		
Stipa thurberiana	1	1		
Trifolium gymnocarpon		1		
Zigadenus venenosus		1		

[1]Cover: 1 = .1-4.9 percent, 2 = 5-24.9 percent, 3 = 25-50 percent.

On gentler slopes and on the ridgetop, in the least rocky soils, *J. occidentalis* decreases and the community changes to an *Artemisia arbuscula/Agropyron spicatum* community with widely scattered *J. occidentalis* (fig. PJ-7). Grass associates are similar to those in the *J. occidentalis* type, but forb diversity and cover increases. Common forbs include *Arenaria kingii,. Eriogonum caespitosum, Trifolium macrocephalum., Astragalus obscurus, Geum triflorum* var. *ciliatum, Zigadenus venenosus* var. *venenosus,* as well as those occurring in the *J. occidentalis* communities.

The *Artemisia tridentata* communities are restricted to specialized habitat[3] on the tract. One of them occurs adjacent to the boulder fields. *A. tridentata* reaches 25 to 40 percent cover and *Elymus cinereus, Chrysothamnus nauseosus,* and *Balsamorhiza sagittata* are the major associates (fig. PJ-8). The second *A. tridentata* community occurs on talus slopes below rims; the major associates are *Holodiscus dumosus* and *Ribes cereum.* On the west scarp overlooking the Warner Valley *J. communis* is associated with the talus community. One small patch of *Purshia tridentata* is located adjacent to a boulder field, halfway upslope at the northeastern edge of the tract. In addition small inclusions of *A. tridentata* on deeper soils within the *J. occidentalis/A. arbuscula* and *A. arbuscula/Agropyron spicatum* communities are found. *Elymus cinereus* and *Agropyron/spicatum* are the major associates.

Average percent cover of species in the various plant communities of Poker Jim Ridge RNA is in table PJ-3.

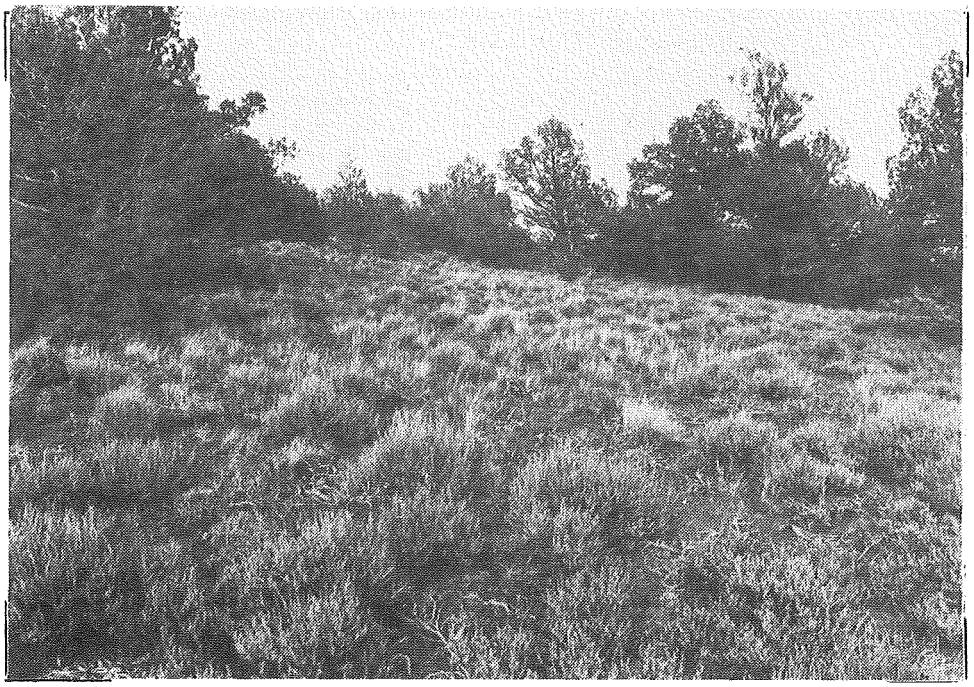

Figure PJ-7.—Artemisia arbuscula/Agropyron spicatum *community with scattered* Juniperus occidentalis.

Figure PJ-8.—Artemisia tridentata *community with* Elymus cinereus, Chrysothamnus nauseosus, *and* Balsamorhiza sagittata.

Fauna

Mammals, birds, amphibians, and reptiles that are believed to use the natural area at some time of year are listed in tables PJ-2, PJ-4. and PJ-5. Antelope *(Antilocapra americana)* are abundant on the tableland below the natural area and will occasionally wander up the gentle slopes of Poker Jim Ridge. The current bighorn sheep *(Ovis canadensis)* population of Hart Mountain is descended from a group of 20 introduced to the refuge from British Columbia in 1954. Of the original population, the last sheep was seen in 1912, and most of them had disappeared by the 1890's as a result of grazing intrusion on the range, diseases from domestic sheep and hunting pressure. The present population numbers about 500 and is increasing.[8] The group at Poker Jim Ridge averages 90-100 sheep during the summer and is centered several miles to the north and west of the RNA. Mule deer *(Odocoileus hemionus)* is the most abundant large vertebrate.

[8]Personal communication. 1983, Refuge Manager. Hart Mountain National Antelope Refuge. P.O. Box 111, Lakeview. Oregon 97360.

Table PJ-4—Birds in Poker Jim Ridge Research Natural Area[1]

Order	Scientific name[2]	Common name
Falconiformes	*Accipiter cooperii*	Cooper's hawk
	Accipiter gentilis	Goshawk
	Accipiter striatus	Sharp-shinned hawk
	Aquila chrysaetos	Golden eagle
	Buteo jamaicensis	Red-tailed hawk
	Buteo regalis	Ferruginous hawk
	Cathartes aura	Turkey vulture
	Falco mexicanus	Prairie falcon
	Falco sparverius	Sparrow hawk
Galliformes	*Alectoris graeca*	Chukar
Columbiformes	*Zenaidura macroura**	Mourning dove
Strigiformes	*Aegolius acadicus*	Saw-whet owl
	Asoi otus	Long-eared owl
	Budo virginianus	Great-horned owl
	Otus asio	Screech owl
	Otus flammeolus	Flammulated owl
Caprimulgiformes	*Chordeiles minor*	Common nighthawk
Piciformes	*Asyndesmus lewis*	Lewis' woodpecker
	Colaptes auratus	Yellow-shafted flicker
Passeriformes	*Acanthis flammea*	Common redpoll
	Aeronautes saxatalis	White-throated swift
	*Amphispiza belli**	Sage sparrow
	*Aphelocoma coerulescens**	Scrub jay
	Bombycilla cedrorum	Cedar waxwing
	Bombycilla garrula	Bohemian waxwing
	*Carpodacus mexicanus**	House finch
	Chlorura chlorura	Green-tailed towhee
	*Chondestes grammacus**	Lark sparrow
	Contopus sordidulus	Western wood pewee
	Corvus corax	Common raven
	Dendroica coronata	Myrtle warbler
	Empidonax difficilis	Western flycatcher
	Empidonax oberholseri	Dusky flycatcher
	*Empidonax wrightii**	Gray flycatcher
	*Eremophila alpestris**	Horned lark
	Euphagus cyanocephalus	Brewer's blackbird
	Junco hyemalis	Slate-colored junco
	Lanius excubitor	Northern shrike
	*Lanius ludovicianus**	Loggerhead shrike
	Melospiza melodia	Song sparrow
	Melospiza lincolnii	Lincoln's sparrow
	Myadestes townsendi	Townsend's solitaire
	*Oreoscoptes montanus**	Sage thrasher
	Passerella iliaca	Fox sparrow

Table PJ-4—Birds in Poker Jim Ridge Research Natural Area[1]—Continued

Order	Scientific name[2]	Common name
	Passerina amoena	Lazuli bunting
	*Pica pica**	Black-billed magpie
	Piranga ludoviciana	Western tanager
	*Pooecetes gramineus**	Vesper sparrow
	Psaltriparus minimus	Common bushtit
	Regulus calendula	Ruby-crowned kinglet
	Regulus satrapa	Golden-crowned kinglet
	*Salpinctes obsoletus**	Rock wren
	Sayornis saya	Say's phoebe
	*Sialia currucoides**	Mountain bluebird
	Sialia mexicana	Western bluebird
	Sitta canadensis	Red-breasted nuthatch
	Sitta pygmaea	Pygmy nuthatch
	Spinus pinus	Pine siskin
	*Spizella breweri**	Brewer's sparrow
	Spizella passerina	Chipping sparrow
	*Sturnella neglecta**	Western meadowlark
	Tachycineta thalassina	Violet-green swallow
	*Turdus migratorius**	American robin
	Vermivora celata	Orange-crowned warbler
	Wilsonia pusilla	Wilson's warbler
	Zonotrichia leucophrys	White-crowned sparrow

*Birds believed to use the site for nesting.

[1]Birds listed are believed to use the area during some part of the year. List supplied by Hart Mountain National Antelope Refuge.

[2]Nomenclature follows Peterson 1961.

Table PJ-5—Amphibians and reptiles in Poker Jim Ridge Research Natural Area[1]

Order	Scientific name	Common name
Anura	*Hyla regilla*	Pacific tree frog
Squamata	*Sceloporus graciosus*	Sagebrush lizard
	Sceloporus occidentalis	Western fence lizard
	Phrynosoma douglassi	Short horned lizard
	Phrynosoma platyrhinos	Desert horned lizard
	Uta stansburiana	Side-blotched lizard
Serpentes	*Charina bottae*	Rubber boa
	Coluber constrictor	Racer
	Crotalus viridis	Western rattlesnake
	Masticophis taeniatus	Striped whipsnake
	Thamnophis elegans	Western terrestrial garter snake

[1]Nomenclature follows Stebbins (1966). Amphibians and reptiles listed are believed to use the area at some time of year. Information supplied by Ken Voget, Assistant Complex Manager (Sheldon-Hart Mountain Refuges, Lakeview, OR).

History of Disturbance

The vegetation of the lower slopes of the RNA is heavily used by cattle. Both trampling and grazing have been major factors in decreasing species diversity and plant cover of the lower slopes, especially in the southeast corner. At present there is no fence separating the RNA from the adjacent grazing allotment. Considerable grazing is also done by mule deer, bighorn sheep, and antelope.

Fire, tree falling, and vehicle access have been three agents of minor disturbance, No fire history of Poker Jim Ridge is available, but the all-age structure of the *Juniperus occidentalis* stands indicates that the area has been free of serious fires for the past 150 to 200 years. Though lightning-struck *J. oecidentalis* are present, it is likely that low fuel levels and the extensive boulder fields have impeded the spread of fire. In past years a small number of *J. oecidentalis* have been felled for fencing and lumber, but this practice has been stopped and the impact is minor. Vehicle access to the ridge is no longer allowed and past signs of vehicular disturbance have disappeared.

Research

Geological and zoological research carried on at the Hart Mountain Antelope Refuge has included Poker Jim Ridge. Wiede (1975) described the recent evolution of landforms in the Warner Valley-Hart Mountain area. Berger (1978) and Kornet (1978) have studied the behavior and ecology of the bighorn sheep.

A number of research opportunities are available for studies such as: (1) vegetation response with the exclusion of cattle to be compared to ongoing vegetation monitoring of various grazing practices elsewhere at Hart Mountain; (2) factors influencing the formation of the boulder fields and related present day geomorphic processes; (3) investigation of the age structure distribution and successional status of *J. occidentalis, Artemisia arbuseula,* and *A. tridentata* communities; and (4) the distribution of small mammals in the heterogeneous landscape of the RNA.

Larson (1965) has done the most recent and detailed reconnaissance geologic study of the Poker Jim Ridge area.

Maps and Aerial Photography

Maps applicable to Poker Jim Ridge RNA are: **Topographic**-7,5' Campbell Lake, Oregon, quadrangle, scale 1:24,000, issued by the U.S, Geological Survey in 1967; and **Geologic**-Geologic Map of Oregon East of the 121st Meridian, scale 1:500,000 (Walker 1977). The Hart Mountain Refuge Manager can provide details on the most recent aerial photos for the area.

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