Federal Research Natural Areas in Oregon and WashingtonA Guidebook for Scientists and Educators. 1972.
Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

BAIRD BASIN RESEARCH NATURAL AREA[1]

Typical northeastern Washington forests of ponderosa pine and Douglas-fir growing on north and south slopes and ridgetops.

The Baird Basin Research Natural Area was established in October 1959. It exemplifies typical northeastern Washington ponderosa pine *(Pinus ponderosa),* Douglas-fir *(Pseudotsuga menziesii),* and grand fir *(Abies grrandis)* forest stands as they vary with landform (ridgetop and slope) and aspect (north and south). The 65-ha. (160-acre) tract is located in Stevens County, Washington, and is owned by the Bureau of Sport Fisheries and Wildlife. The area is administered as a part of the Little Pend Oreille Game Range, by the Washington Department of Game (Route 1, Colville, Washington). The rectangular area straddles a rolling hill and is located in the northwest portion of section 10, T. 34 N., R. 41 E., Willamette meridian, at 48°30' N. latitude, 117°40' W. longitude (fig. BB-1).

ACCESS AND ACCOMMODA TIONS

The natural area is located about 49 km. (19 miles) east of Colville and is approached via State Highway 6A. An unmaintained logging road reaches the tract. Access is good during the summer, but snow creates difficulties during the winter. Public accommodations are available in Colville; there are primitive forest camps in the general area.

[1] Description prepared by Dr. F. C. Hall. U.S. Department of Agriculture. Forest Service. Region G, Portland, Oregon.

ENVIRONMENT

The Baird Basin Research Natural Area varies in elevation from 950 to 1,070 m. (3,100 to 3,500 ft.). It is located in rolling topography on a plateau glaciated during the Wisconsin period. Parent rocks appear to be granitic.

A modified continental climate prevails. Most precipitation occurs as snow during the cool, cloudy winter. Summers are warm, generally low in precipitation and largely cloudless. One to 3 months of drought are common. Climatic data from Colville, located in a valley 48 km. (19 miles) to the east are as follows (U.S. Weather Bureau 1965):

Mean annual temperature	8.0°C. (46.5°F.)
Mean January temperature	-4.7°C. (23.6°F.)
Mean July temperature	20.4°C. (68.8°F.)
Mean January minimum temperature	-8.4°C. (16.8°F.)
Mean July maximum temperature	30.3°C. (86.7°F.)
Average annual precipitation	427 mm. (16.8 in.)
June through August precipitation	91 mm. (3.6 in.)

Soils in the area have not been mapped. Cursory examination suggests southerly slopes have colluvial soils derived from granitic material, whereas soils on gentle ridgetops and north slopes are developed in aerially deposited volcanic ash over buried profiles.

BIOTA

Estimated areas by forest cover type are:

Name	*Area*
Ponderosa pine with western larch and Douglas-fir	26 ha. (63 acres)
Douglas-fir and western larch	25 ha. (62 acres)
Lodgepole pine	14 ha. (35 acres)

The stands of ponderosa pine mixed with Douglas-fir and western larch *(Larix occidentalis)* can be assigned to SAF forest cover type 214, Ponderosa Pine-Western Larch-DouglasFir (Society of American Foresters 1954), and

Kuchler's (1964) Type 12, Douglas Fir Forest. The Douglas-fir with western larch can be assigned to SAF type 212, Larch-Douglas-Fir, and Kuchler's Type 12, Douglas Fir Forest. Lodgepole pine *(Pinus contorta)* forest belongs to SAF type 218, Lodgepole Pine; Kuchler does not recognize lodgepole pine as a potential forest type. The area falls within the *Pseudotsuga menziesii* Zone (Daubenmire 1952).

Steep, southwest slopes with shallow, stony soils are generally dominated by ponderosa pine, bluebunch wheatgrass *(Agropyron spicatum.),* Idaho fescue *(Festuca idahoensis)* and *Phlox* spp., with some elk sedge *(Carex geyeri), Lupinus* spp., and *Achillea millefolium* (fig. BB-2). It relates to Daubenmire and Daubenmire's (1968) *Pinus ponderosa/Agropyron spicatum* Association.

Ridgetops and gentle south slopes and swales are often dominated by ponderosa pine with occasional Douglas-fir. Douglas-fir reproduction and poles clearly dominate the understory. Ground vegetation is characterized by low to moderate crown cover of *Physocarpus malvaceus* and dense, vigorous pinegrass *(Calamagrostis rubescens).* Other ground vegetation species are *Symphoricarpos albus, Achillea millefolium,* and, occasionally, *Spiraea lucida* and *Arctostaphylos uva-ursi.* These stands typically grow on soils of aerially deposited pumice over residual granitic materials. They probably correlate with the *Pseudotsuga menziesii/Physocarpus malvaceus* Association (Daubenmire and Daubenmire 1968).

The most important north slope community is dominated by Douglas-fir with abundant western larch and an understory of *Physocarpus malvaceous* and Douglas maple *(Acer glabrum), Vaccinium scparium,* pinegrass, *Linnaea borealis, Spirea lucida, Berberis repens,* and *Hieracium albiflorum* are also present. This may represent a mesic phase of Daubenmire and Daubenmire's (1968) *Pseudotsuga menziesii/Physocarpus malvaceus* Association. It characteristically occupies soils of aerially deposited volcanic ash over granite.

The small lodgepole pine stand averages 70 to 90 years old. Lodgepole pine dominates with ground vegetation characterized by pine-grass, *Vaccinium scoparium, Chimaphila umbellata, Linnaea borealis, Spirea lucida,* and occasional *Rosa gymnocarpa, Pachistima myrsinites,* and various forbs.

Resident and transient mammals believed to utilize the natural area are listed in table BB-I. Mule deer *(Odocoileus hemionus)* use the area as spring, summer, and fall range.

HISTORY OF DISTURBANCE

Fire scars on ponderosa pine indicate that ground fires periodically burned the area prior to initiation of fire control programs; four to eight wildfires are recorded in these scars. Dead and down trees in the lodgepole pine stand have been charred, clearly indicating a fire of conflagration proportions in that plant community.

Domestic livestock apparently grazed the tract to some extent between 1890 and 1930. There was no evidence of serious vegetational changes due to livestock use, however.

RESEARC H

No research is known on the area. It provides interesting opportunities: (1) to correlate vegetational gradients with variations in land form, slope, and aspect since the tract completely straddles a broad ridge; (2) to study development of forest stands in the absence of natural wildfires; and (3) to determine changes in biomass productivity with topography under a single macroclimate.

MAPS AND AERIAL PHOTOGRAPHS

No special topographic or geologic maps are available for the Baird Basin Research Natural Area which are sufficiently detailed to be useful. The Game Range Manager (Little Pend Oreille Game Range) can provide details on the most recent aerial photo coverage of the area.

LITERATURE CITED

Daubenmire, R.
1952. Forest vegetation of northern Idaho and adjacent Washington, and its bearing on concepts of vegetation classification. Ecol. Monogr. 22: 301-330, illus.

Daubenmire, R., and Jean B. Daubenmire
1968. Forest vegetation of eastern Washington and northern Idaho. Wash. Agric. Exp. Stn. Tech. Bull. 60, 104 p., illus.

Kuchler, A. W.
1964. Manual to accompany the map of potential natural vegetation of the conterminous United States. Amer. Geogr. Soc. Spec. Publ. 36, various paging, illus.

Society of American Foresters
1954. Forest cover types of North America (exclusive of Mexico). 67 p., illus. Washington, D.C.

U.S. Weather Bureau
1965. Climatic summary of the United States-supplement for 1951 through 1960, Washington. Climatography of the United States 86-39, 92 p., illus.

Table BB-1. — Tentative list of mammals for the Baird Basin Research Natural Area

Order	Scientific name	Common name
Insectivora	*Microsorex hoyi*	pigmy shrew
	Sorex cinereus	masked shrew
	Sorex obscurus	dusky shrew
	Sorex vagrans	wandering shrew
Chiroptera	*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 yumanensis	Yuma myotis
Lagomorpha	*Lepus americanus*	snowshoe hare
	Sylvilagus nuttalli	mountain cottontail
Rodentia	*Clethrionomys gapperi*	Gapper red-backed vole
	Erethizon dorsatum	porcupine
	Eutamias amoenus	yellow-pine chipmunk
	Eutamias ruficaudus	red-tailed chipmunk
	Glaucomys sabrinus	northern flying squirrel
	Marmota flaviventris	yellow-bellied marmot
	Microtus longicaudus	long-tailed vole
	Microtus pennsylvanicus	meadow vole
	Neotoma cinerea	bushy-tailed wood rat
	Peromyscus maniculatus	deer mouse
	Spermophilus columbianus	Columbian ground squirrel
	Spermophilus lateralis	mantled ground squirrel
	Tamiasciurus hudsonicus	red squirrel
	Thomomys talpoides	northern pocket gopher
	Zapus princeps	western jumping mouse
Carnivora	*Canis latrans*	coyote
	Felis concolor	mountain lion or cougar
	Lynx canadensis	Canadian lynx
	Lynx rufus	bobcat
	Martes americana	marten
	Mustela erminea	short-tailed weasel or ermine
	Mustela frenata	long-tailed weasel
	Taxidea taxus	badger
	Ursus americanus	black bear
Artiodactyla	*Alces alces*	moose
	Cervus canadensis	wapiti or elk
	Odocoileus h. hemionus	mule deer
	Odocoileus virginianus	white-tailed deer

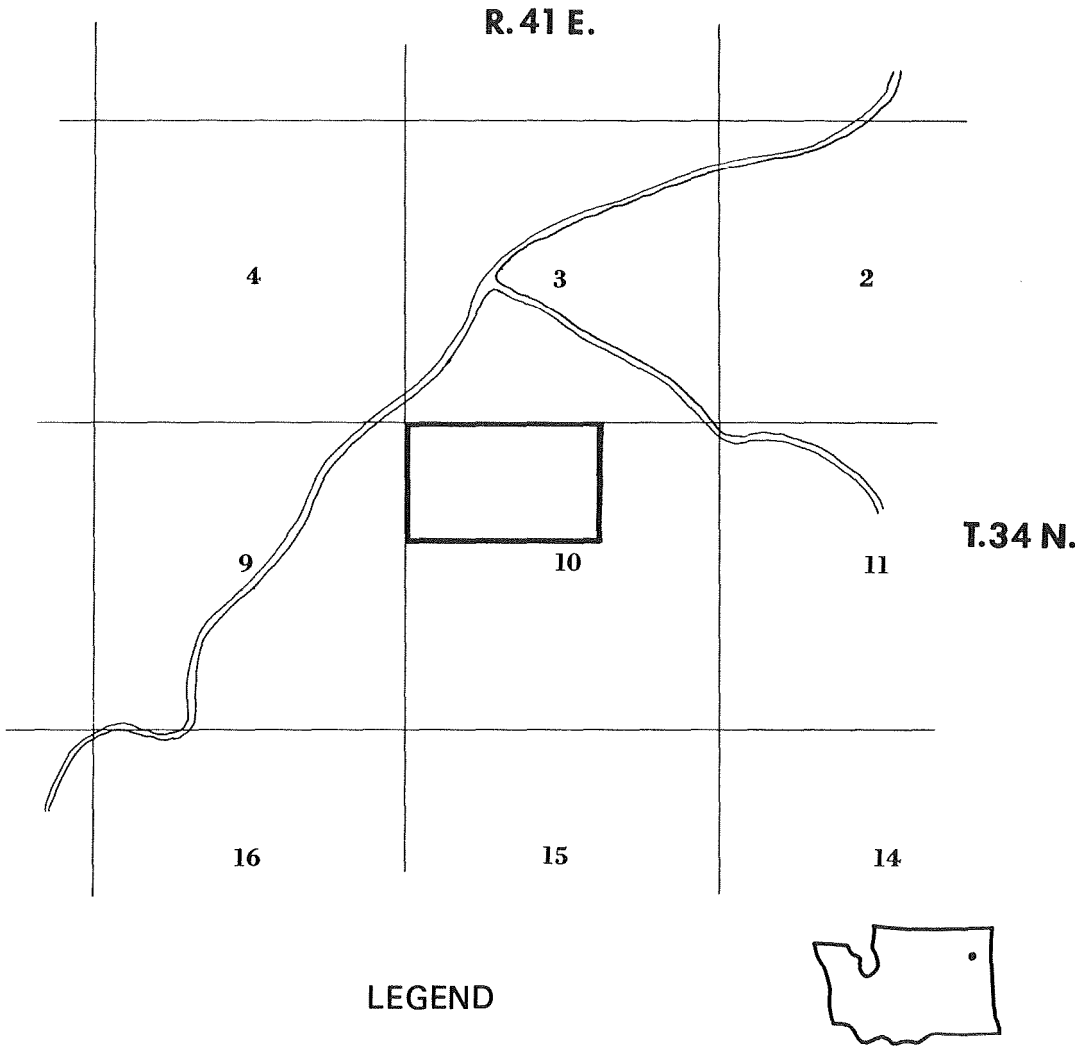

Figure BB-1.– Baird Basin Research Natural Area, Stevens County, Washington.

Figure BB-2.-Plant communities of the Baird Basin Research Natural Area. Upper left: Ponderosa pine/bluebunch wheatgrass community with Idaho fescue typical of south aspects with shallow soils. Upper right: Ponderosa pine/pinegrass community with some Douglas-fir and occasional *Physocarpus* and *Symphoricarpos* on upper south slope. Lower left: Douglas-fir-ponderosa pine/ Physocarpus/pinegrass community on south slope cove and swale. Lower right: Douglas-fir-western larch/ *Physocarpus-Vaccinium* community with some Douglas maple, pinegrass, and *Linnaea borealis.*