

ESTABLISHMENT REPORT

FOR THE

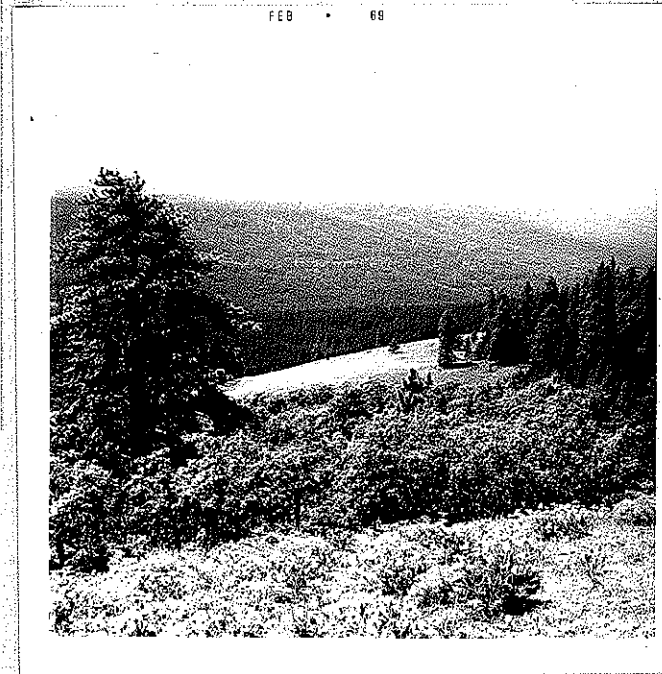
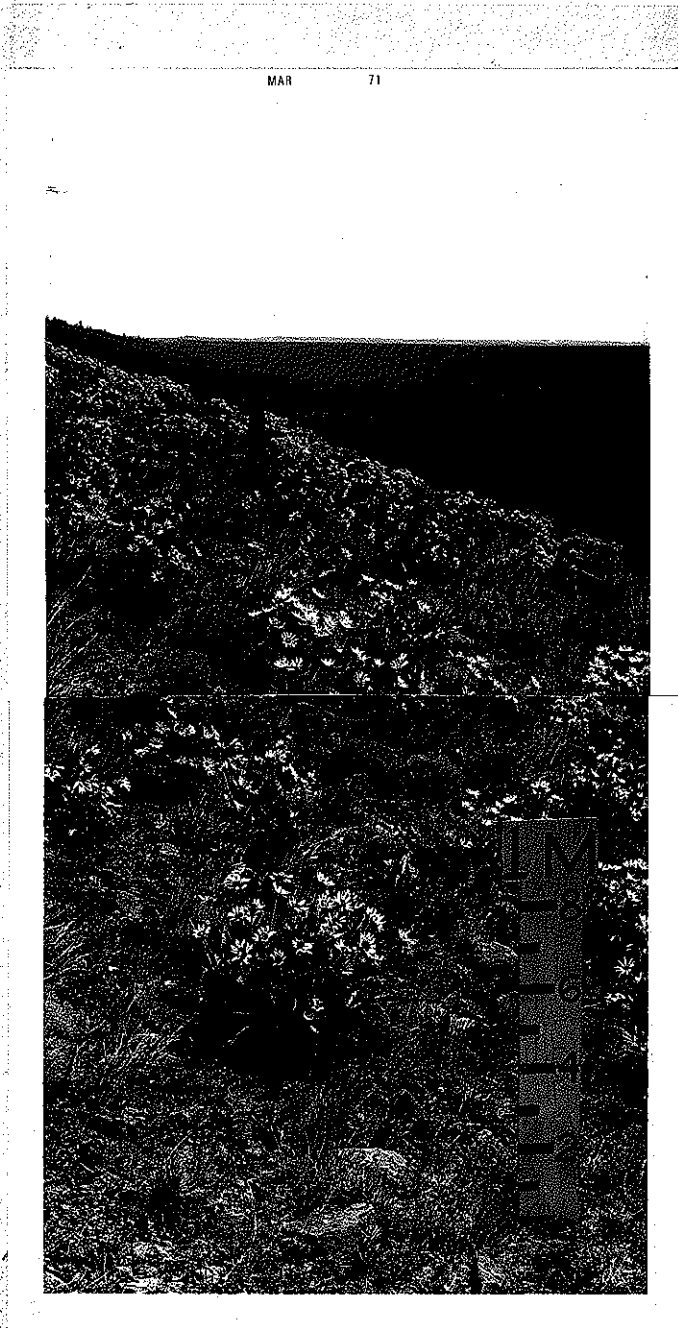
MILL CREEK RESEARCH NATURAL AREA

DESIGNATION ORDER

By virtue of the authority vested in me
by the Secretary of Agriculture under
36 CFR 251.23, I hereby designate as
the Mill Creek Research Natural Area the
lands described in the attached report by
Vincent Killeen, dated September 28, 1970;
Said lands shall hereafter be administered
as a research natural area subject to the
said regulations and instructions there-
under.

8-16-71 Edward P. Cliff
Date Chief

PROPOSED MILL CREEK NATURAL AREA



2. View S.W. from type 2. Grassland type in foreground dominated by arrowleaf balsamroot and bluebunch wheatgrass. Type 3 in center of picture showing dominance by Oregon oak and scattered ponderosa and fir. Type 1 at right edge of picture.

1. Bunchgrass opening, type 2. Dominants are arrowleaf balsamroot, bluebunch wheatgrass, Idaho fescue, and Sandburg's bluegrass with Stipa and some cheatgrass. Most openings are very similar to this.

PROPOSED MILL CREEK NATURAL AREA



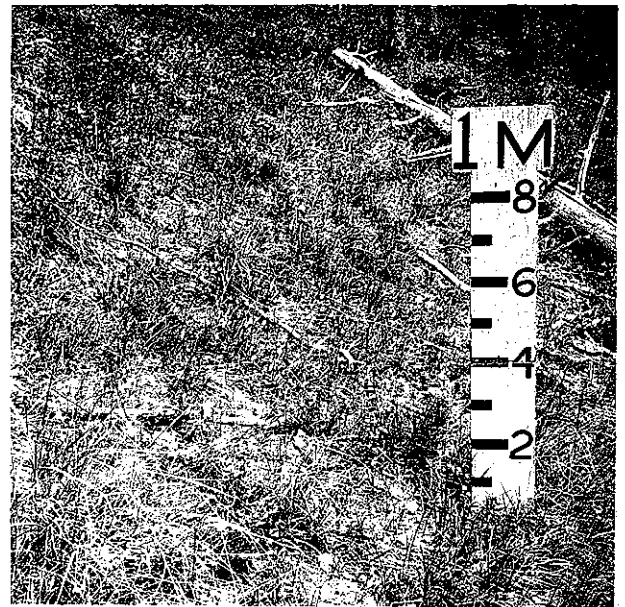
3. Example of type 3, nearly pure Oregon oak as shown in picture 2. Ground vegetation dominated by blue wildrye, snowberry, elk sedge, and forbs.

4. One condition in type 1. Over mature ponderosa with sapling and pole sized Douglas-fir. Ground vegetation is snowberry, elk sedge, and forbs.

PROPOSED MILL CREEK NATURAL AREA

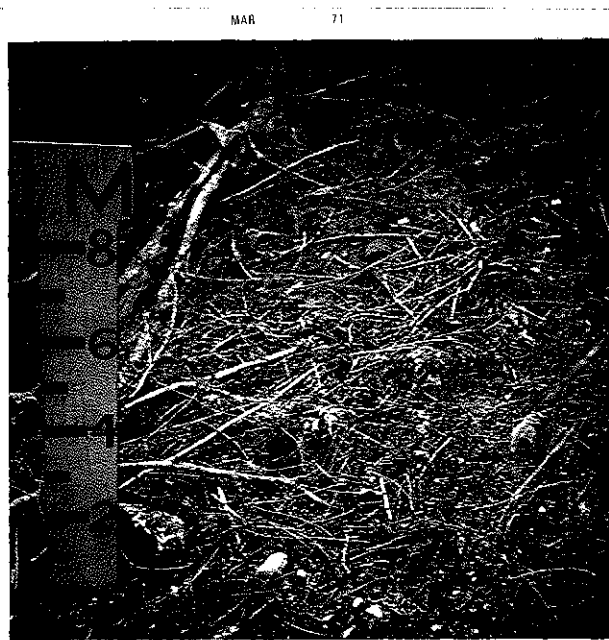
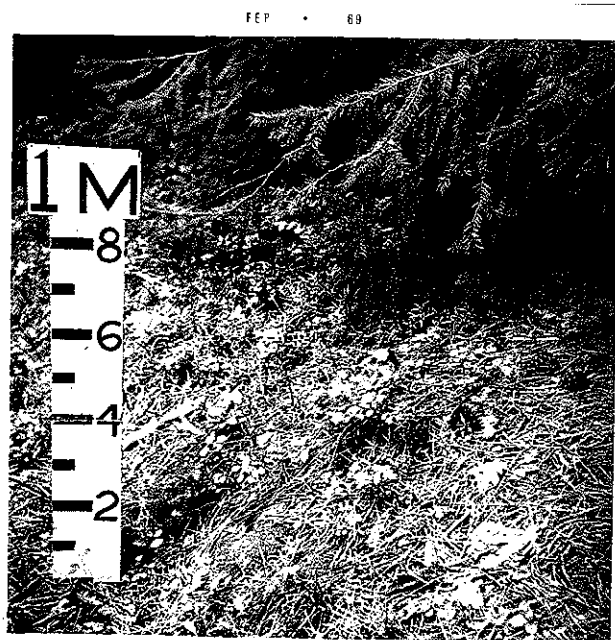
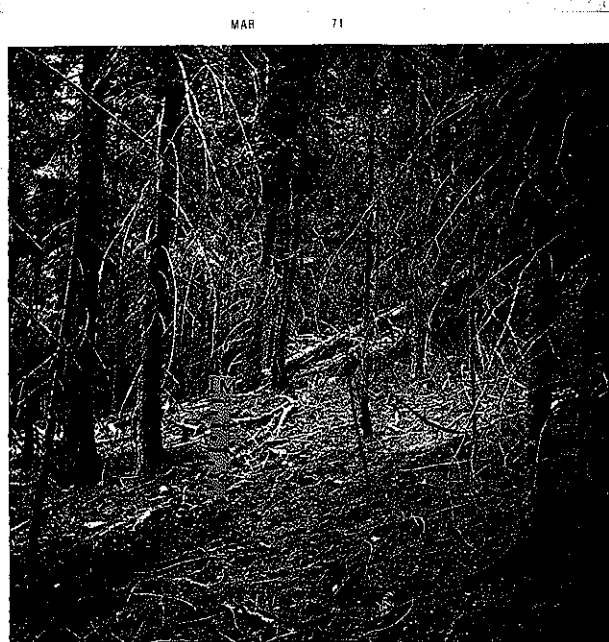
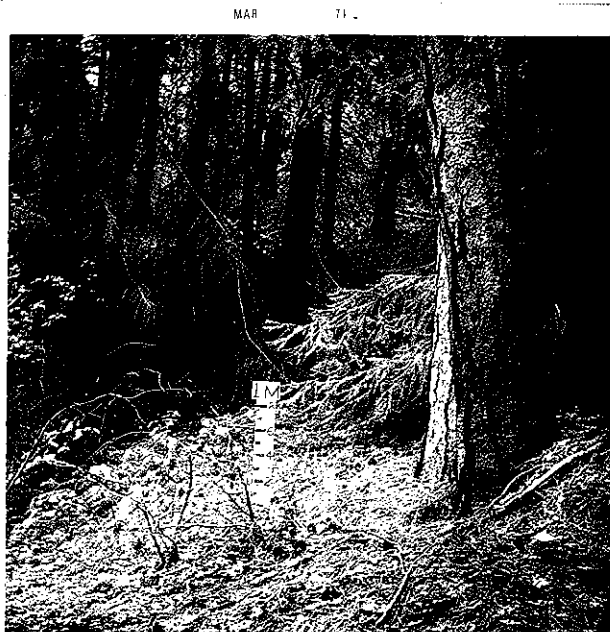


5. View across type 3 (with a few, small, grass openings) to type 1. Grassland is again dominated by arrowleaf balsamroot, bluebunch wheatgrass with Idaho fescue, Sandburg's bluegrass, Stipa, and cheatgrass. Picture 6 is typical of the Oregon oak (type 3) beyond the opening.



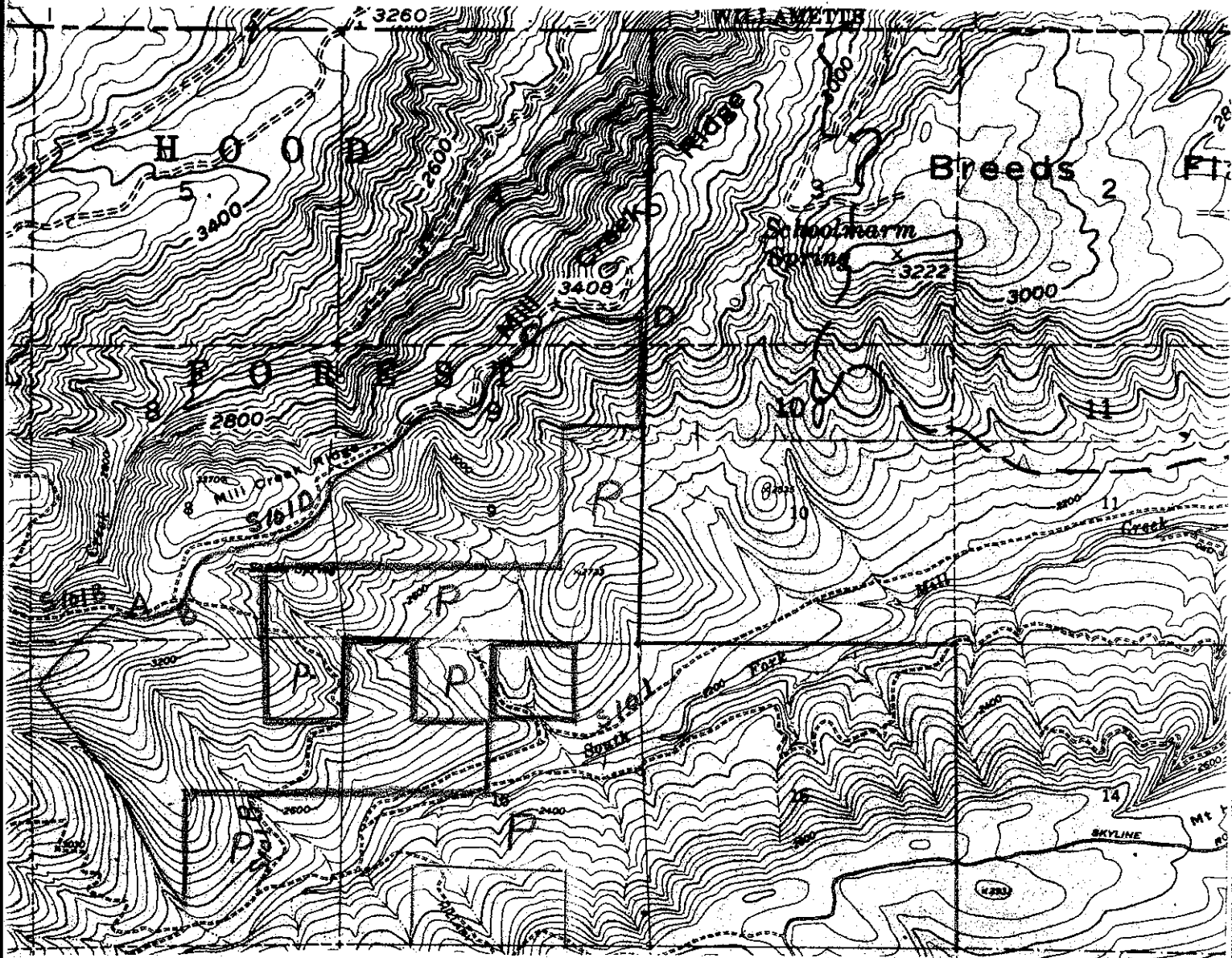
6. Oregon oak (type 3) with some ponderosa and Douglas-fir. Note the clear dominance of oak. In these larger colonies of oak, ground vegetation is dominated by elk sedge, bitterbrush and some serviceberry, Stipa, and wheatgrass. Surface soil is often undulating where Stipa and cheatgrass dominate lower ground and elk sedge-shrubs dominate higher ground.

PROPOSED MILL CREEK NATURAL AREA



7. South slope swale condition in type 1. Old growth ponderosa with younger white and Douglas-fir. Ground vegetation ocean spray, snowberry, elk sedge, and some forbs.
8. North slope condition in type 1. No ponderosa. Young, stagnated stand of white and Douglas-fir with very little ground vegetation.

MILL CREEK RESEARCH NATURAL AREA



MAP 1

VICINITY MAP

SCALE 2" = 1 Mile

LEGEND

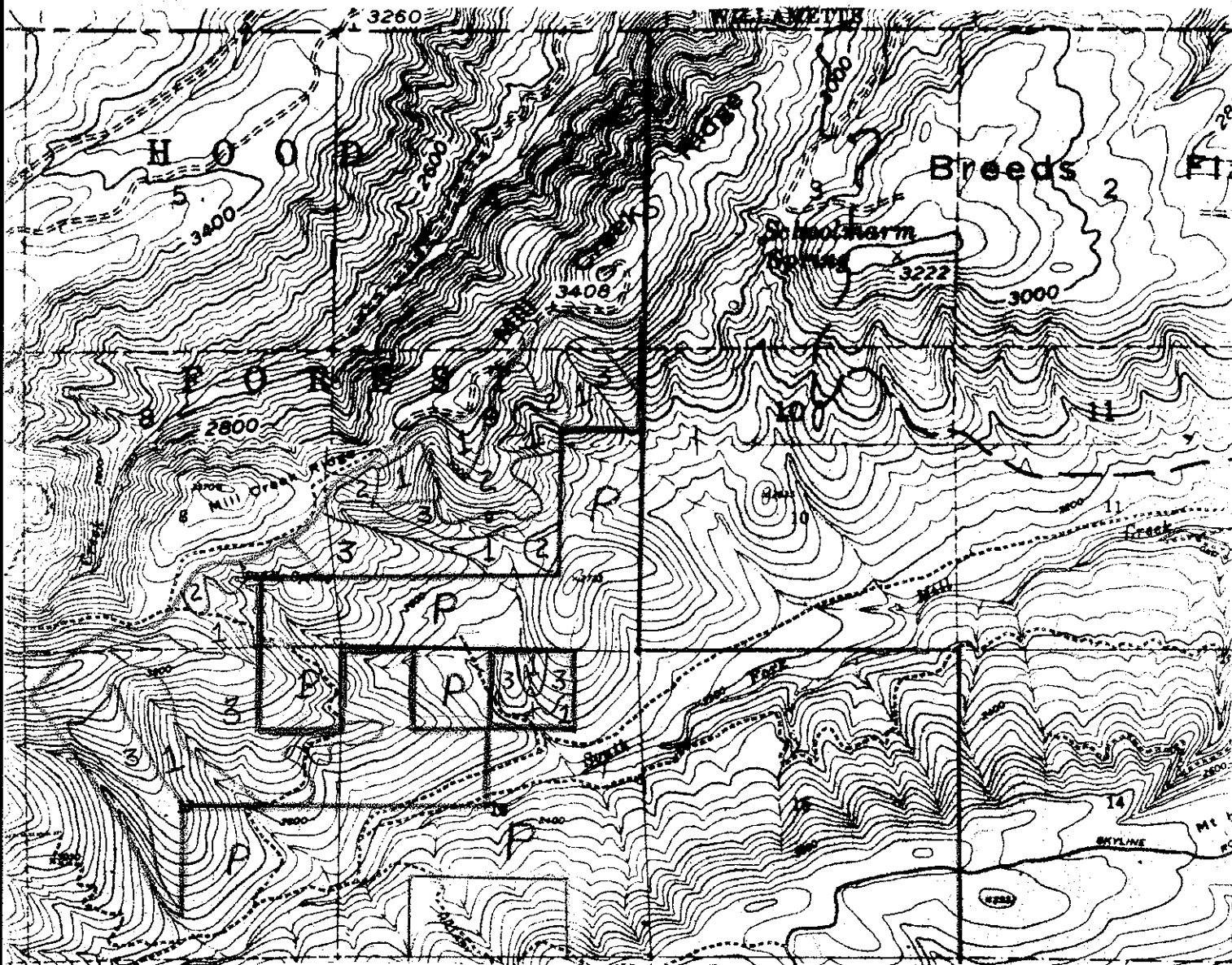
National Forest Boundary
Area Boundary
Private Land

=====

P



MILL CREEK RESEARCH NATURAL AREA



MAP 2

TYPE MAP

RILE

SCALE 2" = 1 Mile

LEGEND

TYPE 1 - - - D3E,P

TYPE 2 - - - G

TYPE 3 - - - 00,P2-,d



ESTABLISHMENT REPORT FOR THE
MILL CREEK RESEARCH NATURAL AREA WITHIN THE
MT. HOOD NATIONAL FOREST IN
WASCO COUNTY, OREGON

A. Principal Distinguishing Features

The Mill Creek Research Natural Area provides a variety of mixed stands of mature Douglas-fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), White fir (*Abies concolor*). In these stands the firs are in the majority both volume wise and numerically. The area also provides mixed stands of young growth ponderosa pine, Douglas-fir and Oregon white oak.

Non-forest types make up the remainder of the area.

The ponderosa pine and firs within the mature stands are approximately 100 feet tall with an average diameter of 20 inches. The ponderosa pine and firs in younger stands are approximately 45 feet tall with an average diameter of 10 inches.

The area can be considered as being in a natural condition now despite the fact man disturbed the area with selective logging operations in the late 1800's.

B. Location

The natural area is located in the Mill Creek Ridge area of the Barlow Ranger District, Mt. Hood National Forest, Wasco County, Oregon, and is within the boundaries of the Municipal Watershed for the City of The Dalles. It is irregular in shape.

C. Boundary

The topographic map included within this report shows the location of the boundary and of points referred to in the following boundary description.

The northeast boundary extends from a point 2000 feet south of the quarter corner of sections 3 and 4, T. 1 S., R. 11 E., W.M., thence south along the section line between sections 3, 4, 9, 10, T. 1 S., R. 11 E., W.M., to a point 1320 feet south of the section corner common to 3, 4, 9, 10, T. 1 S., R. 11 E., W.M. From this point the boundary extends west 1320 feet, thence 2640 feet south, thence 3960 feet west to a point on the section line between sections 8 and 9, T. 1 S., R. 11 E., 1320 feet north of the section corner common to sections 8, 9, 16, 17, T. 1 S., R. 11 E., W.M. From this point the boundary extends 1320 feet west, thence south 2640 feet, thence east 1320 feet, thence north 1320 feet, thence east 1320 feet to a point 1320 feet west of the quarter corner between section 9 and 16, T. 1 S., R. 11 E., W.M., thence 1320 feet south, thence 1320 feet east, thence south 1320 feet, thence west to the quarter corner of sections 16 and 17, T. 1 S., R. 11 E., W.M. The boundary extends west 2640 feet west from the quarter corner thence south 1400 feet to the draw containing the feeder branch of the South Fork of Mill Creek. The

boundary follows the draw northwesterly to the district boundary between Hood River District and Barlow District, Mt. Hood National Forest.

Said district boundary at this point being located 600 feet south and 250 feet east of the section corner common to sections 7, 8, 17, 18, T.1S., R.11E., W.M. From this point the boundary extends northeasterly to point A on Road S-101 B. From this point the boundary follows the south edge of Road S-101 B to its junction with Road S-101 D, point B. From B the boundary extends northeasterly 200 feet south of the center line of Road S-101 D for a distance of $1\frac{1}{2}$ miles to point C, thence $\frac{1}{4}$ mile east to point D, the beginning point on the northeast boundary.

The NW $\frac{1}{4}$ NE $\frac{1}{4}$, section 16, T.1S., R.11E., W.M. is part of the Mill Creek Research Natural area.

The area is within portions of surveyed sections 4, 8, 9, 16, 17, T.1S., R.11E., W.M.

Private lands are not included as part of the Mill Creek Research Natural area.

D. Area by Cover Type

The timber stand composition within the area are D3E,P and 00,P2-,d. Non-forested type G is also found within the 815 acres of this area.

Acres by type is:

D3E,P	=	410 acres
00,P2-,d	=	310 acres
G	=	95 acres

Ground cover is composed of herbaceous plants and woody shrubs.

E. Physical and Climatic Conditions

This natural area is on the eastern slope of the Cascade Mountains. Elevations range from 2600 feet near the South Fork of Mill Creek to 3408 feet at the old lookout site on Mill Creek Ridge. Slopes are nearly level to moderate. Summers are warm and dry with an average temperature of 58 degrees F. Winters are wet and cold with an average temperature of 30 degrees F. Precipitation ranges from 25 to 35 inches annually. Winter snow depth is three to four feet.

The area contains one spring. Intermittent creeks in moderately sloped draws cut down through the area in several places.

F. Description of Values

1. Flora and Soils

The "Soil Resource Survey for the City of The Dalles Watershed" prepared in 1970 by Paul Shields and Loren D. Herman, soil scientists for the Pacific Northwest Region classified the soil in the area as ranging from very shallow, slightly plastic cobbly loams overlaying well fractured dark gray hard basalt to moderately deep, slightly plastic grayish loamy fine sands overlying gray to dark gray andesite. These materials are well drained, moderately rapidly permeable and have weak surface stability strength.

The understory on the area designated map type #1 consists of Oregon grape, elk sedge, vanilla leaf, oceanspray and snowberry.

In contrast the vegetative cover on the area designated map type #2 ranges from cheat grass, western yarrow, arrowroot Balsam in the grass openings to Bitter Cherry, antelope bitterbrush stands with understory of subalpine needlegrass and bearded bluebunch wheat grass.

In further contrast the understory on the area designated map type #3 consists of antelope bitterbrush, pine manzanita, Sandberg bluegrass, elk sedge, Columbia needlegrass, blue wildrye and snowberry.

Photographs with description of vegetative cover within map types are included on pages 1a, 2a, 3a, 4a, of this report.

2. Geology

The rocks in this area are of volcanic origin and are primarily basalts and andesite rock, consolidate breccias and tuffs, volcanic ash sediments of recent to Pliocene geologic age.

3. Fauna

A few deer, silver gray squirrels, small birds and mice inhabit the area. An occasional elk or turkey will travel through the area.

G. Impact on Other Resource Values

1. Minerals

The Dalles City Watershed is closed to mining and public entry except for ingress and egress rights of owners of private lands within the municipal watershed.

Rocks are of volcanic origin with little metamorphism so there is little chance of commercial minerals being present.

2. Recreation

Present management of the municipal watershed excludes recreational use.

3. Water Use

This land is presently managed to protect the water resource. A natural area would not conflict with water production.

4. Timber

720 acres of the natural area is classed as commercial forest land and has been included in calculations of the allowable cut. It is calculated that the establishment of the natural area will reduce the allowable cut of the Mt. Hood National Forest by 101,700 bd. ft. This is based upon the calculated annual growth of 33,904 MBF on 221,540 acres of commercial forest land in the eastside working circle. (1960 inventory data).

$$720/221,540 = .3\% \text{ of Eastside Working Circle in Mill Creek Research Natural Area.}$$

$$.3 \times 33904 \text{ MBF} = 101,700 \text{ bd. ft./year}$$

The watershed cut of 6.8 MMBF for the Eastside Working Circle is allotted to the Barlow District. The natural area establishment would result in a reduction of the watershed cut from 6.8 to 6.7.

This value is a small percent of the allowable cut for the Mt. Hood National Forest and the present A.A.C. will not be adjusted for this withdrawal until a new A.A.C. based on the proposed 1972 reinventory for the Eastside Working Circle is calculated.

5. Other Uses

No power lines or other uses which would conflict are planned on this area.

H. Accessibility and Effect of Administration on Adjacent Forest Land

The natural area is located 115 miles from Portland, Oregon, a 2½ hour drive by car or pickup. It can be reached by traveling U.S. Highway 80N from Portland, Oregon to The Dalles, Oregon. The Skyline Road from The Dalles joins with Forest Road S-16 at the forest boundary located 15 miles southwest of The Dalles, Oregon. Forest Service Roads S-101, S101 B and S-101 D serve the area. All are classed as S112. Road S-101 B provides access to the west portion of the area. Road S-101 D provides access to the north and east portion of the area. Road S-101 provides access to the southeast portion of the area. These roads also provide access to privately owned lands immediately adjacent to the natural area.

I. Administration and Protection

The objective of management in the natural area will be to maintain natural conditions within the area for scientific and educational study.

1. The management direction for roads and other activities will be as follows:
 - a. Timber harvest, road construction and any other activity that would impair the natural state of the resources of this unit will not be allowed.
 - b. The roads which presently traverse this unit will be maintained only to the extent needed to handle the annual administrative traffic which uses these roads. These roads will be bettered and maintained in their present location in order to prevent continuing erosion and site deterioration. This will involve stabilization of cut and fill slopes, rock surfacing and installing additional culverts where needed.

2. Maps

The area boundary will be shown on the multiple use map for the Barlow Ranger District.

3. Signs

In accordance with R-6 standards, permanent boundary markers (metal signs) will be posted on the boundary of the research natural area. The project will be the responsibility of the Barlow District Ranger, and will be carried out as soon as funds are available.

4. Public Use

The Dalles City Watershed is closed to public entry except for ingress and egress rights of owners of private land within the municipal watershed and those portions of the natural area within said watershed.

Scientists will need a permit to enter the municipal watershed. Permit may be obtained by writing to the,

Barlow District Ranger
Mt. Hood National Forest
Dufur, Oregon 97021

J. Public Sentiment

Under the mutual agreement as outlined in "The Memorandum of Understanding between the Forest Supervisor, Mt. Hood National Forest and the City of The Dalles, Oregon" signed April 20, 1970, a watershed committee was formed. Committee participated in the development of

the Comprehensive Watershed Management Plan. This committee consists of representatives from the U.S. Forest Service and the City of The Dalles. The committee also includes representatives of other agencies such as the Soil Conservation Service and Oregon State Forestry. Private land owners of lands within and adjacent to the watershed were invited to participate in development of the plan.

The establishment of the natural area was discussed with the committee. There were and are no objections from the committee to the establishment of the natural area.

K. Recommendation

We recommend the establishment of the Mill Creek Ridge Natural Area for the following reasons:

1. The area contains good examples of mixed stands with contrasting vegetative understories. A study and evaluation of the relationship between and within these types can be made.
2. The natural succession of these stands can be studied under natural conditions.
3. Three types of plant communities can be studied and compared on different soils types.
4. The establishment of this area will not conflict with other uses.

