

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

4060

ESTABLISHMENT REPORT  
SISTER ROCKS RESEARCH  
NATURAL AREA



Gifford Pinchot National Forest  
Pacific Northwest Region

3. Designation Order:

"By virtue of the authority vested in me by Regulation U-4 of the regulations of the Secretary of Agriculture, I hereby designate as the Sister Rocks Research Natural Area the lands described in the report by Ralph K. Coon, dated 8/18/1966; said lands shall hereafter be administered as a natural area subject to the said regulations and instructions thereunder."

September 5, 1967  
(date)

Edward P. Cliff  
(Chief)

## Justification Statement

### Sister Rocks Research Natural Area

Sister Rocks Natural Area provides for adequate representation of forests wholly or largely dominated by Pacific silver fir in the Federal Natural Area System. It was selected after an exhaustive search to provide, in addition to dominance of the key species--silver fir, sites typical of commercial forest lands upon which this species is being managed. This coverage in the Natural Area System is necessitated by the importance of Pacific silver fir which, in terms of existing volume, is the most important upper-slope species.

Although several other natural areas exist which contain acreages of Pacific silver fir-hemlock type (SAF Type 226), only one (Hades Creek N.A., Olympic National Park) has any acreage in which Pacific silver fir is a dominant tree species. On the others (e.g., Lake 22 R.N.A., Mt. Baker National Forest) Pacific silver fir is a minor component making up, at best, only 10 to 20 percent of the stand volume (usually less) and occurring mainly in smaller (suppressed and intermediate) size classes. Hence, these natural areas are not generally useful for research on Pacific silver fir.

Pacific silver fir is commercially important in the Northern and Western Cascades--ecological segments of the Cascade Range.<sup>1/</sup> The Hades

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<sup>1/</sup> Franklin, J. F. Tentative ecological provinces within the true fir-hemlock forest areas of the Pacific Northwest. U.S. Forest Serv. Pacific Northwest Forest & Range Exp. Sta., Res. Pap. PNW-22. 1965.

Creek N.A., although largely dominated by Pacific silver fir, is in the Olympic Mountains on a site which is environmentally different from typical silver fir sites in the Cascade Range. Sister Rocks was selected as a site where soils and climate are typical of the Western Cascades; hence, research results from the area should have maximum applicability to managed silver fir stands.

In summary, Sister Rocks R.N.A. is the only natural area in which significant stands of Pacific silver fir are preserved on a site typical of those on which it has commercial importance.

Title:

Establishment Report for the Sister Rocks Research Natural Area, Within the Gifford Pinchot National Forest, Skamania County, Washington.

Text:

a. Principal Distinguishing Features

The area is a relatively wide ridgetop located above 3,600 feet in elevation. It is a good representative of the Pacific silver fir type in the Western Cascades province as described by Franklin. 1/

b. Location

The proposed area is located in parts of Sections 2, 3, 10 and 11, T 5N, R 6E, W.M. Uns.

The boundaries of this area are approximately as shown on the attached 4" per mile map, Exhibit 3.

A suitable physical boundary exists on the west and north sides of the area in the form of Roads N63 and future N63J.

A buffer zone 200 feet wide between the road and the actual boundary of the proposed natural area will be established to permit removal of danger trees to the road. Removal will be on an individual tree basis with logging to be done by cable or other methods which will be compatible with the requirements of retaining this buffer zone as nearly intact as possible.

c. Area by Cover Types

Timber type acreages are approximately:

<u>Type</u>	<u>Acres</u>
FM4 = a	46
FM4 = a, h	83
FM3 = a	27
FM2 = a	
D 5 = h	59
Total	<u>215</u>

The timber stand in the proposed area is very heavy to Pacific silver fir. Many areas are pure silver fir stands. The natural area could, therefore, be

considered a Pacific silver fir natural area. Western hemlock is the second most abundant species but many of the specimens of this species are scattered, very old, and decadent. The silver fir appears to be younger and much more vigorous on the average. A very few large old-growth noble fir and Douglas-fir are scattered through the proposed natural area.

d. Physical and Climatic Conditions

The proposed area lies astride the ridgetop between the Siouxon and Big Hollow Creek drainages at elevations between 3,600 and 4,200 feet.

The bulk of the proposed natural area is on slopes of 20 to 30 percent. Gentler slopes are found along portions of the ridgetop and steeper slopes, of 60 to 80 percent are found in the southwest part of the proposed area.

1/ Tentative Ecological Provinces Within the True Fir-Hemlock Forest Areas of the Pacific Northwest Research Paper PNW 22 4/65.

The area has high precipitation, probably on the order of 110 - 120 inches per year. Soils appear to be residual and range from very shallow to moderately deep.

e. Description of Values

1. Flora

The area contains a good sample of mature, nearly pure, Pacific silver fir type as well as a strip of old burn (about 1902) along its southern edge. It offers a unique opportunity to study the ecological progression of this species through all age classes in a natural stand.

2. Geology

John Arnold in his material Evaluating and Mapping Land Characteristics on Washington National Forests indicates the soils here as "BB size" pumice over soils originating from Andesites and breccias, moderately deep stony, with some silty deposits. The andesitic materials are probably pliocene in origin with the pumice, which is a relatively minor part of the soil mantle, probably from Mt. St. Helens in more recent times.

3. Fauna

The area is used by deer, bear, and smaller animals. Due to adjacent clear cut areas it may see some increase in their numbers.

4. Minerals

There are no known mineral claims or deposits in the

area.

5. Recreation

Trail #155 to Observation Peak Lookout from Road N63 passes through the area. It is used by minor numbers of berry pickers and hikers to the lookout and the berry fields near it. Little increase in use is foreseen.

6. Water Use

Waters from the west side of the area enter Slouken Creek and go into the North Fork of the Lewis River where they are utilized in Pacific Power and Light's hydroelectric projects. The contribution of this area is very minor, however.

7. Other Uses

There are no other present or foreseeable conflicting uses in the area.

f. Accessibility

The area lies approximately 35 miles (airline) north-east of Vancouver, Washington. Principal access is via State Highway 503 from Vancouver to the Chelatchie Ranger Station then by Clark County Road, Road N54, and Road N63 approximately 24 miles to the proposed natural area. From the road edge, trail #155 leads southerly through the proposed area.

g. Effect on Administration of Adjacent National Forest Land

There should be little, if any, effect on adjacent lands due to establishment of this proposed natural area. It lies above adjacent cuttings with the road on the west and north and the burn on the south constituting effective boundaries. On the east a projected road on the 3,600 foot contour will effectively bound the area there, too.

h. Arrangements for Administration and Protection

The area lies in the Wind River and St. Helens (formerly Canyon Creek) districts. It will be signed on the ground as well as marked on administrative maps and in plans. It should pose no problems of administration. Because its boundaries are relatively accessible it should not prove difficult to protect from fire and it can be checked readily to protect it from excessive public use.

i. Public Sentiment

There is little discernible local opinion either pro or con. The current North Cascades question has

generated more heat with hunters than other local groups, and since this area would not be closed to hunting we do not anticipate opposition on that point.

There may be some feeling against the area from local timber interests; but greater knowledge, to which this area can contribute, will lead to better yield figures and they stand to gain in the long run through the knowledge derived.

j. Recommendation

We recommend the establishment of this natural area as representative of old-growth Pacific silver fir-western hemlock type as it occurs at high elevations in the western Cascades of southern Washington.

8/18/66  
Date

Ralph K. Coon  
District Ranger

3. Approved:

9/23/66  
Date

Ross Williams  
Forest Supervisor

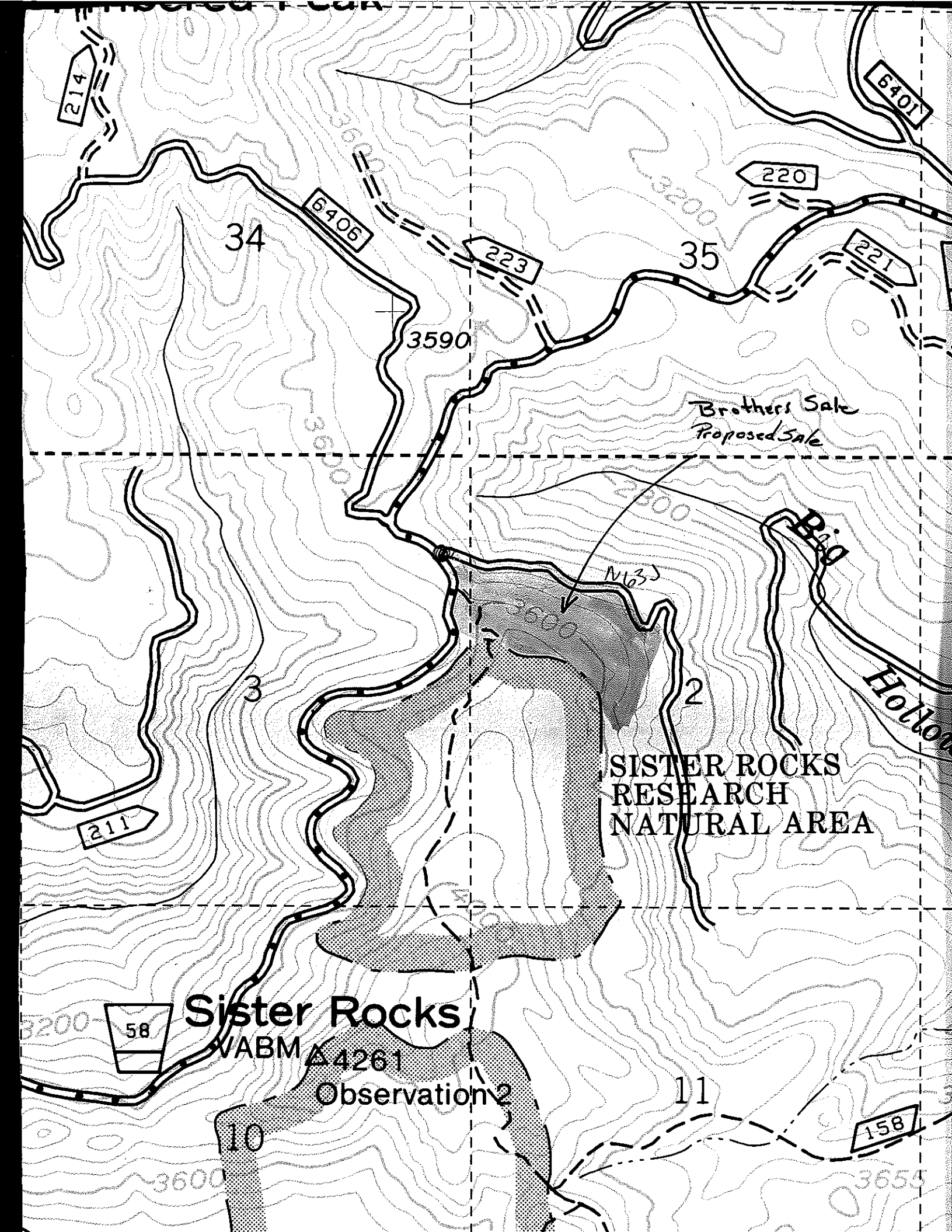
3/16/67  
Date

Philip A. Biegler  
Director

3/15/67  
Date

J. Herbert Stone  
Regional Forester





SISTER ROCKS  
RESEARCH  
NATURAL AREA

Sister Rocks

WABM Δ 4261

Observation 2

11

10

3600

158

3650

Brothers Sale  
Proposed Sale

N 163

34

35

3

2

3590

3600

3200

211

214

6406

223

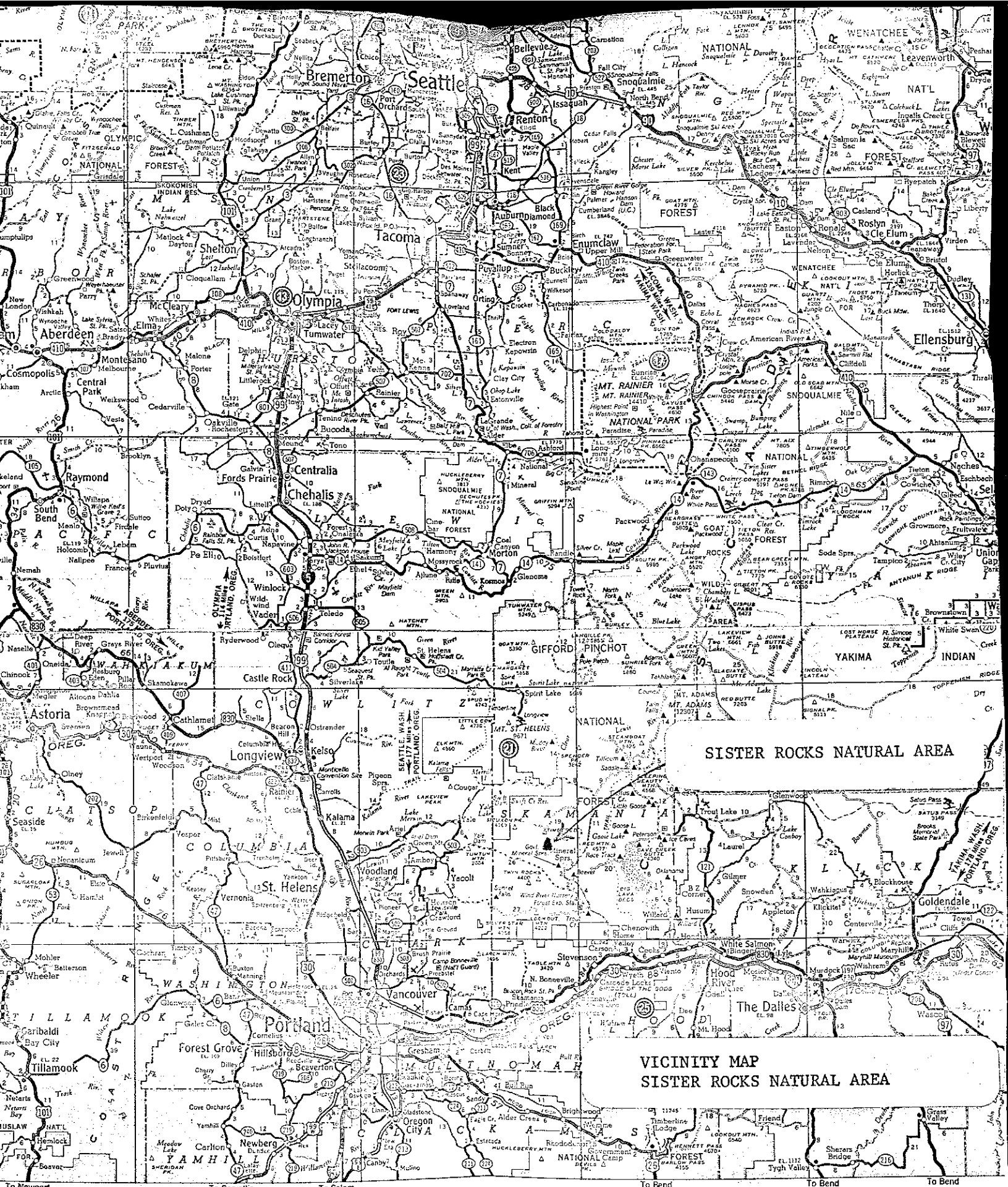
220

221

6401

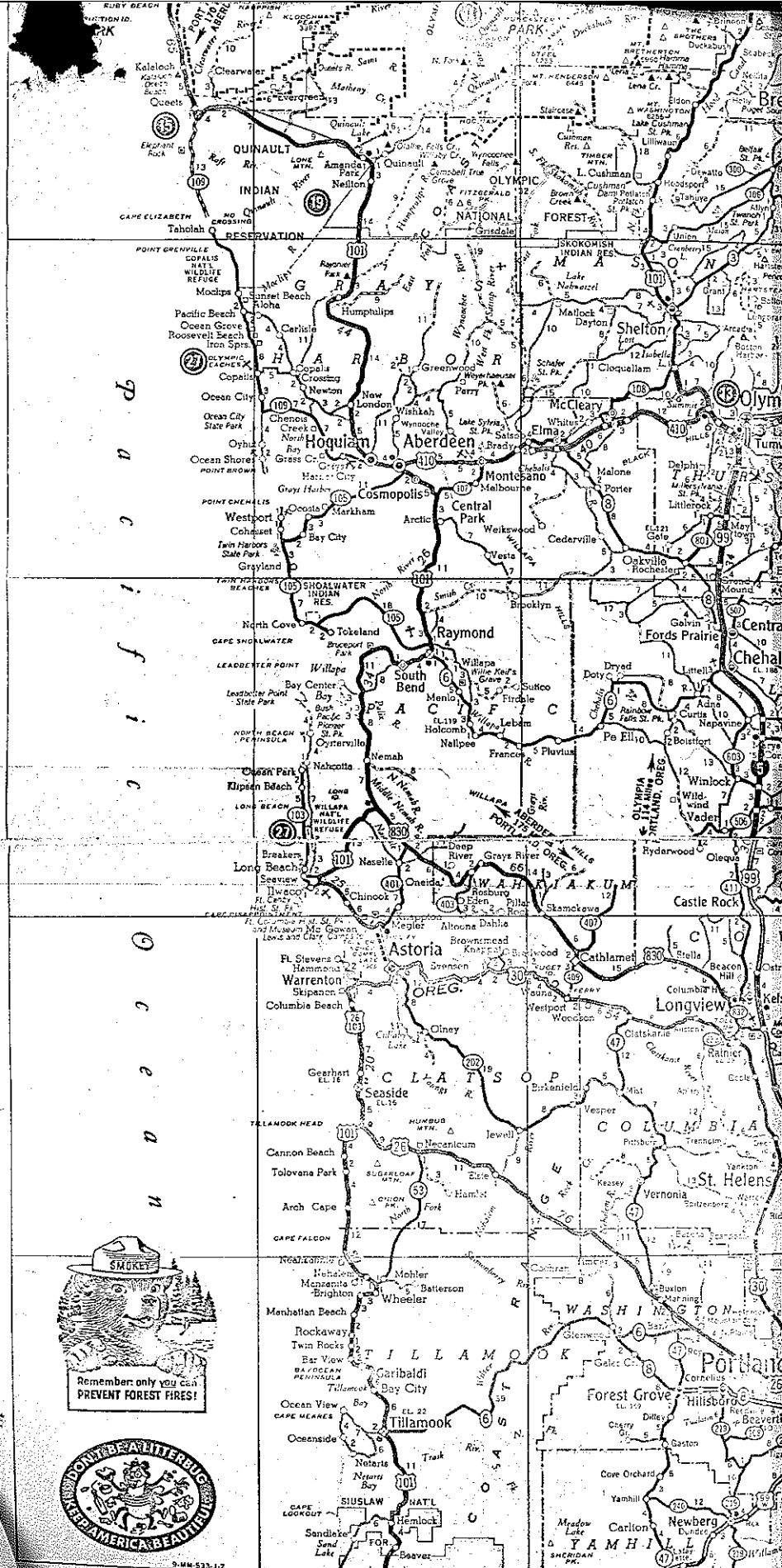
Big  
Hollow

58



VICINITY MAP  
SISTER ROCKS NATURAL AREA

D  
E  
F  
G  
H



9.MM.533.J-2

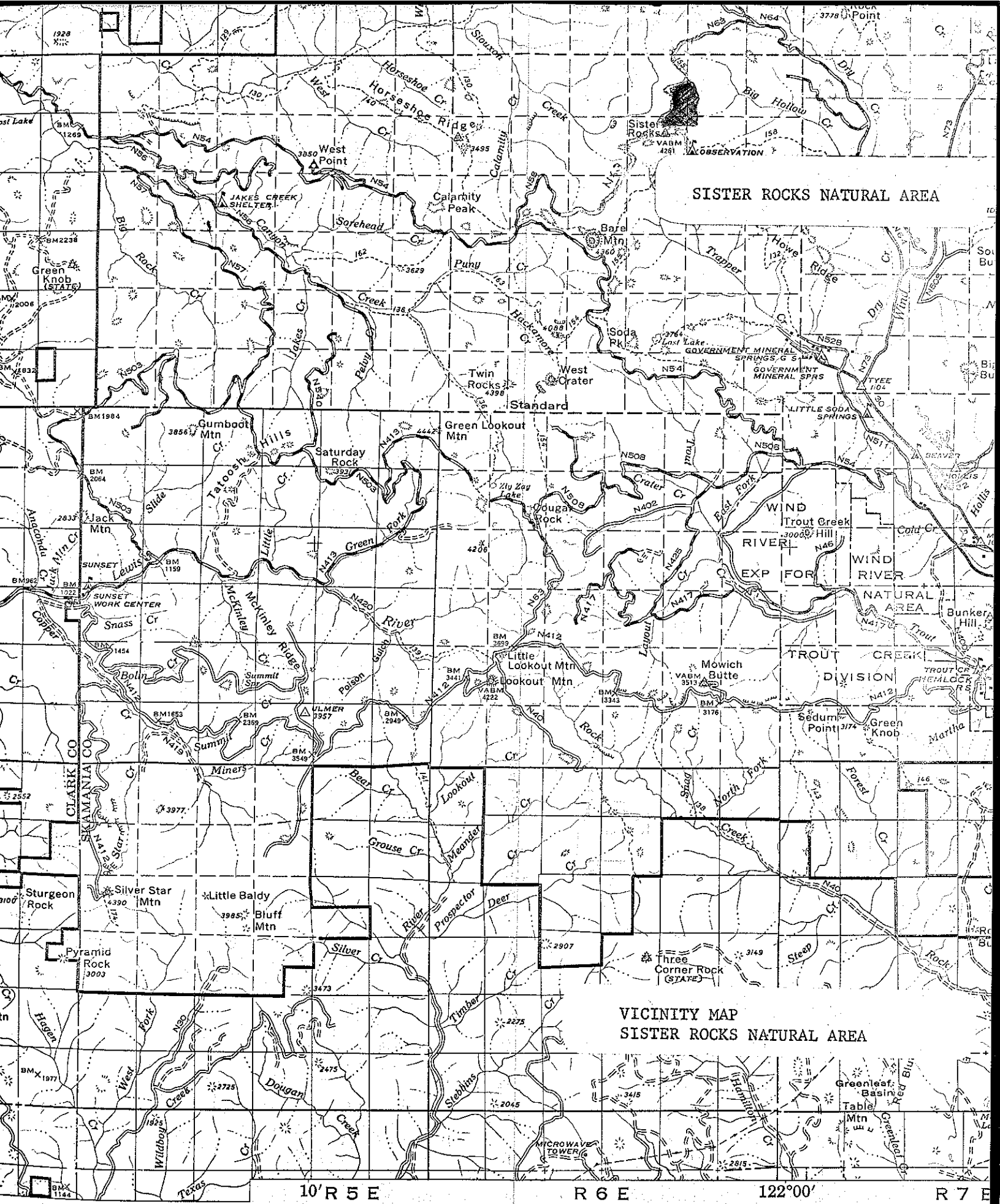
To Newport

To Corvallis

1

2

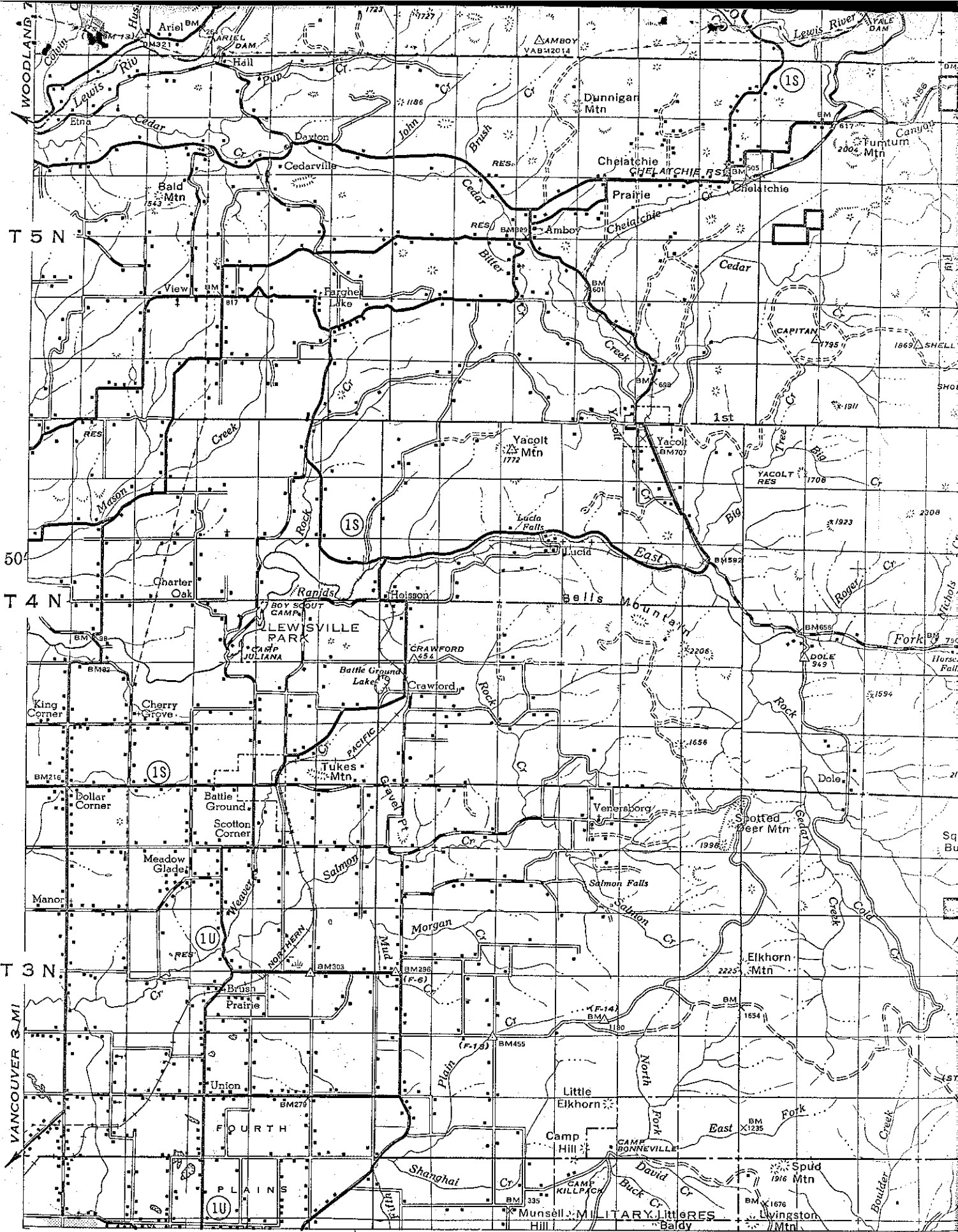
3



SISTER ROCKS NATURAL AREA

VICINITY MAP  
SISTER ROCKS NATURAL AREA

10'R 5 E R 6 E 122°00' R 7 E



GPO 983346

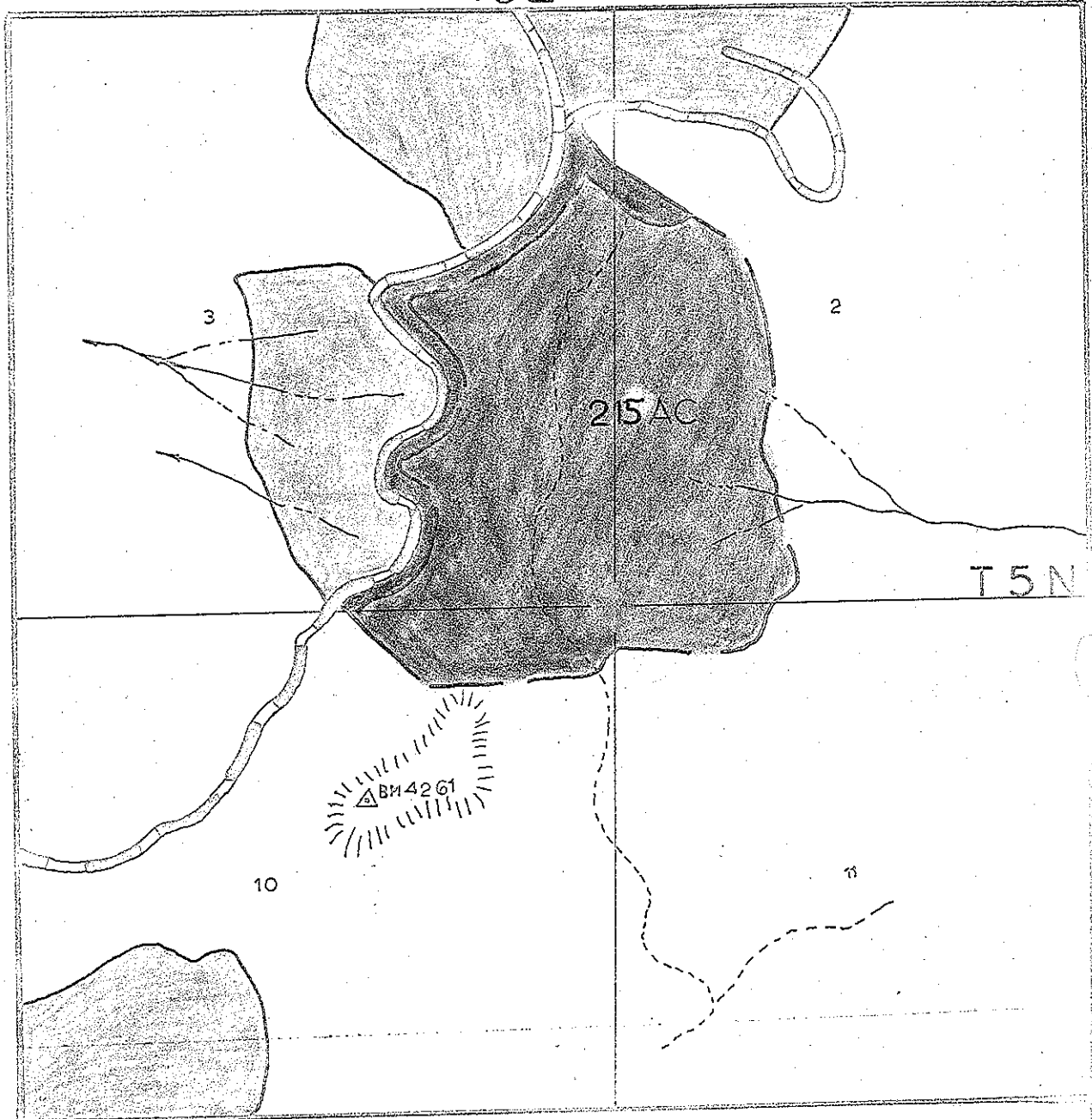
R 2 E

122°30'

R 3 E

20' R 4 E

R6E



T5N

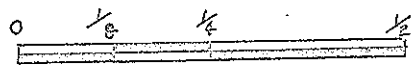
△ BM 4261

10

11

# PROPOSED NATURAL AREA SISTER ROCKS

LEGEND

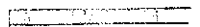


DATE FEB. 1 1966

Proposed Natural Area



Roads, Improved Rock



Existing Clear Cuts



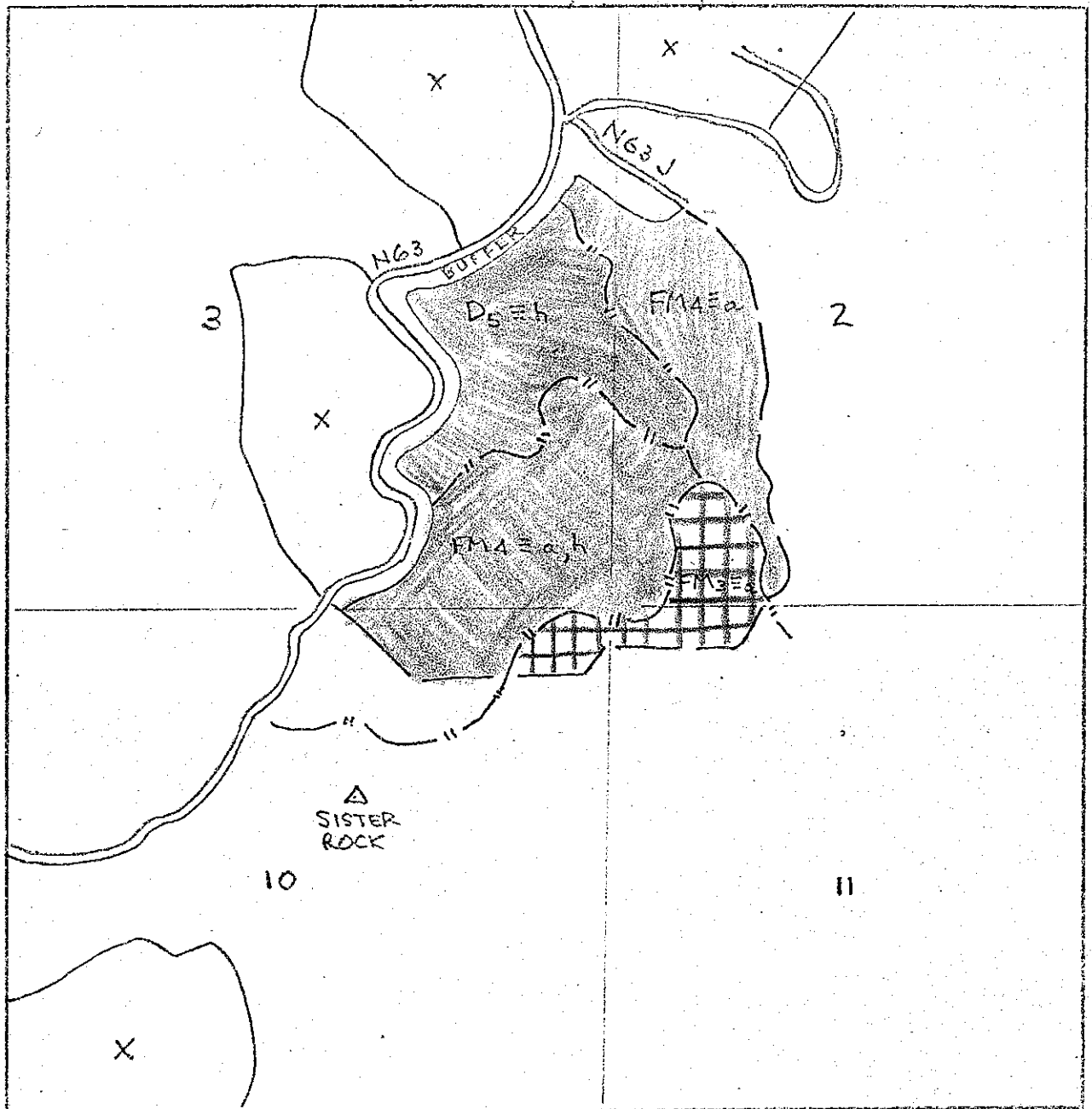
Trails



R/W Salvage Strip



T5N, R6E, W.M. UNS



# PROPOSED NATURAL AREA SISTER ROCKS

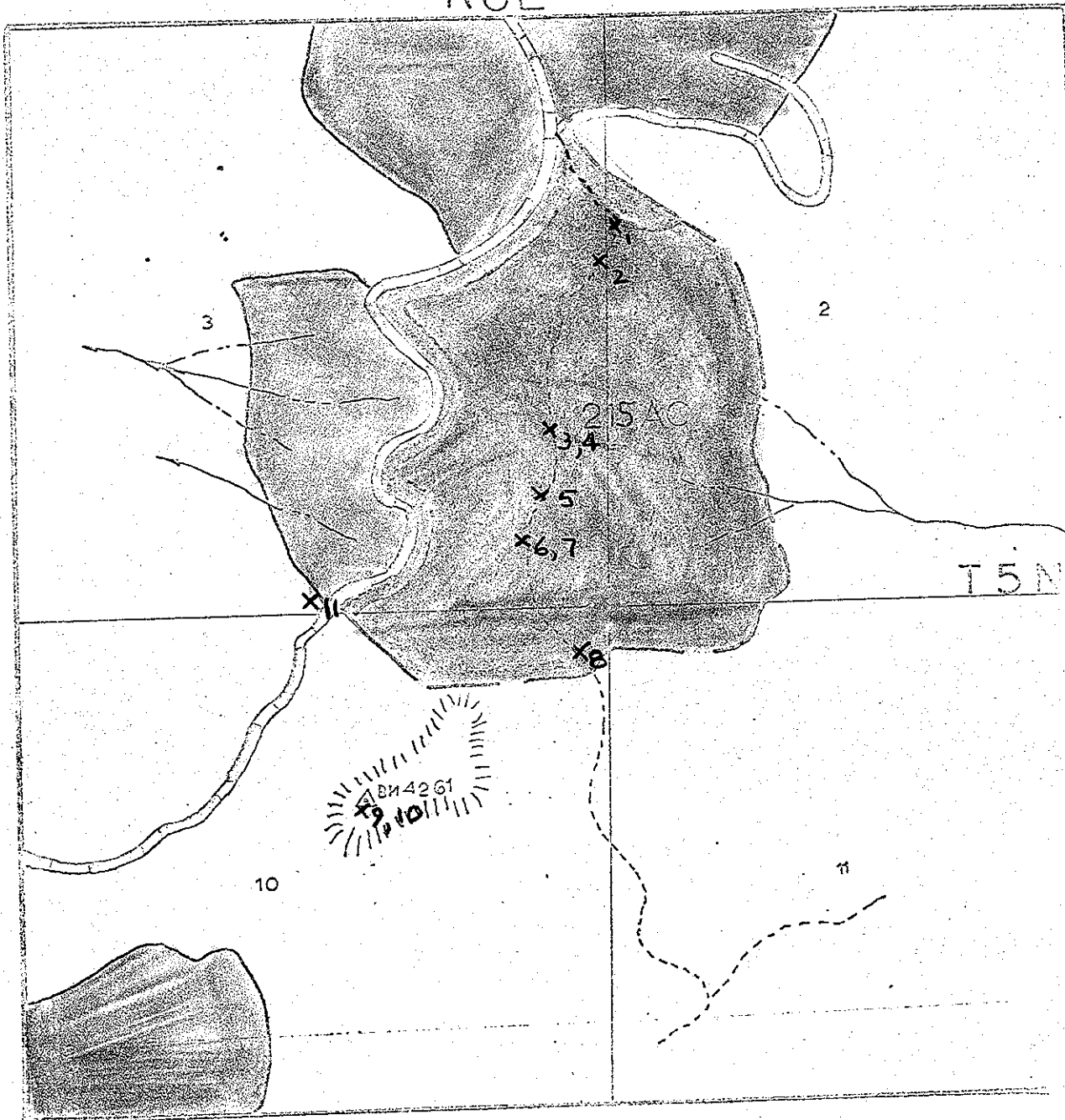
SCALE: 4" = 1 MILE

TIMBER TYPES

D5Eh	59A
FM4Ea	46A
FM4Ea,h	83A
FM3Ea	27A
	<hr/>
	215A

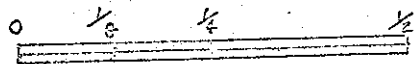
RKC 8/15/66

R6E



# PROPOSED NATURAL AREA SISTER ROCKS

LEGEND

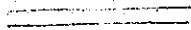


DATE FEB. 1 1966

Proposed Natural Area



Roads, Improved Road



Existing Clear Cuts



Trails



R/W Salvage Strip

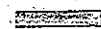


PHOTO POINTS

X<sub>1</sub>



Photo list - Sister Rocks.  
All points marked with 2"x2"  
Aluminum tags.



Photo #1 Approximately 1,000 feet in on trail from road N63. Photo point is a small silver fir about 15 feet east of the trail.



Photo #2 Approximately 1,250 feet in on trail. Azimuth 220°. Point in trail.



Photo #3 Approximately 3,000 feet in on trail. Azimuth 26°. Photo point in trail.



Photo #4 Same point as Photo #3. Azimuth 178°.



Photo #5 Approximately 3,500 feet in on trail. Azimuth 30°. Dense reproduction in small opening.



Photo #6 Approximately 4,250 feet from road. Azimuth 66°.



Photo #7 Same point as #6. Azimuth 326°.



Photo #8 Approximately 5,280 feet from road N63. Azimuth 342°. FM3 type.



Photo #9 Observation #2 Triangulation point. Azimuth 26°.

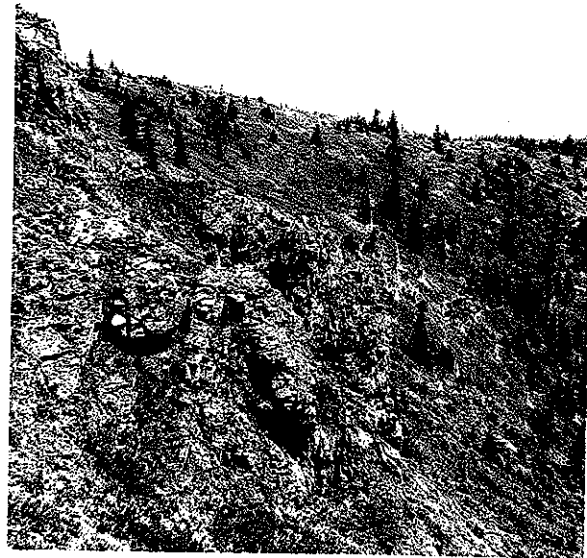


Photo #10 Azimuth 90° from Observation #2 Triangulation Point. Shows old burn.



Photo #11 Point on road N63 at edge of clear cut. Azimuth 62°. General view of west side of area.