

UNITED STATES DEPARTMENT OF AGRICULTURE  
FOREST SERVICE

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April 15, 1953

PACIFIC NORTHWEST FOREST EXPERIMENT STATION  
PORTLAND, OREGON

QUINAWALT NATURAL AREA  
CLATSOP COUNTY, OREGON  
REPORTING THE STATE SPECIES LIST

Quinault  
Natural  
Area



April 15, 1931

QUINAVULT NATURAL AREA  
OLYMPIC NATIONAL FOREST  
REPRESENTING THE SITKA SPRUCE TYPE

The proposed natural area is contiguous to a vast area of similar forest type all of which will probably be cut under some form of forest management. This particular area is admirably suited, both from the standpoint of location and composition, for the purpose of preserving the present virgin forest conditions and the ultimate development of the climax types for research and educational purposes. Cutting is in progress in the region, and research work in this type is already under way in the immediate vicinity. The area is traversed by the Olympic Highway and is within a mile of hotel accommodations; therefore, it is readily accessible for scientific and educational purposes.

1. Description of the Area

The lands lying within the proposed area include all of Section 31, except about 5 acres cut off the northwest corner by the Quinault Indian Reservation,  $W\frac{1}{2}$  and  $W\frac{1}{2}NE\frac{1}{4}$  of Sec. 32, T 23 N, R 9 W, and the  $NE\frac{1}{4}$  of Section 6 and  $W\frac{1}{2}$  of  $NW\frac{1}{4}$  of Section 5 in T 23 N, R 9 W, W.M. Part of it lies on the headwaters of Willaby Creek and drains north into Lake Quinault. The rest drains south and west through small tributaries of the Quinault River. It lies along the Olympic Highway about a mile south of Quinault and constitutes a solid block of timber  $1\frac{1}{2}$  miles square extending from the base of the mountains west across the flat toward the Quinault River. The total area is approximately 1435 acres, all of which is national forest land within the Olympic National Forest.

## 2. Acreage of Cover Types

The entire area is timberland bearing commercial timber stands. A type map is attached.

## 3. Physical and Climatic Conditions

The tract varies in elevation from 400 to 1,000 feet, but most of the area lies between the 400 and 500 foot contours. Except for the steep slopes along the east boundary, the area is flat or gently rolling. Several small streams have their source within the area, and some portions of it are very moist or even swampy. Some of the streams are branches of Willaby Creek that drains north into Lake Quinault; the other streams that flow west and south are small feeders of the Quinault River. Lake Quinault lies about a mile north, and its elevation is 200 feet below the lowest part of the area.

The soil is a shot loam with some loose rock. On some parts of the area there is a heavy accumulation of duff and humus.

The average annual rainfall is 122 inches at Quinault; rainfall at other points along the coast that lie within the type boundary is as follows: Tatoosh 84 inches, Aberdeen 83 inches, South Bend 87 inches, and Tillamook, Oregon 97 inches. The rainfall in this particular locality is higher than most other points within the range of the type, but this is probably compensated for by the fact that it lies farther (25 miles) inland and receives less fog. The precipitation in this locality varies considerably from year to year (35 per cent below normal in 1929), and often has a drought period during the summer months when comparatively little rain falls for a month or more.

The average annual range of temperature is from 5° to 100° F.

The average frost-free period for the region is approximately 190 days.

#### 4. Forest Value

The Sitka spruce (or fog belt) type often runs heavy to western hemlock, western red cedar and, on the better drained areas, to Douglas fir; therefore it was considered advisable to include such areas since they occur within the boundaries that include the particularly desirable stands of Sitka spruce.

The attached type and stand maps taken from the intensive reconnaissance sheets show the general type boundaries, distribution of species, and density of stand.

The finest stands of old growth timber in the Sitka spruce type proper are found in the central and northeast portions of the area in the Willaby Creek drainage; trees 6 feet in diameter above the butt swell with straight, clean boles are not at all uncommon. Spruce continues to predominate in the stand from the central portion of the area to the southwest corner, but there the trees are not as large and are probably of a younger age class. Absolutely pure stands of spruce are not to be found, at least a small percentage of hemlock appearing in all parts of the area. There are approximately 400 acres classed as Sitka spruce type proper.

The northwest corner of the tract is classed as cedar type. There the age classes vary from a young stand of cedar, hemlock, spruce and Douglas fir to a similar stand, but having a scattering of large old growth cedars in it, or to a solid stand of large old growth trees

of all four species but cedar predominating. The area of this type is about 200 acres.

A knoll in the center of the tract and a well drained area of similar size between the highway and the west boundary contain a higher percentage of Douglas fir than other species and are therefore classed as Douglas fir type. Each of these areas cover about 30 acres making a total of 60 acres for the type.

On the steeper slopes along the east boundary, the stand runs heavy to hemlock. The width of this strip is a quarter mile at the north boundary and increases irregularly to three-quarters of a mile at the south boundary. This area of hemlock type, comprising about 500 acres, contains considerable spruce and a light mixture of cedar, Douglas fir and balsam fir, but patches of considerable size are practically pure hemlock. Along the west boundary of the area, particularly the central portion, extending eastward to the highway and in some instances a quarter mile beyond there, is a comparatively young stand consisting chiefly of hemlock, but like the other hemlock area, it contains a considerable mixture of spruce, cedar and Douglas fir. On much of this area the trees are under 2 feet in diameter. This young stand is of particular interest for two reasons: first, being young it will probably be more windfirm than the older stands and will tend to protect the older stands from the heavy southwest winds; second, when the existing old stands have passed the peak of development and are going into decay, these younger stands will be just approaching maturity and will permit comparison of the two stages. This young stand now classed as

hemlock type includes the remaining 275 acres required to make up the total of 1435 acres in the tract.

All except the last mentioned area contains a stand of mature or overmature timber, and the entire 1435 acres contains merchantable timber at the present time. According to the reconnaissance figures, the area contains approximately 84,000 M feet b.m., the proportion of species by forties is shown on the attached stand map. Logging is now in progress in the immediate vicinity of the area on national forest, Indian reservation, and private land.

The area is essentially a timber producing tract and has never been considered from a watershed protection standpoint.

Reproduction or young growth on the proposed reservation occurs in the form of an understory, in varying densities over the entire area. It consists chiefly of hemlock but has some cedar throughout and, in the more open places, some spruce, Douglas fir and balsam fir. This understory has attained considerable size in some parts and is approaching the old stand in height, while on other parts of the area it is just getting started.

There is a brush ground cover of salal, huckleberry, salmon-berry, and other species that varies greatly in density over the area, but in general is not as dense as exists elsewhere in the fog belt region.

There is evidence that the area was burned over before the present stand was established, and in parts there are signs of later ground fires that killed occasional trees, but there are no very recent fire scars on the trees of this area.

— FIRE

The area is admirably suited to fit into the general scheme of practical forest management of that section of the forest. In addition to being readily accessible for scientific and educational purposes and adding a charm to the Olympic Highway that passes through it, it will in no way interfere with the management of the recreation reservation that joins it on the north or the sale of timber adjacent to its other boundaries. It only reduces the amount of timber for sale to the extent of the amount within its boundaries.

In past years there has been a small amount of cutting of dead cedar for posts on the area, and during the World War the Spruce Production Division cut two short skidways into the area and took out a few trees. This cutting combined with that necessary for the Olympic Highway and the old pioneer road was not sufficient to upset natural conditions materially. At present there is no use being made of the timber on the tract, and it is impossible to foresee why a future need for anything contained within its boundaries could not be supplied from other areas.

*Spruce removal*

#### 5. Agricultural Value

No portion of the tract is now or ever has been cleared for agricultural use; it is not likely that any part of it will ever be in demand for such use because of soil and climatic conditions and the difficulty and expense of clearing such land.

#### 6. Grazing Value

There is no grass land within the tract. The only grazing use the area has had to date is browsing by game animals--deer and elk. The latter are now rather numerous on the area and may become more so as they are now given complete protection.

### 7. Mineral Value

No mineral examination was made and at the present time the area has no known mineral value. The topography and the amount of mineralization that exists in the surrounding country indicate that the prospective mineral value of this land is practically nil.

### Value of Area for Other Public Uses

Recreation is the only other possible public use that this area could be put to, and it is not well suited for that. Furthermore that use is adequately taken care of for all time by the recreational reservation that joins the area on the north and extends completely around Quinsault Lake.

### Transportation Facilities

Grays Harbor may be reached by plane, auto, train, or boat, and the area lies 40 miles north of there on the Olympic Highway which is open throughout the year for auto and stage transportation; also hydroplanes occasionally land on Lake Quinsault, which is one mile from the area. In another year the Olympic Highway will be completed, making the area available to the cities in the northern part of the Olympic Peninsula. Lake Quinsault is a resort of some note, the Quinsault Hotel being one of the finest resort hotels in the Northwest. The area itself is available by auto and foot travel as the Olympic Highway crosses it from north to south along the west boundary, and the "Pioneer Trail" winds its way from north to south along the east boundary. In addition two short skiways from the highway to the center of the tract furnish good foot ways, and the area is traversed by a network of game trails.



### Public Sentiment

Public sentiment is strongly in favor of setting aside this area to be preserved in its natural state, and this sentiment has been variously expressed by individuals and organizations noteworthy among which is the Grays Harbor Women's Club. Scientists and students recognize the true value of the tracts and general public and resort people are in favor of it because it will preserve for all time the scenic charm of the highway as it passes through this heavy timber at the approach to the lake from the south.

### PLAN OF MANAGEMENT

This area is set aside for the purpose of maintaining a tract of the Sitka spruce type in its natural state. The management of the area therefore will consist chiefly of protection against fire, grazing, cutting, trespass or disturbance of any sort that will disturb natural conditions. It will be handled by the Supervisor and his staff as on contiguous national forest lands.

Signs and Boundary Marking - Distinctive signs should be posted along the highway and where people might enter the area along trails or streams, to inform the public of the purpose of the reservation and warn against cutting of trees, digging of plants, etc. To facilitate the management of the area and prevent unintentional trespass or disturbance, the boundaries of the area should be run out and adequately marked by blazing and signs or other means, particularly at points where people might enter the area. In some instances it may be necessary to do some brushing out in order to make the boundary conspicuous.

Roads and Trails and Other Improvements - Because of the dense nature of the forest, ways into it are necessary for fire protection and to make possible the use for which it is set aside--observation and study.

The "Pioneer Trail" that winds its way along the east boundary, the Olympic Highway crossing the west side of the area, segments of the old road that parallel the highway, and two short skidroads that run at right angles to the highway are the existing ways into the area. If the two short skidroads leaving the highway were transformed into foot trails and extended to connect up with the "Pioneer Trail" and the trails then well maintained, they would furnish adequate access to the area and no further road or trail construction would be necessary. At the present time there is no apparent need for fencing, firebreak construction, or other improvements.

Fire protection - The fire protection of the area will be handled by the regular protective force like other national forest lands. Special care should be taken to eliminate or reduce the fire hazard when cutting takes place on lands adjacent to the boundaries of this area. The Supervisor suggests that adjoining timber be selectively cut when feasible as an added precaution to prevent fire and windfall loss.

Timber Cutting - Since the area is to be maintained in its natural state, no further cutting of either living or dead trees should be permitted, except such as is necessary for road or trail construction or in an emergency such as fire fighting.

Grazing Use - No grazing of domestic stock will be permitted on the area. Since the area is not well suited for that purpose and there is practically no demand for such use, there should be no difficulty from that source. At the present time there is considerable grazing or rather browsing and trampling by wild animals such as rabbits, mountain beaver, deer and elk. This has existed for ages, and since the animals including the Olympic elk are native to the region, the condition may be considered natural, but the elk are now rigidly protected and there is a slight danger that they might become sufficiently numerous to somewhat upset natural conditions. There were well used trails and considerable other evidence of their presence when the area was examined in January, 1931.

Special Uses - There is no demand for special uses on this area that can not be provided elsewhere and none should be granted.

Relation of this Area to Research Work of this Region - Considerable research work has already been done in adjoining portions of Grays Harbor County, particularly in nearby logged-off lands. It is probable that much more work will be concentrated in this vicinity, considering it a center for fog belt studies. This area will, therefore fit in very well as an example of virgin timber conditions.

Technical Examination and Description - As opportunity affords, a detailed technical examination of the area should be made by the Experiment Station and a report prepared. This report will form the foundation or beginning of the written life history of the area and should include for the different types and age classes on the area, a description of the soil profile and flora and should include

photographs from established photo points. From time to time as changes come about, progress reports will be prepared.

Proviso for Recreational Uses, etc. Along Highway - On a strip 1000 feet wide on each side of the Olympic Highway as now located, recreational, commercial, or administrative uses of the land will be permitted where it is determined by the Regional Forester that such uses can not be accommodated elsewhere on the national forest without detriment to the public interest, but only under conditions that the area so used will be limited to the smallest possible area compatible with such usage.

Deviations from Management Plan - The area will be administered by the local forest supervisor according to this management plan exclusive of technical or scientific work done. No deviations from the plan should be made without the joint approval of the Regional Forester and the Director of the Experiment Station.

Revised page 11 of Quinault Natural Area report of April 15, 1932.

\_\_\_\_\_  
Forest Supervisor

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Assistant Silviculturist

Approved:

_____ Director	_____, 1931
_____ Supervisor	_____, 1931
_____ Regional Forester	_____, 1931
_____ The Forester	_____, 1931

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*Approved*

*W. L. Plumb*  
Forest Supervisor  
*Leo A. Isaac*  
Assistant Silviculturist

Approved:

*Winston P. Muzer*  
Director

*April 29* 1931

*W. L. Plumb*  
Supervisor

*April 30* 1931

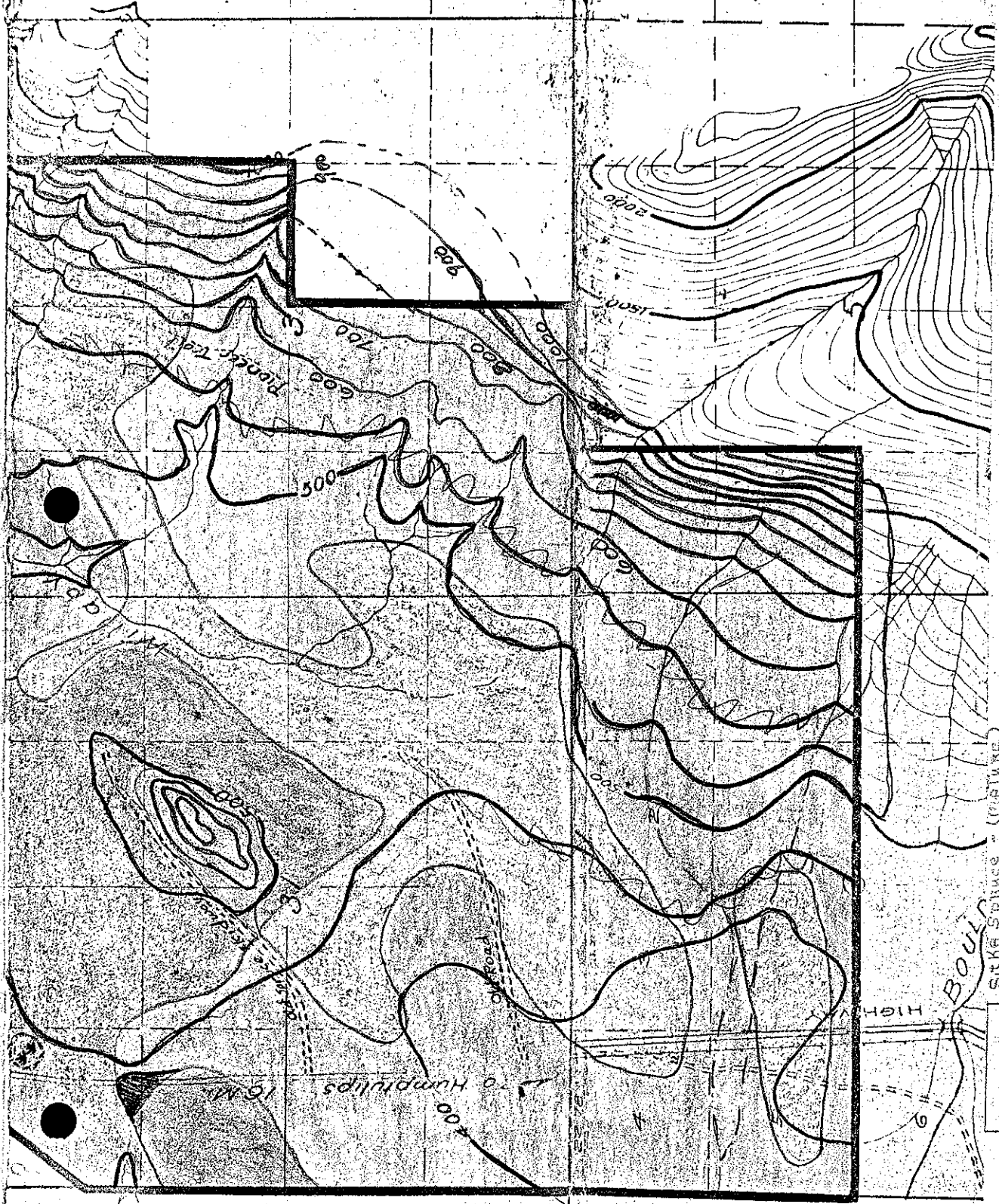
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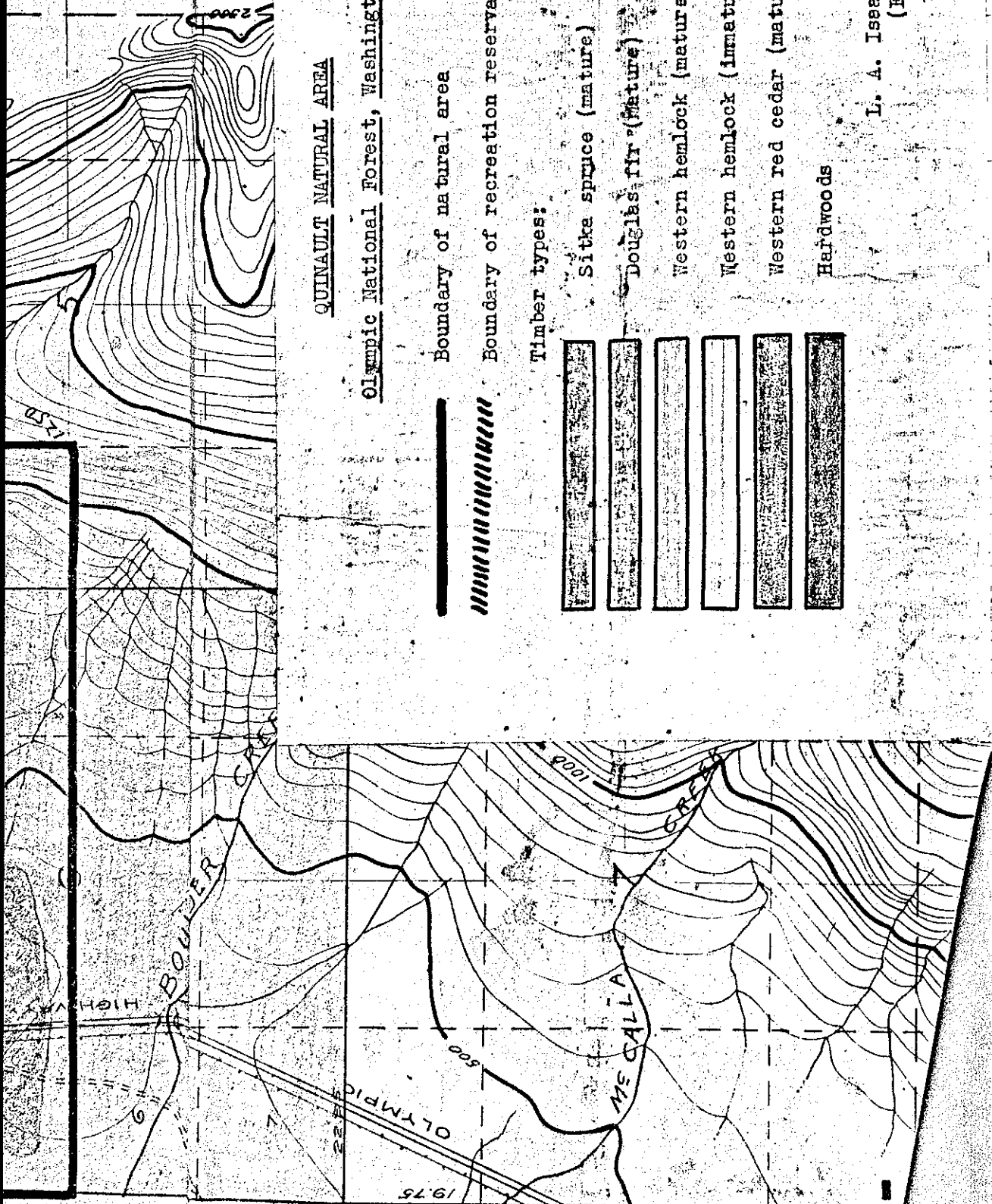
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QUINALT NATURAL AREA

Olympic National Forest, Washington

Boundary of natural area

Boundary of recreation reservation

Timber types:

-  Sitka spruce (mature)
-  Douglas fir (mature)
-  Western hemlock (mature)
-  Western hemlock (immature)
-  Western red cedar (mature)
-  Hardwoods

L. A. Issac, April 15, 1931  
(From Intensive Reconnaissance)