

OREGON STATE BOARD OF FORESTRY

Geo. Spaur, State Forester

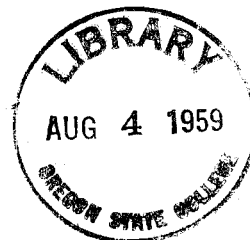
Dick Berry, Research Director

Research Note No. 13, August 1953

OREGON CONE CROP, 1953

by

W. H. Engstrom



This cone crop report is compiled by the Oregon State Board of Forestry. The field survey was made by W. H. Engstrom using an automobile for transportation and 6 x 30 Baush & Lomb field glasses for the ocular examination of the trees. The survey data are taken from permanent cone crop stations and by making substantiating checks along the roads between the stations. The cones on the trees are observed and the crop is rated by numbers from 1 to 10 as shown in Table I. Upon completion of the field work, these field ratings are compiled and averaged for each species in each of the 20 units or areas in which the state has been divided for the purpose of these surveys. The attached map delineates these units or subregions.

Table II indicates the common and scientific names and the average statewide cone crop ratings for all the species examined. Table III indicates the cone crop ratings for the various tree species in each of the twenty survey units.

TABLE I

CONE CROP CLASSIFICATION

- |            |   |
|------------|---|
| None       | -1- No cones on any trees.  |
|            | -2- Few cones on occasional trees.                                  |
| Very Light | -3- Few cones on 25% of the trees.                                  |
|            | -4- Few cones on 25% of the trees - many cones on occasional trees. |
| Light      | -5- Few cones on 75% of the trees.                                  |
|            | -6- Many cones on some trees - few cones on 75% of the trees.       |
| Medium     | -7- Some cones on all trees.  |
|            | -8- Many cones on some trees - some cones on all trees.             |
| Heavy      | -9- Many cones on 75% of the trees - some cones on all trees.       |
|            | -10- Many cones on all trees.                                       |

TABLE II

## 1953 Cone Crop - State Average By Species

Common Name	Scientific Name	Cone Crop Rating
Douglas fir (Western Oregon)	<i>Pseudotsuga taxifolia</i> var. <i>viridis</i>	4
Douglas fir (Eastern Oregon)	<i>Pseudotsuga taxifolia</i> var. <i>glauca</i>	3
Western hemlock	<i>Tsuga heterophylla</i>	5
Mountain hemlock	<i>Tsuga mertensiana</i>	4
Grand fir	<i>Abies grandis</i>	6
Red fir	<i>Abies magnifica</i> var. <i>shastensis</i>	6
Concolor fir	<i>Abies concolor</i>	5
Pacific silver fir	<i>Abies amabilis</i>	5
Alpine fir	<i>Abies lasiocarpa</i>	7
Noble fir	<i>Abies procera</i>	3
Ponderosa pine	<i>Pinus ponderosa</i>	3
Western white pine	<i>Pinus monticola</i>	6
Sugar pine	<i>Pinus lambertiana</i>	2
Lodgepole pine	<i>Pinus contorta</i> var. <i>latifolia</i>	6
Shore pine	<i>Pinus contorta</i>	2
Sitka spruce	<i>Picea sitchensis</i>	7
Engelmann spruce	<i>Picea Engelmanni</i>	7
Western red cedar	<i>Thuja plicata</i>	6
Port Orford white cedar	<i>Chamaecyparis lawsoniana</i>	8
Incense cedar	<i>Libocedrus decurrens</i>	2
Alaska cedar	<i>Chamaecyparis nootkatensis</i>	7
Western larch	<i>Larix occidentalis</i>	3
Western juniper	<i>Juniperus occidentalis</i>	6

The following is a discussion of the unit and statewide cone crops for each species examined.

Douglas fir - *Pseudotsuga taxifolia*

The Douglas fir cone crop as a whole is poor in both eastern and western Oregon. It is some better than last year, however. Most of the areas examined were rated from "None" to "Very Light," but better crops were seen in the higher parts of most of the Coast Range (units 1 to 5) and in the Cascade mountains (units 9, 10 and 11) where the old growth trees were found to have crops which were rated "Light" to "Medium". The Willamette Valley crop is spotty in occurrence. The average rating for the Valley was "Very Light". Several individual

trees with good crops were observed throughout the valley area.

In most of the region east of the Cascade Mountains the crop is very light. The best observed was on the east slope of the Cascades from the McKenzie River Highway south to the Willamette Highway.

Considerable numbers of undeveloped ovulate flowers were observed at middle elevations in the Coast Range and a few in the Willamette Valley. On one tree in the Coast Range 90% of the ovulate flowers remained undeveloped.

#### Western hemlock - Tsuga heterophylla

The average Western hemlock cone crop is from "Very Light" to "Light" this year. The cone survey units 8 and 9 in the northern Cascade Mountains have the best observed. Here many areas were rated from "Medium" to "Heavy". A few "Medium" crops were also observed in the northern Coast Range.

#### Mountain hemlock - Tsuga mertensiana

Mountain hemlock is producing a "Very Light" cone crop this year but some "Medium" to "Heavy" crops were seen in the northern Cascades. These areas were not extensive and were confined to but few trees when found.

#### Grand fir - Abies grandis

Observations made of this species indicate a "Light" to "Medium" cone crop in most places. The best cone crops were found in the stream bottoms of the lower Umpqua drainage.

#### Red fir - Abies magnifica var. shastensis

This species which occurs throughout the southern Cascades has a fair cone crop this year. Most of the areas varied from "Light" to "Medium". The cone crop on this species is the best of the native Abies genera.

#### Concolor fir - Abies concolor

The concolor fir cone crop is "Very Light". The best crops, "Light" to "Medium", are on the east slope of the central and southern Cascades. In Eastern Oregon areas (units 16 to 20) cone production is "Very Light". The upper Rogue River and Umpqua drainages have a "Light" crop. No heavily clustered tree crowns were observed anywhere.

#### Pacific silver fir - Abies amabilis

Generally, silver fir has a "Light" cone crop. This ranges from "Very Light" in most areas to "Medium" in others.

### Alpine fir - Abies lasiocarpa

Alpine fir has a good cone crop in most of the higher elevations. In Northeast Oregon it was slightly better than in the Cascades. Occurrence of cones is uniform throughout the range of the species. Most observations ranged from "Light" to "Medium" with a statewide average of "Light".

### Noble fir - Abies procera

The noble fir cone crop is very poor, ranging from "None" to "Very Light". A few cones were seen but usually only 2 or 3 per tree, and these occurring only occasionally in second-growth stands.

### Ponderosa pine - Pinus ponderosa

Ponderosa pine has a "spotty" crop which ranges from "None" in many areas to "Medium" in a few. The old growth trees in the higher elevations of the pine region have very few cones. This is true also of ponderosa pine in confined canyons and in timber type transition zones. Some "Medium" and occasionally "Heavy" crops are found, however, on thrifty fast growing trees in the lower elevations, particularly on warm open slopes such as the middle Rogue river basin around Medford and Grants Pass and on open warm slopes of the Deschutes river basin in the immediate vicinity of Bend. The Ponderosa pine type south of Bend has fewer of these occasional "Medium" to "Heavy" areas. The crop from Bend southward through the remainder of the upper Deschutes Basin is generally "Very Light". Adjacent to Klamath Lake Basin there is a good crop with rosettes of from 3 to 5 cones on many trees. Spotty "Medium" crops were prevalent east of Klamath Falls on the Lake-view Highway where crops ranging from "None" to almost "Heavy" were seen.

There is a "spotty", "Medium" to "Heavy" crop in the southern portion of the Warm Springs Indian Reservation.

The crop in the western part of the Blue Mountains and the Dixie Mountain area is rated from "None" to "Very Light" but is better in the middle Grand Ronde drainage. The area between Baker and Unity has a "Medium" crop, the best of which is on the warm south side of the Dooley Mountain summit. A "Medium" crop was observed around Elgin.

### Western white pine - Pinus monticola

There is only a fair cone crop on Western white pine when the species' entire range is considered. The north portion of the Cascades, however, has a "Medium" to "Heavy" crop occurring in some cases even on the four to six inch trees.

### Sugar pine - Pinus lambertiana

Very few cones were seen on sugar pine. However, trees at higher

elevations were seen flowering heavily in late July and early August. This should provide a good crop of cones in 1954.

Lodgepole pine - Pinus contorta var. latifolia

The crop on lodgepole pine throughout the state averages only "Light", but many areas such as the north slope of Sun Pass and Dixie Mountain had "Medium" crops. The crop was "Very Light" at the higher elevations in the central and northern Cascades. Considerable numbers of this year's conelets were observed in some areas although these were less in numbers than the cones maturing this fall.

Shore pine - Pinus contorta

There are very few cones on shore pine this year. Every area sampled was rated "None". Evidence of extensive flowering (some "Heavy") was noted in the northern portion of the coast, but this diminished somewhat to the south.

Sitka spruce - Picea sitchensis

This species is producing a good crop of cones this year, most areas observed rated from "Medium" to "Heavy". The crop is better than was anticipated on the basis of the few early spring flowers seen in May. The low elevations in the spruce, hemlock type north of Tillamook have many "Medium" and "Heavy" areas although the crop in the higher elevations to the east was from "None" to "Very Light". South of Tillamook, the Sitka spruce crop remained good to the eastern boundary of the fog belt.

Engelmann spruce - Picea engelmanni

The Engelmann spruce crop is generally good with a statewide classification of "Medium". The best crops in the Cascades were in the Willamette Pass area along state highway 58 and south to Diamond Lake where most samples were rated "Medium" with "Heavy" occasionally. The cone crop on Englemann spruce in Northeast Oregon ranged slightly poorer than the northern Cascades.

Western red cedar - Thuja plicata

Western red cedar will have a "Light" to "Medium" crop of cones with occasionally heavy crops occurring in areas of limited extent on the west slope of the northern Cascades. Although not the general rule all over the area, several "Medium" to "Heavy" crops were noted along the Molalla River. On the Mt. Hood Road a good crop up to the town of Zig Zag was observed. Some undeveloped ovulate flowers were noted in most areas. These were less prevalent than on the Douglas fir, however.

Port Orford white cedar - Chamaecyparis lawsoniana

Port Orford cedar in its native range on the southern coast has a

crop rated from "Medium" to "Heavy". Although individual branch sprays have produced heavier in other years, generally a good crop is expected.

Incense cedar - Libocedrus decurrens

The cone crop on this species is rated overall at "None". Most areas were rated "Very Light" with very few cones seen anywhere. Most trees had no cones at all.

Alaska cedar - Chamaecyparis nootkatensis

This high elevation species will have a "Medium" crop in a few areas, but the general crop will be "Light". There were some cones uniformly distributed over most trees but not as many as in other years.

Western larch - Larix occidentalis

Field checks of Western larch indicate a poor crop of cones this year. The statewide rating for this species is "Very Light". The poorest cone crop was observed on the Warm Springs Indian Reservation.

Western juniper - Juniperus occidentalis

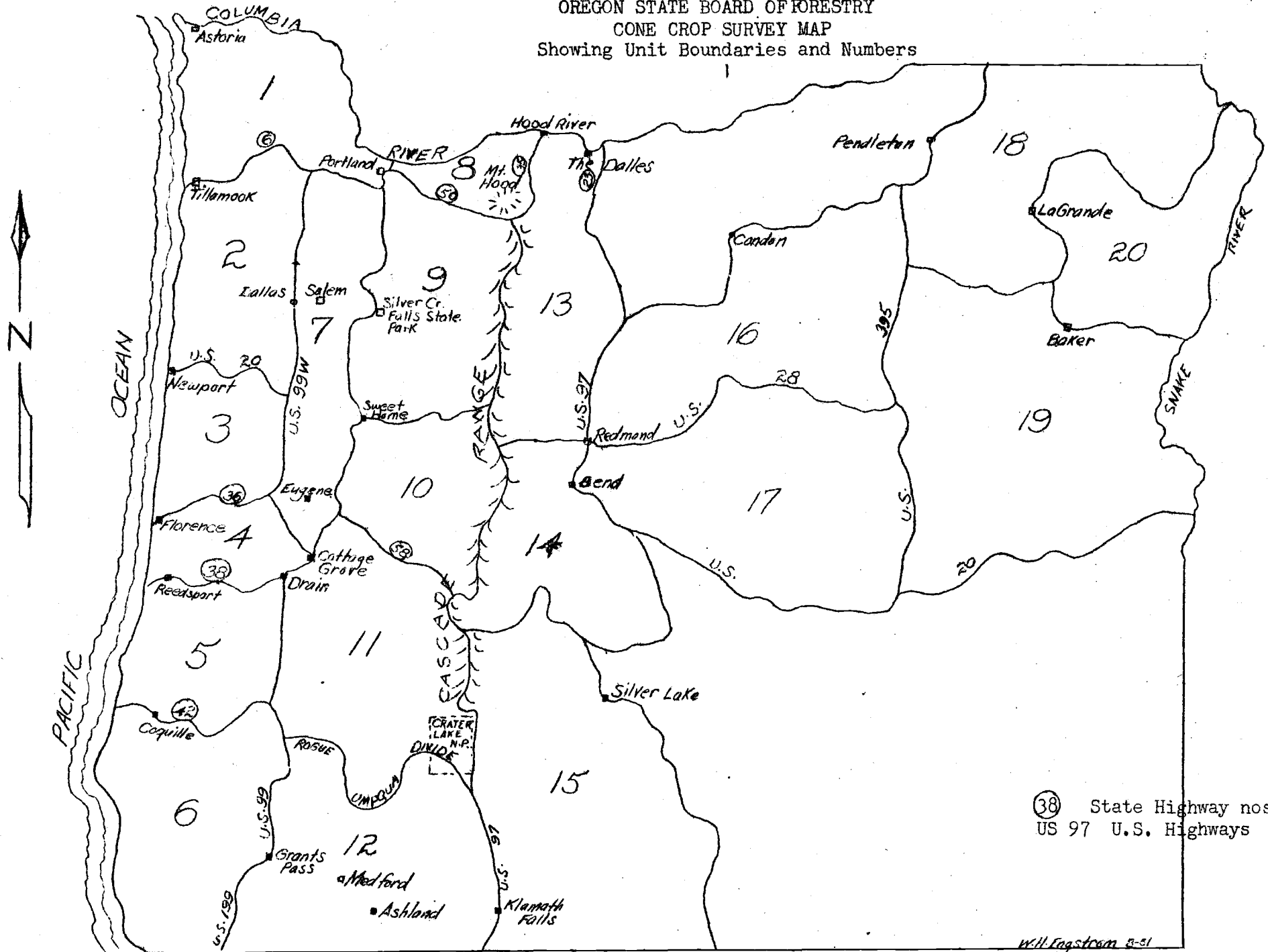
The berry crop on Western juniper ranges from "Very Light" to "Medium" with most areas having a "Medium" crop. Slightly better than average crops were noted in the areas just east of Prineville. Unit 15 (see map) was rather poor averaging "Very Light" on the four areas sampled.

TABLE III

## 1953 CONE CROP BY UNITS

Tree Species	U - N - I - T N - U - M - B - E - R																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Douglas fir (Western Oregon)	4	5	4	3	4	3	4	5	4	3	3	4								
Douglas fir (Eastern Oregon)													4	6		2	2	2	3	2
Western hemlock	4	6	5	5	4	4		6	6	4	3		5							
Mountain hemlock								5	5	3			5	2						
Grand fir	6	6	7	7	7	7	6		4	6	6									
Red fir											7	6			6					
Concolor fir										5	6	5	5	7	6	5	3	5	5	5
Pacific silver fir								7	5				4	7						
Alpine fir								7	7	7				7				7		7
Noble fir								2	4											
Ponderosa pine						4		6			4	4	4	6	4	3	3	4	4	4
Western white pine								8	7	6	4	3	7	8						
Sugar pine												2								
Lodgepole pine								6	6		3	5	5	6	4					
Shore pine	2		2		2															
Sitka spruce	7	7	7	8	7	8														
Engelmann spruce								7	7	7	8		7	9				7	7	7
Western red cedar	5	5	6	6	6	7	7	7	7	6	5		5							
Port Orford white cedar					8	8														
Incense cedar				3	2	2				2	2	2			2					
Alaska cedar								7	6				6							
Western larch													2			3	6	2	2	2
Western juniper													7	7	3	8	8			

OREGON STATE BOARD OF FORESTRY  
 CONE CROP SURVEY MAP  
 Showing Unit Boundaries and Numbers



Ⓞ State Highway nos.  
 US 97 U.S. Highways