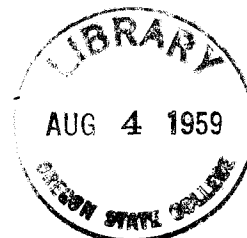


RESEARCH NOTE No. 7

August 1952



1952 CONE CROP SURVEY REPORT

Wilbur H. Engstrom
Research Assistant

OREGON STATE BOARD OF FORESTRY
George Spaur, State Forester
Dick Berry, Research Director

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1952 CONE CROP SURVEY REPORT

State of Oregon
August 1952

This is the sixth annual cone crop report compiled by the Oregon State Board of Forestry. The field survey was made by forestry personnel stationed in various parts of the state and State office personnel who checked on the cone crop on regular field trips and on trips made especially for this purpose. The map enclosed with this report delineates the units or sub-regions and shows the area covered by the survey. The following tables have been compiled to consolidate all the information gathered on cone production for the year 1952. Table II shows the cone crop rating for the state while Table III shows the crop as reported in each of the 19 units checked this year.

Ratings are taken from the following Table of Values.

TABLE I

		<u>Cone Crop Classification</u>
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

1952 Cone Crop - State Average

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

The Douglas fir cone crop is very poor in both eastern and western Oregon, with fewer cones than last year. Most field checks indicated crops of (2) "none" to (3) "very light" with slightly better production in unit 1 in northwest Oregon and unit 6 in southwest Oregon. Some areas along the upper and eastern portions of the Willamette valley had fair crops on the younger trees. The crop appeared to occur on the smaller trees this year with practically no cones on old growth trees. It now appears that the late spring rains during the time of flowering hindered fertilization on Douglas fir and other species, since many pistillate flowers were found drying up without fertilization. In addition, Douglas fir and Sitka spruce had

an unfavorable ratio between pistillate and staminate flowers. Unusually heavy production of staminate flowers with but few pistillate flowers was common.

Insect larvae were found in some Douglas fir cones on the west slope of the Cascade mountains. The larvae, probably *Dioryctria*, were orange in color, about 2 to 3 mm. in length and were found in the axils of the cone scales and the central rachis of the cone itself but not in the seeds.

Western hemlock, which usually produces a good crop, has a "very light" one this year with slightly better crops in areas adjacent to the eastern portion of the Willamette valley. The northern part of unit 10 had the best crops. The observations made on mountain hemlock show almost no crop on this alpine species - - a "2" crop seemed the general condition on most areas.

Cone production on the various *Abies* species was generally light. Noble fir had the better crop averaging "6" but with some good concentrations in the Mt. Hood, Marys Peak and North Santiam areas. The best concolor fir crop seen was on the upper North Santiam and in the central Oregon area above Suttle Lake. The other white firs, along with concolor, had a crop averaging only "none" to "very light" with few good concentrations.

The pines showed considerable variation in cone production this year with lodgepole and shore pine having better crops than ponderosa, sugar or white pine. Lodgepole pine in units 13 and 14 in the central Oregon area had a "medium" crop while the Blue Mountain cone crop ran somewhat lower into "light" to "very light". The ponderosa pine crop is about the same as last year varying from "1" to "6" but averaging somewhat better than "3" over the entire state. Permanent station samples indicated fair crops in

parts of the transition type near Roseburg and in portions of the central Oregon area away from the slopes of the Cascades in pure ponderosa pine type. There is a fair ponderosa pine cone crop (both 1 and 2 year cones) near Bend, in the Seneca area and in southern Oregon between Ely mountain summit and Lakeview. Some good concentrations were observed on state highway 66 from Parker mountain summit on east to Keno. Crops in these areas varied from good clusters of 2 year old cones to crops predominately of 1st year cones. The northeastern part of Oregon has a "very light" crop this year with occasional good local concentrations. Observations made at the Elgin sampling station show a good crop adjacent to and just northwest of town; a good crop also was reported in the middle fork of the John Day drainage and on the summit between the towns of Long Creek and Fox on U. S. highway 395.

Several samplings of western white and sugar pine indicated a poor cone crop on these species - - there were a few cones on occasional trees, with local concentrations of white pine rated "very light" in the higher altitudes of unit 13.

The Sitka spruce cone crop is very light again this year with only occasional trees producing good crops. The consistently good flowering this spring indicated the possibility of a fair crop but the late spring rains apparently prevented complete fertilization since many pistillate flowers did not develop. (Many pistillate flowers dried up on the larch also, probable for the same reason.) Sitka spruce, like Douglas fir, also had a poor staminate-pistillate flower ratio with few pistillate flowers. The crop averaged somewhat above (4) "very light" to "light" with slightly better reports from the northern coastal area.

Engelmann spruce in contrast is considerably better having an average cone crop of around "6" (light) and running up to "8" (medium) in some localities. The Northeast Oregon spruce crop runs slightly better than the Cascade mountain spruce this year. This species has a better crop this year than last while Sitka spruce is very nearly the same.

The cone crop on all cedars is light this year except Port Orford white cedar which is fair on some trees. Western red cedar has about a "4" crop on the average with some fair concentration in the lower elevations of unit 9 and on the Portland-Mt. Hood road. Observations from sampling points in unit 1 in northwest Oregon indicate a "medium" crop of western red cedar.

Incense cedar has a "very light" (3) crop this year with the transition type zone around Roseburg producing the best concentrations. Some individual trees in southwest Oregon produced very heavy crops. The crop east of the Cascade summit is not as good.

Alaska cedar in the northern Cascade mountains has some cones on all trees this year. Although the sprays are not heavy there is a "7" crop on most trees.

The western larch cone crop will not be as good as the flowering indicated. The flowers were predominately staminate with few pistillate flowers. Many of the latter were seen this fall dried up and undeveloped. This species usually flowers earlier than others and should have completed pollinization before the late spring rains came.

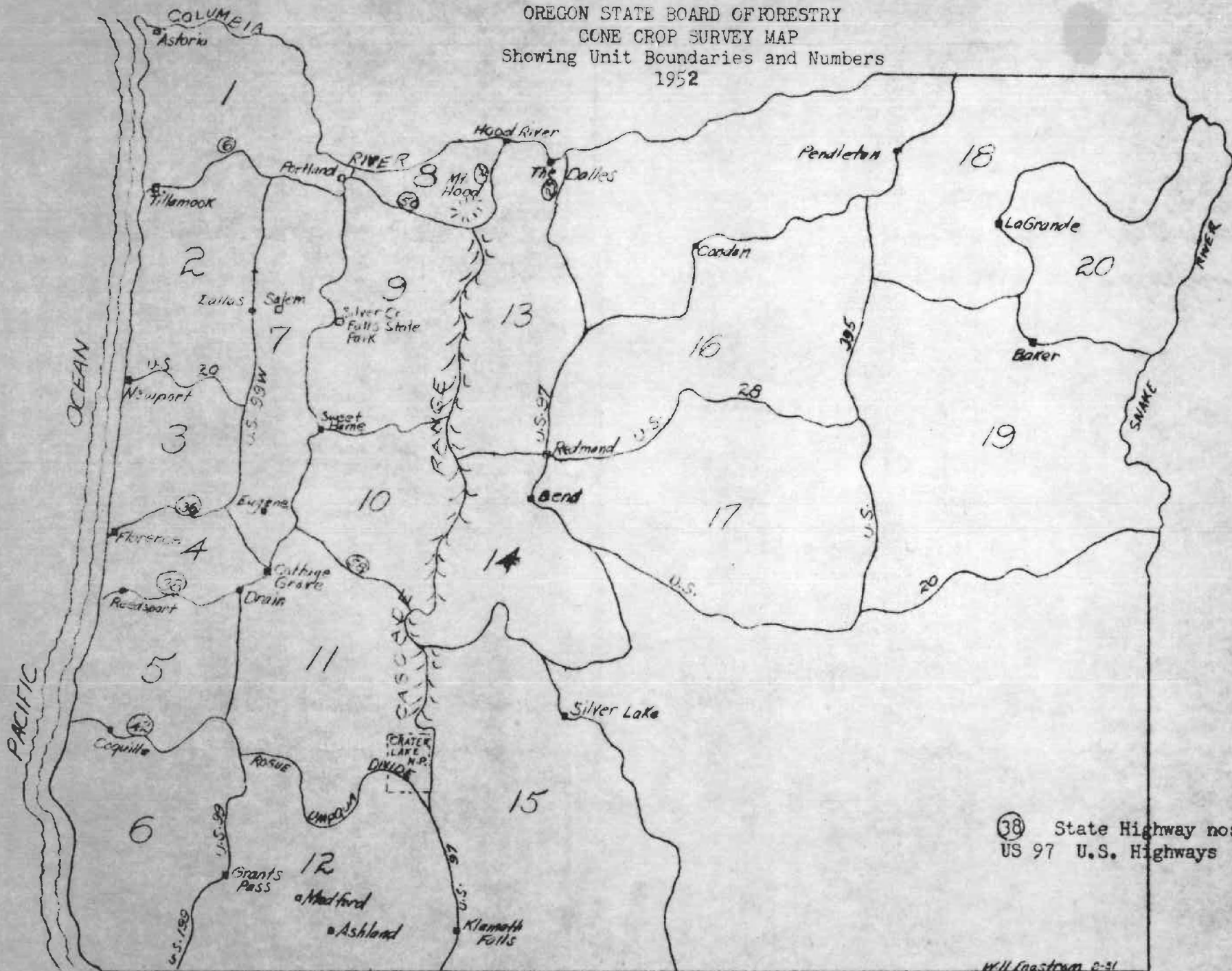
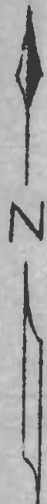
Juniper has a medium crop in most areas of eastern Oregon. Some trees have a heavy crop of berries and some much less but the crop as a whole was rated at "8".

TABLE III

1952 CONE CROP BY UNITS

Unit Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Douglas fir (western Oregon)	3	2	2	2	2	3	2	3	2	2	2	3							
Douglas fir (eastern Oregon)													2	3		2	3	2	2
Western hemlock	3	2	2	4	4	4	5	5	3	6	3		4						
Mountain hemlock											2		2						
Grand fir	2	2																	
White fir					1	1			7	2	2	2	6	1	1	1		4	2
Pacific Silver fir								2	2				3						
Alpine fir								2	4	6									
Noble fir								6	6				3						
Ponderosa pine					1	5				2	2	3	3	4	3	3	6	6	4
Western white pine								2	2	1	1		3	1					4
Lodgepole pine									5	5			7	7	6			5	4
Shore pine	9																		
Sugar pine					1	1					1	2							
Engelmann spruce									7	5	3		7					7	8
Sitka spruce	5	6	5	3	3	3													
Western red cedar	7	3	4	4	4	4	4		5	4	5		3						
Port Orford white cedar					6	6													
Incense cedar						5													
Alaska cedar								7	7										
Western larch													2						
Western juniper												7				8	8	3	3

OREGON STATE BOARD OF FORESTRY
 CONE CROP SURVEY MAP
 Showing Unit Boundaries and Numbers
 1952



③ State Highway nos.
 US 97 U.S. Highways