



STATE FOREST NOTES

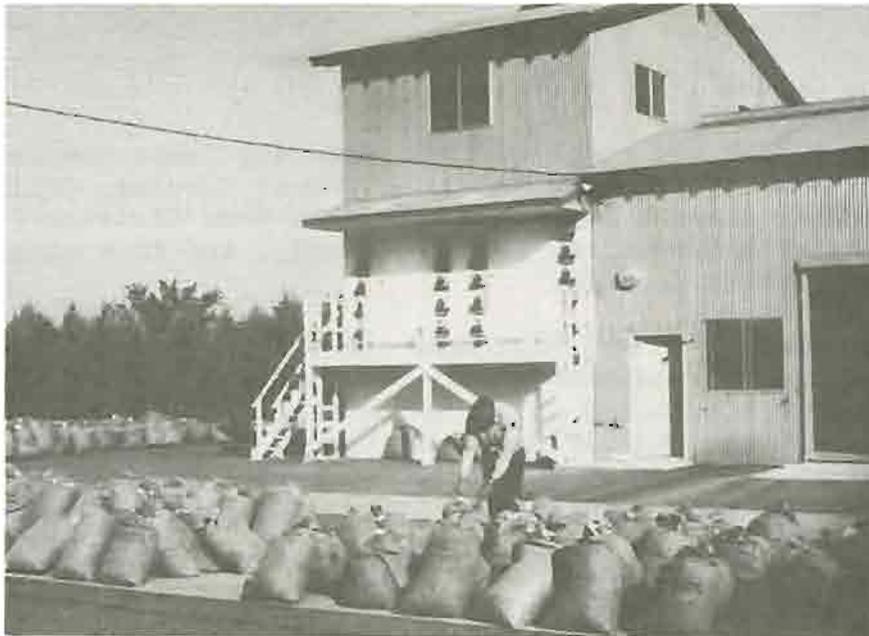
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CALIFORNIA CONE CROP FOR 1975 ^{1/}

Cone crop surveys were made in June and early July, 1975. One hundred twenty-one report forms were received from field stations. This number is greater than the reports received for 1974 (94) but less than the number received for 1973 (148).



A good cone crop waiting to be processed at Davis Headquarters Nursery.

^{1/} This report was compiled by C. J. Eden, Forester II, California Division of Forestry, Nursery Manager and Reforestation Specialist at Davis Headquarters Nursery.

Comments on reports indicated cones are slower than normal in developing this year. Very little insect activity was noted. Some evidence of cone borers was reported on Jeffrey pine on the Inyo National Forest.

A summary of the information indicates a light (2.8 rating) overall crop (table 1). No heavy (5.0 rating) crops were reported for any species statewide. Beach pine, singleleaf pinyon pine, bishop pine, Monterey pine, Digger pine, and Sierra redwood were reported with medium (3.5 to 4.4 rating) crops.

Average heavy (4.5 to 5.0 rating) cone crops were reported for sugar pine for zones 331 and 771. Medium (3.5 to 4.4 rating) crops were reported for the following species and zones:

<u>Species</u>	<u>Zone(s)</u>
White fir	532, 533, 772
Jeffrey pine	322, 771, 782, 998
Sugar pine	321, 322, 332, 521, 524, 534
Western white pine	321
Ponderosa pine	321, 524, 532, 533, 751
Douglas-fir	532, 533

Cone Reporting System

Annual cone crop data are compiled from reporting forms completed by California Division of Forestry and U. S. Forest Service, California Region, personnel. Report forms are submitted from Division field units for each State Forest and forested county, and from each Ranger District of the Forest Service.

Fowells and Schubert ^{2/} showed that most cones are borne on dominant and codominant trees. Dominant trees, 12 or more inches diameter breast height (d.b.h.) were selected as indicator trees for a cone rating system devised in 1960 by the Pacific Southwest Forest and Range Experiment Station and California Region of the Forest Service. Ratings are based on ocular estimates of cone quantities. The following five classes are used:

1. None - no cones on any seed trees.
2. Very light - few cones on less than one-fourth of the seed trees.
3. Light - few cones on more than one-fourth of the seed trees.
4. Medium - many cones on one-fourth to one-half of the seed trees.
5. Heavy - many cones on more than one-half of the seed trees.

^{2/} Fowells, H. A., and G. H. Schubert. 1956. Seed crops of forest trees in the pine region of California. U. S. Dept. of Agr. Tech. Bul. 1150. 48 pp. illus.

Cone Collection Areas

Cone crops are reported from eighty-seven tree seed zones in California.^{3/} An attached map outlines the zones. Larger scale (1:1,000,000) maps and an explanatory publication may be obtained free of charge from the office of the State Forester, Resources Building, 1416 Ninth Street, Sacramento, California 95814, or Regional Forester, U. S. Forest Service, 630 Sansome Street, San Francisco, California 94111. A universal identification coding system for seed lots is detailed in the explanatory publications.

Seed Certification

A voluntary program for certification of the source of collection for seed has been formulated for California. The California Crop Improvement Association is the Certifying Agency. Inspection for compliance is administered by the County Agricultural Commissioners.

During the 1971 collection year the program operated in DeI Norte, Humboldt, and Mendocino counties. A few private companies and California Division of Forestry collected or bought cones under the program. In 1972 the program was to be expanded to Shasta, Siskiyou, Lassen and Modoc counties. However, no cones have been collected under this program since 1971 because of the extremely poor cone crops.

^{3/} Buck, John M., Ronald S. Adams, Jerold B. Cone, M. Thompson Conkle, William J. Libby, Cecil J. Eden, & Michel J. Knight. 1970. California Tree Seed Zones. California Region U. S. For. Ser., and State of Calif., The Res. Agency, Dept. of Cons., Div. of For., 6 pp.

Table 1. Summary of California Cone Crops for 1975, by species and tree seed zone.

Species	Tree Seed Zone	Average Rating ^{a/}	Species	Tree Seed Zone	Average Rating ^{a/}
<u>Abies concolor</u> (white fir)	301	2.0	<u>Abies magnifica</u> (red fir)	525	2.5
	302	2.0	(continued)	531	3.0
	303	2.0		532	2.0
	311	2.0		533	2.0
	312	1.0		550	2.0
	321	2.5		732	2.5
	322	2.2		742	2.0
	371	1.5		772	1.0
	372	1.0			
	516	3.0	<u>Chamaecyparis</u> <u>lawsoniana</u>	091	2.5
	521	1.0	(Port-Orford cedar)	092	2.5
Overall rating 2.2	522	2.3			
	523	1.5	Overall rating 2.5		
	524	3.0			
	525	2.8	<u>Libocedrus decurrens</u> (incense-cedar)	091	2.0
	531	3.3		093	2.5
	532	4.0		301	2.0
	533	4.0		303	2.0
	534	2.0		321	1.8
	540	1.0	Overall Rating 2.1	390	2.0
	550	2.0		521	2.0
	560	1.0		522	1.0
	732	3.0		523	1.0
	741	2.0		524	2.0
	772	4.0		531	2.5
	992	1.0		534	2.8
				540	3.0
<u>Abies grandis</u> (grand fir)	091	2.0		998	3.0
	092	2.0			
Overall Rating 2.0	093	2.0			
<u>Abies magnifica</u> (red fir)	301	2.0	<u>Juniperus californica</u> (California juniper)	560	3.0
	302	2.0			
	311	2.0	<u>Picea sitchensis</u> (Sitka spruce)	091	3.0
	321	3.5		092	3.0
	322	2.0			
Overall Rating 2.1	372	1.0	Overall Rating 3.0		
	516	1.0			
	522	3.0			
	523	1.5			

^{a/} See footnote at end of table

Species	Tree Seed Zone	Average Rating ^{a/}	Species	Tree Seed Zone	Average Rating ^{a/}
<u>Pinus attenuata</u> (knobcone pine)	321	3.0	<u>Pinus lambertiana</u> (sugar pine)	301	2.0
	360	3.0		302	2.0
	371	3.0		303	2.0
	521	1.0		311	2.0
Overall				312	2.3
Rating 2.5				321	4.0
				322	3.5
<u>Pinus contorta</u> var. <u>contorta</u> (beach pine)	091	4.0		331	4.7
	092	3.0		332	4.0
Overall				340	3.0
Rating 3.5				371	2.7
				372	2.7
<u>Pinus coulteri</u> (Coulter pine)	991	3.0	Overall	380	3.0
	998	3.0	Rating 2.8	390	2.0
Overall				516	3.0
Rating 3.0				521	3.5
				522	3.1
<u>Pinus jeffreyi</u> (Jeffrey pine)	093	2.0		523	3.0
	301	2.0		524	4.0
	302	2.0		525	2.6
	311	1.0		531	3.0
	312	1.5		532	2.0
	321	3.0		533	2.0
	322	3.8		534	3.5
	371	2.0		540	2.0
	380	1.0		732	2.0
	516	1.0		771	5.0
	521	1.2		772	2.0
	522	2.0		992	1.0
	523	1.7	<u>Pinus monophylla</u> (singleleaf pinyon pine)	560	4.0
	525	2.3			
	531	3.0	<u>Pinus monticola</u> (western white pine)	321	4.0
Overall	532	3.0		331	3.0
Rating 2.4	533	3.0		523	1.5
	534	2.3		525	3.0
	540	3.0	Overall	532	2.0
	550	3.0	Rating 2.6	533	2.0
	560	2.0		550	3.0
	732	3.0		772	2.0
	752	2.5	<u>Pinus muricata</u> (bishop pine)	091	4.0 ^{b/}
	771	4.0		092	4.0 ^{b/}
	772	2.0	Overall	093	4.0 ^{b/}
	782	4.0	Rating 4.0		
	992	2.0			
	998	4.0			

a/ See footnote at end of table
^{b/} Plantation trees

Species	Tree Seed Zone	Average Rating <u>a/</u>	Species	Tree Seed Zone	Average Rating <u>a/</u>
<u>Pinus ponderosa</u> (ponderosa pine)	091	2.0	<u>Pinus sabiniana</u> (Digger pine)	302	4.0
	097	2.0		560	3.0
	301	2.0	Overall		
	302	2.0	Rating 3.5		
	303	2.0			
	311	1.0	<u>Pseudotsuga</u> <u>macrocarpa</u>		
	312	1.5	(Bigcone Douglas-		
	321	3.5	fir)	991	4.0
	322	1.7		992	2.0
	331	1.0	Overall		
	332	1.0	Rating 3.0		
	340	1.5			
	351	2.0	<u>Pseudotsuga</u> <u>menziesii</u>		
Overall	371	2.0	(Douglas-fir)	091	2.2
Rating 2.3	372	2.0		092	2.2
	380	1.0		093	2.5
	516	2.0		094	2.5
	521	1.6		095	2.0
	522	2.1		096	1.0
	523	2.5		301	2.8
	524	4.0		302	2.0
	525	2.9		303	2.5
	531	2.0		311	2.0
	532	4.0		312	2.4
	533	4.0		321	3.0
	534	2.8		322	2.8
	540	2.3		331	2.3
	560	2.0	Overall	340	2.4
	720	3.0	Rating 2.3	351	2.0
	731	2.5		352	1.0
	732	2.5		371	1.5
	741	2.0		372	1.7
	751	3.7		390	2.7
	752	2.5		521	2.0
	772	3.0		522	1.8
	991	3.0		523	3.0
				524	3.0
<u>Pinus radiata</u> (Monterey pine)	091	4.0 <u>b/</u>		525	2.7
	092	4.0 <u>b/</u>		531	2.0
	093	3.6 <u>b/</u>		532	4.0
	097	3.5 <u>b/</u>		533	4.0
Overall	130	3.0		732	2.0
Rating 3.8	302	4.0 <u>b/</u>		741	2.0
	340	4.0 <u>b/</u>			
	390	4.0 <u>b/</u>			

a/ See footnote at end of table

b/ Plantation trees

Species	Tree Seed Zone	Average Rating <u>a/</u>
<hr/> <hr/>		
<u>Sequoia semper-</u> <u>virens</u>		
(coast redwood)	091	2.5
	092	2.0
	093	2.0
	094	2.0
Overall	095	2.0
Rating 1.9	096	2.0
	352	1.0
<u>Sequoiadendron</u> <u>giganteum</u>		
(Sierra redwood)	534	4.0
<u>Thuja plicata</u>		
(western red-	091	3.0
cedar)	092	3.0
Overall		
Rating 3.0		
<u>Tsuga heterophylla</u>		
(western hemlock)	091	2.0
	092	2.5
	093	2.0
	301	2.0
	302	2.0
Overall		
Rating 2.1		

a/ Based on numerical scale - 1, 2, 3, 4, and 5 of crop rating system.

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF CONSERVATION
DIVISION OF FORESTRY

CALIFORNIA TREE SEED ZONE MAP

- Physiographic and climatic region boundaries
- Physiographic and climatic region boundaries within the 900 series
- Physiographic and climatic subregion boundaries
- - - Zones

