Pacific Northwest Research Note

Forest and Range Experiment Station · U.S. DEPARTMENT OF AGRICULTURE · FOREST SERVICE

Number 216 Portland, Oregon November 1961

NUMBER OF TREES BY DIAMETER CLASS IN THE FORESTS OF EASTERN OREGON

by

Donald R. Gedney

Information on the number of trees in a forest by diameter classes can add another useful dimension to the usual area and volume statistics about the forest resource.

The purpose of this publication is to make available statistics on the estimated number of trees in eastern Oregon by diameter classes. Only sound live trees of commercial species, 5.0 inches d.b.h. and larger, occurring on commercial forest land are included. A tree to be classified as sound must have 25 percent or more of its gross volume free from rot or defect.

Tree frequency by diameter classes is given separately for public and privately owned forest land. Within each ownership group these stand tables show number of trees by species or combinations of species as well as the total trees. These tables were developed from 3,649 field plots measured between 1952 to 1959 during the reinventory of eastern Oregon by Forest Survey.

The public ownership referred to in these tables includes the timber owned or managed by the Forest Service, Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies; State; county; and municipal lands.

The data presented in these stand tables are on a broad basis and do not apply to specific situations. However, they do lend themselves to a number of worthwhile purposes.

For example, most forest industries define their needed raw material supply in terms of size and species of trees. Stand tables are especially useful in relating the needs of industry to the resource. Not only can the current supply situation be determined from stand tables but they provide a basis for estimating future availability of raw material. In addition to providing more detail about the commonly used species, stand tables give useful information about the less frequently used species.

For those engaged in forest research, management planning, or regional studies, stand tables can be the basis for many thought-provoking analyses. The structure of the forest as indicated by stand tables offers a number of opportunities for study of stocking levels, regulation of the cut, and control of the growing stock. In management planning and regional analyses, projections of the present stand structure with allowances made for growth and drain can indicate to a large extent what the forests of the future may be like. According to the findings, recommendations can be made to strengthen desirable trends or forestall undesirable situations.

We present these tables because of the interest that has been expressed. We hope that others may find them as useful as we have in our regional resource analyses.

Table 1.--Estimated number of trees in public ownership in eastern Oregon, by diameter class and species, circa 1955[1/]

(In thousands of trees)

Diameter class (inches)	Douglas-fir	Pine (ponderosa, sugar, and white)	Lodgepole pine	White fir	Fir (California red, Shasta red, Pacific silver, and noble)	Subalpine fir	Larch (western and subalpine)	Whitebark pine	Engelmann spruce	Hemlock (mountain and western)	Cedars	Hardwoods	Total
5.0- 6.9	57,194	101,842	137,551	84,749	2,400	24,444	16,585	2,870	8,991	7,914	436	429	445,405
7.0- 8.9	37,284	48,907	81,223	47,306	2,657	14,381	11,158	1,993	6,604	5,205	276	308	257,302
9.0-10.9	23,969	28,120	43,880	28,416	1,571	8,546	7,351	843	4,483	3,776	269	146	151,370
11.0-12.9	8,443	14,229	12,502	8,977	852	2,042	2,682	184	1,500	2,132	34	25	53,602
13.0-14.9	5,934	11,799	6,347	6,846	853	1,243	2,083	136	1,068	1,987	125	11	38,432
15.0-16.9	4,429	9,779	3,089	5,110	644	588	1,592	62	823	1,645	30	1	27,792
17.0-18.9	3,199	8,078	1,242	3,372	406	350	1,278	9	615	1,446	126	5	20,126
19.0-20.9	2,540	7,585	471	2,559	394	209	902	12	358	988	18	8	16,044
21.0-22.9	2,236	6,973	242	2,192	539	157	828	2	299	697	47	6	14,218
23.0-24.9	1,875	6,086	146	1,705	324	112	585	17	243	520	39	1	11,653
25.0-26.9	1,355	5,374	30	1,098	312	60	466	--	81	222	49	2	9,049
27.0-28.9	1,150	4,290	7	908	56	11	306	3	65	194	41	1	7,032
29.0-30.9	980	3,450	4	664	91	1	164	--	34	53	51	--	5,492
31.0-32.9	583	2,576	--	381	141	3	148	--	31	90	54	--	4,007
33.0-34.9	456	1,958	--	382	46	7	68	--	18	33	35	--	3,003
35.0-36.9	293	1,615	--	303	66	20	53	2	11	21	39	1	2,424
37.0-38.9	236	1,109	--	119	72	3	23	--	6	68	--	--	1,636
39.0-40.9	227	638	--	138	5	--	30	--	--	--	--	2	1,040
41.0-42.9	103	496	--	55	42	--	11	--	6	--	--	--	713
43.0-44.9	117	320	--	17	2	--	10	--	8	11	--	--	485
45.0-46.9	73	145	--	11	13	--	24	--	--	--	--	--	266
47.0-48.9	43	105	--	7	--	--	7	--	--	--	--	--	162
49.0-58.9	81	111	--	18	2	--	3	--	1	--	--	--	216
59.0-68.9	28	2	--	4	--	--	--	--	--	--	--	--	34
69.0+	27	--	--	4	--	--	--	--	--	--	--	--	31
Total	152,855	265,587	286,734	195,341	11,488	52,177	46,357	6,133	25,245	27,002	1,669	946	1,071,534

[1/] Public ownership contains an estimated 8,188,600 acres of commercial forest land.

Table 2.--Estimated number of trees in private ownership in eastern Oregon, by diameter class and species, circa 1955[1/]

(In thousands of trees)

Diameter class (inches)	Douglas-fir	Pine (ponderosa, sugar, and white)	Lodgepole pine	All true firs	Western larch	Engelmann spruce	Cedars	Hardwoods	Total
5.0- 6.9	50,750	145,334	23,234	57,608	12,748	2,508	844	2,901	295,927
7.0- 8.9	35,978	85,195	10,395	28,942	9,829	1,645	435	814	173,233
9.0-10.9	16,195	48,118	3,683	13,772	7,294	1,361	81	451	90,955
11.0-12.9	4,444	10,498	578	2,801	1,275	205	20	229	20,050
13.0-14.9	2,371	6,870	195	2,041	964	142	108	14	12,705
15.0-16.9	1,668	4,970	73	1,500	717	94	--	11	9,033
17.0-18.9	973	4,179	26	987	415	37	119	--	6,736
19.0-20.9	815	1,921	--	677	183	30	20	--	3,646
21.0-22.9	637	2,780	11	666	108	16	99	--	4,317
23.0-24.9	315	1,661	--	396	84	30	20	10	2,516
25.0-26.9	207	1,108	--	185	85	14	54	4	1,657
27.0-28.9	106	665	--	146	43	8	74	3	1,045
29.0-30.9	40	484	--	102	20	--	54	--	700
31.0-32.9	47	518	--	89	12	--	54	--	720
33.0-34.9	12	235	--	87	19	--	54	--	407
35.0-36.9	7	170	--	50	--	--	39	--	266
37.0-38.9	20	107	--	1	10	--	--	--	138
39.0-40.9	8	30	--	1	--	--	--	--	39
41.0-42.9	3	31	--	28	--	--	--	--	62
43.0-44.9	--	66	--	1	--	--	--	--	67
45.0-46.9	45	16	--	3	--	--	--	--	64
47.0-48.9	8	45	--	1	--	--	--	--	54
Total	114,649	315,001	38,195	110,084	33,806	6,090	2,075	4,437	624,337

[1/] Private ownership contains an estimated 3,342,800 acres of commercial forest land.