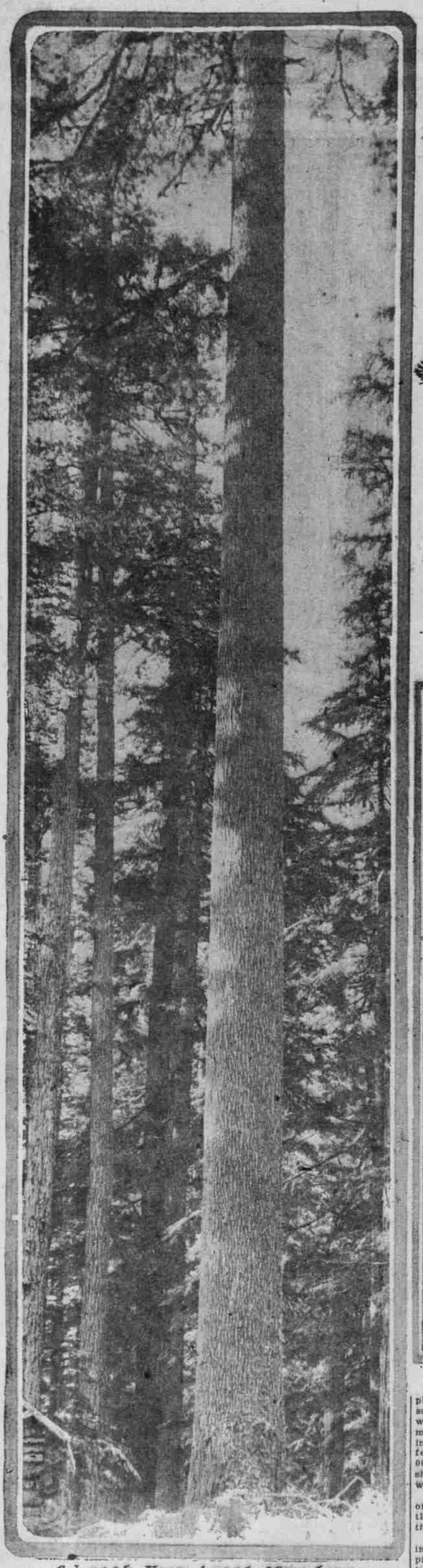
TIMBER RESOURCES OF WEST KEY TO LONG PERIOD OF PROSPERITY

Oregon Leads Nation With Stand of 444,000,000,000 Feet of Commercial Value—Douglas Fir Shows Adaptability for Unusual Number of Uses—Large Bodies of Hemlock to Be Tapped—Business Is Better



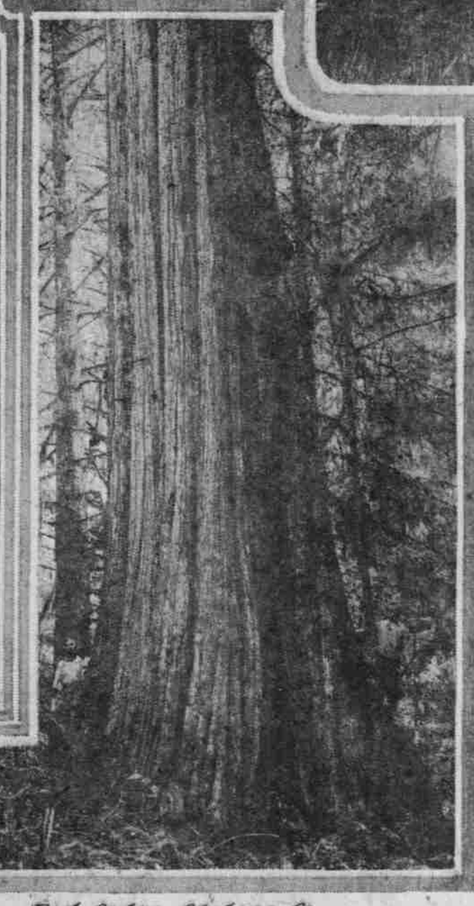
A Larch From Larch Mountain.

PHOTOS BY A.M. PRENTISS

Straight Framed Spruce In Lincoln Co.

White Pine, Which Grows East of Cascades.

A Columbia County Fir.



Red Cedar, Clatsop Co.

PROSPERITY over a long period of time—active sawmill and logging operations, employment for many thousands more men and an equable climate. That is what timber means to Oregon! With the forests of the north depleted and with the southern pine belt facing the prospect of exhaustion in 10 to 15 years, sawmill operators of the United States have their eyes on the great forests of the west. For here is found the last great stand of timber of the nation. The latest estimates made by the forest service of the quantity of standing commercial timber in all forms of ownership give Oregon 444,000,000,000 feet and Washington 301,000,000,000 feet. This recompilation of estimates has been made in response to senate resolution 311—the Capper resolution—calling upon the secretary of agriculture for information regarding the amount of timber in the United States, the rate of depletion, etc. The investigators were impressed by the inconsistencies in the various cruises and the absence of reliable and detailed information as to the amount of timber in the several counties, the amount of cut-over land, and its condition and ultimate use. Some interesting facts regarding the timber supply of Oregon and Washington were brought out by this study.

In the Douglas fir region of western Oregon and Washington there were, before the white settlement, some 28,000,000 acres of forest land, not all commercial timber, however. About 30 per cent of this acreage of timber has been devastated by fire, so that the amount of timber available is far below what it would have been if every acre contained a normal stand spared by fire. East of the Cascade range in Oregon and Washington there were originally 20,000,000 acres of forest, a minority of which was commercial yellow pine.

About 2,250,000,000 feet of logs are cut annually in Oregon and 5,500,000,000 feet of logs in Washington, including cedar cut for shingle bolts. This means the annual cutting of over 100,000 acres of Oregon's timber land and 160,000 acres of Washington's.

It is estimated that 30,000,000,000 feet of logs have been cut in western Oregon since logging operations began in 1846. The acreage cut over is placed at 880,000. Eastern Oregon is said to have lost 4,000,000,000 feet, with 500,000 acres cut over. The estimate places the cut of western Washington since 1846 at 30,000,000,000 feet, and the cut-over land at 2,250,000 acres. Eastern Washington is shown to have lost 5,000,000,000 feet, with 600,000 acres cut over.

A relatively small additional area of virgin forest has been cut by settlers and the timber burned to clear the land for agricultural use.

The commercial mature forest acres in western Oregon total 10,000,000; in private ownership are 5,952,000 acres; in state ownership, 48,000. Indian reservations, national parks and unreserved public domains occupy 1,000,000 acres and national forests total 3,000,000 acres.

Eastern Oregon's total acreage is placed at 8,775,000. Of this amount 3,345,000 are in private ownership; 30,000 in state ownership; 1,000,000 in Indian reservations, national parks and unreserved public domain; and 4,500,000 in national forests.

Western Washington has 7,500,000 acres of commercial mature forest acres. In private ownership are 4,020,000 acres; in state ownership, 170,000; in Indian reservations, national parks and unreserved public domains, 180,000; and in national forests 2,500,000.

Eastern Washington's forest acres aggregate 4,300,000, with the following divisions: 1,800,000 in national forests; 500,000 in reservations, parks and domains; 170,000 in state ownership and 1,830,000 in private ownership.

The volume of merchantable timber, log scale, in western Oregon is reported by the forest service to be 343,000,000,000 feet. Of this amount 85,500,000,000 feet are in national forests; 45,000,000,000 in reservations, parks and domains; 1,500,000,000 in state ownership, and 211 billion in private ownership.

Eastern Oregon has a total of 101,000,000,000 feet. Private ownership has 45,000,000,000; 30,000,000 feet are owned b ythe state; 11,000,000,000 feet are in reservation, parks and domains, and 46.7 billions are in national forests.

Western Washington has 274.3 billion feet. One hundred and seventy one billion are under private ownership; 32.5 in state ownership; 4.5 billion in reservations, parks and domains, and 66.5 in national forests.

Te amount in eastern Washington totals only 26.5 billion feet, with 14.5 billion in national forests; three billion in reservations, parks and domains; one billion in state ownership and eight billion in private hands.

Oregon's most valuable timber resource is its large stand of Douglas fir. This timber, sometimes called Douglas spruce, yellow fir, red fir, Oregon pine or Washington fir, is the most abundant and the largest tree in Oregon and Washington. It forms the major part of the dense stand of timber found on the western slope of the Cascade mountains. Its range varies in altitude from sea level to about 6000 feet. In soil to its liking it ordinarily reaches 150 to 190 feet in height and 3½ to 6 feet in diameter. Trees more than 200 feet tall and from 8 to 10 feet in diameter are frequently found.

It is expected that with the decline of the southern pine cut the production of Douglas fir and other species will be materially increased. At present more lumber is cut from Douglas fir each year than from any other species. Much valuable information and useful statistics on production have been furnished by C. W. Gould of the United States forest service, with headquarters in Portland. Mr. Gould gives the following as the Douglas fir production for Oregon in the last few years: 1913, 2,098,000,000 feet; 1914, 1,818,000,000 feet; 1915, 1,690,000,000 feet; 1916, 2,222,000,000 feet; 1917, 2,535,000,000 feet; 1918, 2,710,000,000 feet.

"The wood of Douglas fir varies considerably in character and color from fairly soft, fine-grained, in old slow-growth trees, to hard, coarse-grained, reddish-brown in fast-grewing timber," says Mr. Gould. "The wood is strong, tough, resilient, straight-grained, resinous and comparatively light. When slash sawed it offers an attractive grain. It also holds nails firmly and is fairly durable in contact with soil."

It has been estimated that about 60 per cent of the annual lumber cut in the United States is remanufactured at woodworking plants for articles such as furniture, boxes and the like. The fact that Douglas fir enters 37 separate plants of this character shows the adaptability of this western wood for many purposes. For long structural timbers as used in boat building, bridge work, Douglas fir has no superior. It is used extensively in manufacture of sash, doors, blinds and general mill work; boxes, crates, car building, furniture, wagon parts, wooden ware, farm implements, tanks, silos, ships, boats, fixtures, caskets, refrigerators, shade and map rollers, paving blocks, cross-arms, trunks, machine construction, wood pipe, pulleys, foundry appliances, saddletrees and many other articles. Douglas fir is used also for making cooperage, pulp and paper, veneer, cross ties, posts, poles and piling.

Resistance of fir to abraision makes it a superior wood for flooring. Its strength for its weight makes it valuable for heavy construction work such as beams, columns and a large percentage of the normal production is sold for this purpose.

Western hemlock reaches a height of 125 to 160 feet and is two to five feet in diameter. "Unlike Douglas fir, western hemlock is known by its true name," said Mr. Gould. "This fact has caused western hemlock to suffer from the prejudice, because its name immediately recalls the inferior qualities of its eastern relative, the eastern hemlock. It has been sold as Alaska pine in some markets. Because of this prejudice it has been necessary for western hemlock manufacturers to sell it with Douglas fir. The grading rules permit 10 to 15 per cent of western hemlock in filling certain grades of Douglas fir."

Larger quantities of western hemlock will be opened up as the exploitation of Douglas fir increases, for hemlock is found on higher slopes than Douglas fir. Figures showing hemlock production in Oregon are: 1914, 45,192,000 feet; 1915, 61,963,000 feet; 1916, 70,014,000 feet; 1917, 49,479,000 feet; 1918, 68,159,000 feet.

Western hemlock is hard, straight-grained, and has a decided reddish brown tinge. It is non-resinous and when dry is odorless. It is used in the wood-using industries, ships and boat building, boxes, crates, cooperage, fixtures, furniture, sash, doors, blinds, veneer, etc.

Sitka spruce trees are tall and straight. They are often 160 to 180 feet high and 3½ to six feet in diameter, though diameters of eight to nine feet are often found. A large quantity of Sitka spruce is found in Curry county, Oregon. Production of this species was increased materially in 1918, due to needs of the government aircraft. Spruce is used for boxes and building purposes. Production for Oregon follows: 1914, 63,488,000 feet; 1915, 65,827,000 feet; 1916, 96,245,000 feet; 1917, 120,647,000 feet. 1918, 215,838,000 feet.

Sitka spruce is noted for its nail-holding capacity. Its lack of odor or taste makes it superior. Some of its uses are for sash, doors, blinds, boxes, crates, car work, furniture, novelties, agricultural implements, sounding boards, piano keys, parts of musical instruments, tanks, ladders, ships, kitchen cabinets, airplanes and electrical equipment.

"Western yellow pine is commonly called yellow pine, bull pine, western soft pine and white pine, but the official term is western yellow pine," said Mr. Gould. "The trees reach a height of 125 to 140 feet, and are from six to seven feet around."

Western yellow pine production in Oregon in 1914 was 216,000,000 feet; in 1915, 189,000,000 feet; 1916, 399,000,000 feet; 1917, 469,000,000 feet; 1918, 438,000,000 feet.

The wood varies from a pale lemon to orange brown or reddish yellow. It is light, fine-grained and very slightly resinous. The largest use probably is for boxes for shipping fruits and vegetables. Western yellow pine is an ideal wood for sash, doors, blinds, columns and interior woodwork. It nails well and does not split readily.

Western white pine (pinus Monticola) attains a height of 50 to 100 feet and a diameter of 2½ to 3½ feet. It appears chiefly in Idaho and Montana, and only to a slight extent in the state of Oregon. Production in Oregon in 1918 was 2,322,000 feet.

Western red cedar has a stand of approximately 15,000,000 feet in Oregon. Its consumption is in two general classes—logs and bolts. Bolts are worked into shingles. Some logs are used for that purpose, too. Cedar's best known use is for shingles. About 78 per cent of all shingles made in the United States in 1918 came from red cedar in Oregon and Washington. Red cedar lumber production in Oregon in 1914, 4,000,000 feet; 1915, 5,000,000 feet; 1916, 6,925,000 feet, 1917, 11,489,000 feet; 1918, 10,054,000 feet.

The shingle cut follows: 1915, 336,652,000 pieces; 1916, 471,762,000 pieces; 1917, 517,652,000 pieces; 1918, 272,655,000 pieces.

Oregon took second place for lumber production in 1920, among the states of the Union, according to figures compiled by the forest service. Her production was 3,317,000,000 feet, which was a gain of 29 per cent over the previous year.

Washington led all states in the Union with a cut of 5,525,000,000 feet. The figures showed that the sawmill center of the country is gradually moving westward.

The lumber of the United States as a whole in 1920 was 33,798,800,000 feet, which was 3.2 per cent less than in 1919 and 27 per cent less than the peak in 1907. The average price of lumber at the mill increased to $38.42 a thousand feet, which is a rise of 150 per cent since 1910.

The aggregate value of the cut was $1,129,000,000. These were the highest annual values ever recorded, but do not indicate present conditions in the industry. They reflect the extremely high peak in the post-war lumber prices which was passed in the first quarter of 1920.

These were the principal statistics obtained by the forest service's 1920 canvass of American sawmills. The figures are based on reports from 15,978 active mills out of 23,243 estimated to have been in operation. Several thousand mills cutting less than 50,000 feet were not tabulated, but allowance was made for their cut.

The figures show that the states which increased their cut are all in the Pacific coast group and the Rocky mountains, Oregon, in taking second place, nosed out Louisiana. California won fifth place. In 1920 the Pacific coast and Rocky mountain district produced 35.6 per cent of the country's cut.

Coast sawmills favorably situated have developed large cargo business. The latter part of 1921 was marked by a considerable improvement in the lumber industry. A strong demand for Jap squares gave an impetus to this activity.

One of the features of the industry is the small sawmill. Many of these plants are in operation all over the state's timbered areas, and in some cases are run as side lines to other businesses. The small mills claim several advantages, among them being the ability to close down when business is dull without paying large sums in overhead

TIMBER STAND IS SHOWN BY SPECIES.

Species—	West. Ore.	West. Wash.	East. Ore.	East. Wash.
Douglas fir	275	159	13	8
Western yellow pine	7	*	65	13
Western hemlock	23	60	*	1
Western red cedar	12	32	*	1
Sitka spruce	6	6	..	..
Others	22	18	23	3
Totals	343	275	101	26

*Less than 1,000,000,000 feet.