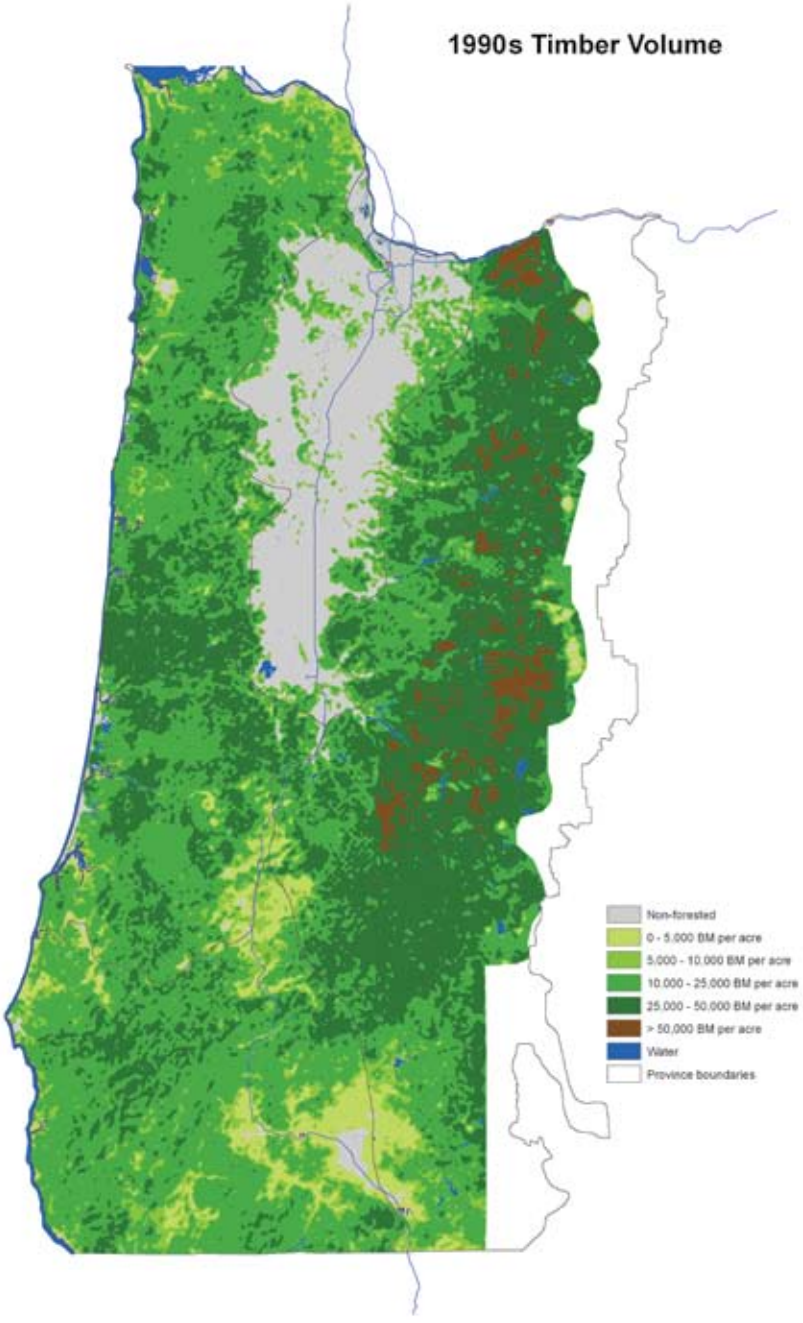
# What Do Western Oregon's Forests Look Like After a Century of Management?

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# What Do Western Oregon's Forests Look Like After a Century of Management?

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## An Oregon 150 Publication

This publication is part of Oregon's 150th birthday celebration

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# What do western Oregon's forests look like after a century of management?

The celebration of Oregon's 150th birthday is an occasion to look back at the influences that came together to create the Oregon Territory and then the state of Oregon.

A key influence was Oregon's abundant natural resources – in particular, its forests. Before settlement, native peoples appreciated the forests for their material and aesthetic qualities. They used wood to make implements for daily living, and many built their homes from wood. They gathered berries and other food in the forest's edges and clearings. In some places they used fire, one of their most effective land management tools, to clear patches of ground for better hunting and gathering.

As European-American traders and settlers moved into the Pacific Northwest, the rich Douglas-fir timber on the west side of the Cascade Range attracted early lumbering entrepreneurs. The logging of these forests and the manufacture and trade of wood products spurred economic development of Oregon. Largely because of timber, Oregon grew from a string of frontier settlements to a vibrant economic community.

An early Oregon saying, "Timber is King," acknowledged timber's critical role as an economic engine that helped build cities, railroads, highways, ships and ports. Wealth derived from timber made possible civic and cultural institutions such as schools, libraries and symphony halls.

Unquestionably, all this economic development had environmental consequences, in Oregon and across America. In the course of building a modern society, forests were cut down, prairies were plowed under, rivers were dammed and wetlands were drained – all in the name of "progress."

There is a popular perception that the rich forests existing before European-American settlement have been lost or irretrievably damaged. However, the evidence shows that perception to be inaccurate. Today's forests are of different ages and sizes than they were 100 years ago, but the area covered by forest has increased considerably, largely because of the growth of forests and the development of modern fire suppression. And, as this report will show, the amount of wood in Oregon's forests also has increased, by quite a lot in some places.

There is less older forest than there was, but the change has not been as drastic as most people think. Some people believe that prior to European-American settlement, all forests were older, that 90 percent of those forests are gone, and that the remaining older forests continue to decrease in size and volume because of timber harvesting. However, the first inventory of Oregon's forests, conducted by the U.S. Geological Survey (USGS) in about 1900, shows a dynamic patchwork of forest age classes created by large, stand-replacing fires burning in the Coast and the Cascade ranges. In the southern and eastern parts of the state, where fires were more frequent and less intense, forests were kept in a more open condition, leaving large portions of the landscape nonforested.

## Two snapshots: one old, one new

More than a century of mapping, managing and measuring has yielded quite a bit of information about Oregon's forests. Early maps provide a good general idea of what forests looked like around the end of the 19th century. From them, we know generally where logging, wildfire and other disturbances have occurred during the past 100 years, and we know much about patterns of regrowth in forest ecosystems. And with modern tools such as satellites, other remote imaging techniques, and records from extensive on-the-ground mapping, we can gain an accurate and precise picture of what western Oregon forests look like today.

In 1900, the USGS published a map of Oregon that showed forested areas, classifying them according to the volume of timber per acre in board measure. A simplified version of this historic map is shown in Figure 1.

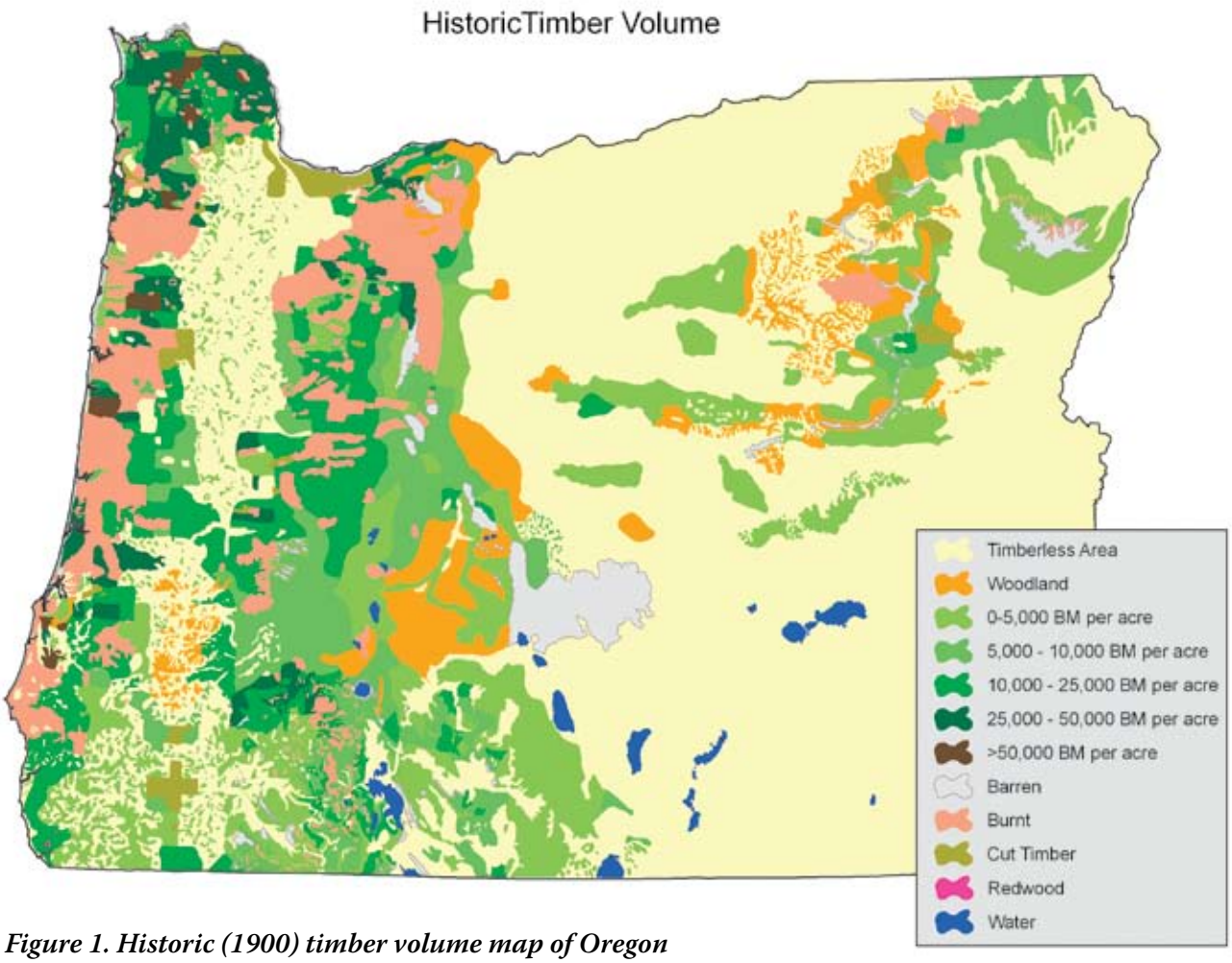


*Figure 1. Historic (1900) timber volume map of Oregon*

In the mid-1990s, the Oregon Forest Industries Council (OFIC), a trade association representing more than 50 Oregon forestland owners and forest products manufacturing-related firms, set out to create a similar map of the western part of the state, utilizing information gathered at thousands of sampling plots on private and public lands combined with Landsat satellite data. Landsat is a U.S. government program that provides satellite images of the earth and geographic information systems (GIS) data for public use. OFIC's aim was to describe current forest conditions in ways that were lacking on the historic map. In particular, OFIC wanted to portray forest species (for example, conifer or deciduous trees), size and structure of the forest (for example, whether it consists of seedlings or larger trees), and forest density (canopy cover, the percentage of forested area covered by tree canopy). Next, with the help of experts in forest inventory and growth modeling and computer mapping, the OFIC map was converted to timber volumes, and then harmonized to the measurement units in the historic map, to enable an "apples to apples" comparison of the two maps. Those processes are described in more detail later in this paper.

Comparing these two maps yields an interesting picture of how forests in western Oregon have changed during the past century from both human and natural influences. The two maps are snapshots in time of ever-changing forest conditions. The historic map does not represent any timeless or static state – it was drawn at a particular moment in a dynamic history. In the same way, the modern map captures conditions at the end of a century in which human influences have been significant across the whole landscape. One of those influences has been ongoing, conscious management of forests by public and private owners. The forests today do not look the same as the forests of 50 years ago, and 50 years hence they will look different still.

In other words, a forested landscape is something of a moving target. Comparing these two snapshots and analyzing the influences – human and natural – that shaped and continue to shape Oregon's forests reveals a lot about the variability and resilience of forests in the Northwest.

# Mapping timber in 1900

The historic map was developed by the USGS for the purpose of identifying the best stands of commercial timber in Oregon. The map shows 12 categories of land cover, eight of which depict forestlands of one kind or another. Table 1 shows a summary of the acres found in each category for the statewide map.

Five of these categories show lands containing commercially important timber. The various volume classes are depicted in shades of green from light to dark. The darkest green sections of the map show areas containing the highest volumes of timber per acre. Timber volume is expressed as board measure, a standard that predates today's standard of board feet, Scribner scale. A board foot is a piece of lumber one inch thick, 12 inches wide and 12 inches long, or its equivalent. A typical American house contains about 10,000 board feet of lumber. A board measure is the same dimension as a board foot, but was calculated using a different formula.

A sixth category, "Woodland," denotes deciduous and other forest types that were not considered commercially valuable. Two other forest categories are "Cut Timberland, Restocking" and "Cut Timberland, Not Restocking." Together these two categories of forestlands covered about 1.2 percent of the state's total land base and about 3 percent of its timberland in 1900. The "Timberless" category depicts valleys and other areas that were not forested in presettlement times. About 55 percent of the state's total land area fell into that category in 1900, compared to about 52 percent of the state's total land area at the end of 2008.

| Land Class | Acres | Percent |
|---|---|---|
| Timberless area | 34,215,430 | 55.2% |
| Woodland | 2,807,885 | 4.5% |
| 0-5,000 BM per acre | 7,984,702 | 12.9% |
| 5,000-10,000 BM per acre | 4,524,726 | 7.3% |
| 10,000-25,000 BM per acre | 4,105,615 | 6.6% |
| 25,000 – 50,000 BM per acre | 1,447,539 | 2.3% |
| > 50,000 BM per acre | 217,526 | 0.4% |
| Barren | 1,486,375 | 2.4% |
| Burnt | 4,042,603 | 6.5% |
| Cut timber | 745,098 | 1.2% |
| Redwood | 1,934 | <0.1% |
| Water | 435,809 | 0.7% |
| Sum of all classes | 62,015,242 | 100.0% |

*Table 1. Historic (1900) data by volume class (board measure)*

Even though the historic mapmakers did not depict it as such (because the focus of interest was timber), the "Burn" category should also be considered a forest category. The dense coniferous forests of the Pacific Coast are naturally prone to infrequent-but-severe fires. These stand-replacing fires tend to burn so hot that they kill nearly all the trees and most of the other vegetation on the ground. The fires restart the forest's successional process: during subsequent decades, grasses, ferns and shrubs return, new tree seedlings sprout and grow, and a new forest eventually returns to the burned land.

Natural and human-caused fires are important drivers of change in Oregon's forests. The latter half of the 19th century saw an increase in both the incidence of wildfire and the number of acres burned. These fires were triggered by natural causes such as lightning and also by settlers, who set the forest afire either accidentally or deliberately as a technique to clear the land. At the time the historic map was drawn, more than one-third of the Coast Range coniferous forests and about one-quarter of the Cascades Range forests were regenerating themselves after stand-replacing fires.

Thus the landscape was a patchwork of forests of different sizes and structures. Especially in eastern and southwestern Oregon, frequent lightning-caused ground fires kept much of the forested area in an open condition. In southwestern Oregon, researchers have estimated that more than 5,000 fires have been extinguished on federally managed forestlands since 1920. Fire suppression during the 20th century has resulted in an increase in both forested area and forest density. Most of the areas depicted as burned on the historic map have come back to forest.

Figure 2 shows the historic timber volume map of western Oregon. The historic map is not a portrait of presettlement forest conditions; it portrays a landscape already influenced by both Native American and European-American land uses. Timber had been harvested on a small scale in Oregon since the 1820s, and the harvesting increased with the arrival of Oregon Trail settlers beginning in the 1840s and with the 1849 California gold rush. So what was mapped in 1900 is not necessarily what was there at Oregon's statehood in 1859 and certainly not what was there in 1804, when Lewis and Clark came through. Nevertheless, the map gives a good idea of the forest coverage in western Oregon at the time.

# Mapping timber in the 1990s

The 1990s timber volume map (Figure 3) was created by Sanborn, a geospatial mapping company under contract to OFIC. The description of their process is somewhat technical, but worth following for the reader who wishes to gain an understanding of the wealth of data available and the power of geospatial techniques.

To develop the 1990s map, Sanborn first digitized the hand drawn historic map using GIS and other geo-referencing tools. This resulted in a digital version of the historic map necessary to conduct a computer-based GIS comparison of the maps from the two eras.

The mapmakers then combined data from the OFIC map on forest conditions (stand/structure, species and crown closure) with forest inventory data from survey plots maintained by the U.S. Forest Service's Forest Inventory and Analysis program to develop timber volume "polygons." Timber volume polygons are digital mapping units that share a common range of volume, such as zero-5,000 board feet per acre or 10,000-25,000 board feet per acre. Using the satellite data for western Oregon, they broke down the vegetation type attribute into 10 classes, plus a class for water (Table 2). They broke down the structure size attribute into six classes (Table 3) and the canopy cover attribute into four classes (Table 4).

Next, the mapmakers narrowed their focus to the coniferous-forest type classes. They estimated how much wood volume, on average, was contained in each acre of coniferous forest lying within each combination of size class and canopy cover class (Table 5). Each of these three-way combinations was called a stratum. The mapmakers ended up with a total of 222 strata. Then they chose the most applicable Forest Service plot measurements for 44 key strata and arrived at average volume estimates. They extrapolated these estimates to the remaining 178 strata.

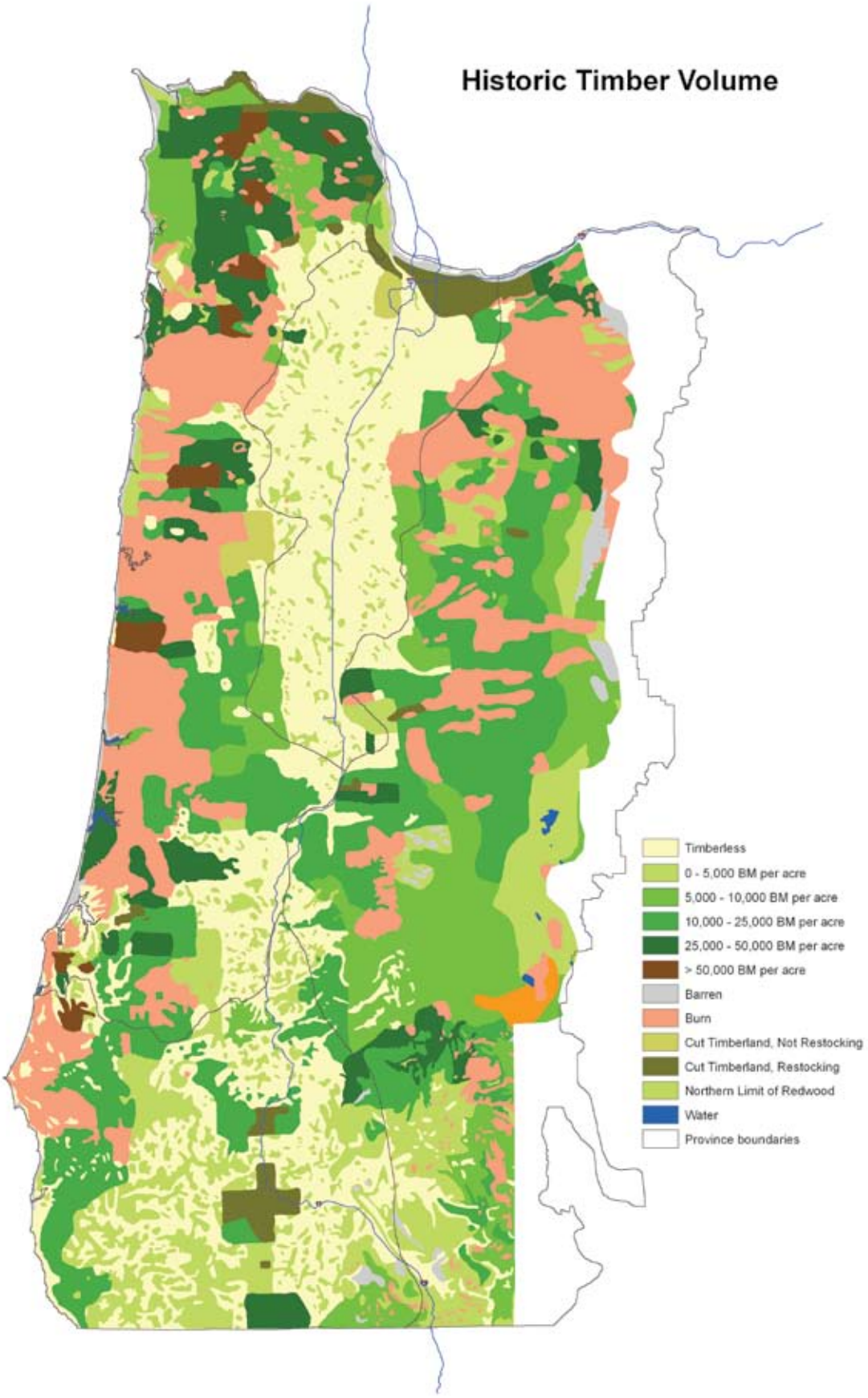


*Figure 2. Historic (1900) timber volume map of western Oregon*

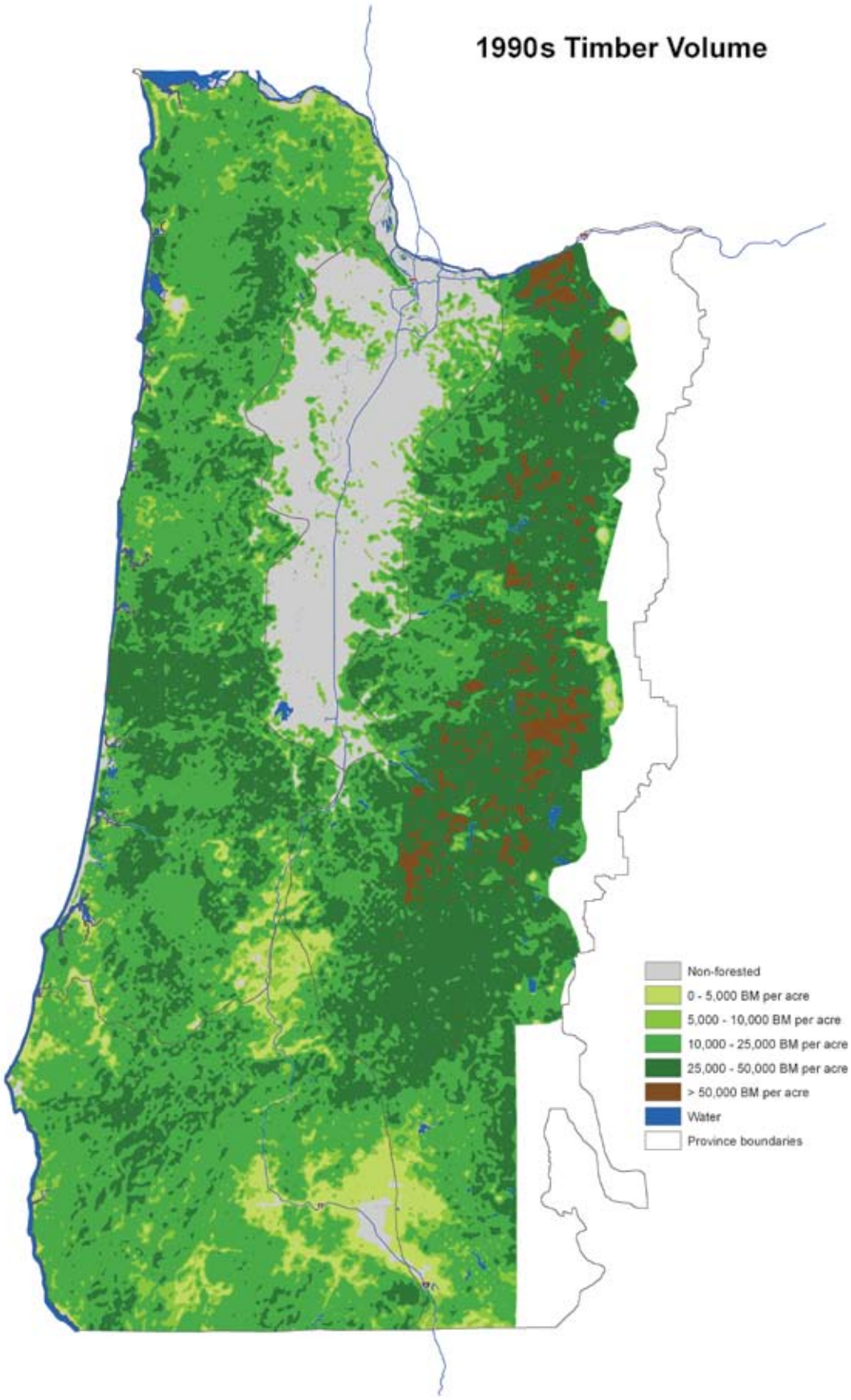


*Figure 3. 1990s timber volume map of western Oregon*

Next, the standard for measuring wood volume had to be harmonized between the two maps. The modern mapmakers used an equation to convert the board-foot figures to board measure, the standard in the early 20th century.

Then they remapped the modern map's volume polygons using the same classification system as the historic map – the final step needed to allow an "apples to apples" comparison of the two maps in the same units of measurement. Table 6 shows the acres within each volume class in the historic map by geographic province and county. Table 7 shows the acres within each volume class in the 1990s map by geographic area and county. Table 8 shows the total acres and percentage of acres in each volume class in the historic and 1990s timber volume maps.

| Class Code | Class Definition |
|---|---|
| CO | Conifer |
| CH | Conifer-hardwood |
| HC | Hardwood-conifer |
| HP | Hardwood-pine |
| HW | Hardwood |
| NF | Non-forest |
| PH | Pine-hardwood |
| PI | Pine |
| UN | Unclassified |
| WA | Water |
| YF | Young forest |

*Table 2. Vegetation type classes*

| Size Class Code | Definition |
|---|---|
| 4SS | Seedling-sapling |
| 5PO | Poletimber |
| 6SM | Small sawtimber |
| 7MD | Medium sawtimber |
| 8LG | Large sawtimber |
| 9XL | Extra-large sawtimber |

*Table 3. Structure/Size classes*

| Canopy Cover Code | Definition |
|---|---|
| 30 | 11 – 40% |
| 50 | 41 – 60% |
| 70 | 61 – 80% |
| 90 | 81 – 100% |

*Table 4. Conifer strata canopy cover classes*

| | 11-40% | 41-60% | 61-80% | 81-100% |
|---|---|---|---|---|
| Seed-sap/ss | 4,875 | 6,093 | 9,558 | 6,494 |
| Pole | 9,393 | 13,228 | 14,725 | 11,968 |
| Small saw | | 14,269 | 15,501 | 20,283 |
| Medium saw | | 27,861 | 17,714 | 25,103 |
| Large saw | | | 39,221 | 38,981 |
| Extra-large saw | | 41,184 | 37,554 | 58,302 |

*Table 5. Average softwood volumes per acre by size class and canopy cover class in the conifer stratum (board feet per acre)*

| Province/ County | Timberless | Woodland | 0-5,000 BM per acre | 5,000-10,000 BM per acre | 10,000-25,000 BM per acre | 25,000-50,000 BM per acre | >50,000 BM per acre | Barren | Burn | Cut Timberland, Not Restocking | Cut Timberland, Restocking |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cascades | 434,201 | 72,556 | 1,095,000 | 1,595,175 | 1,855,711 | 313,023 | 0 | 148,692 | 1,441,393 | 0 | 45,668 |
| Coast Range | 881,247 | 0 | 361,880 | 439,685 | 887,323 | 1,013,169 | 222,162 | 112,758 | 1,634,522 | 104,446 | 98,810 |
| Klamath | 1,429,685 | 0 | 1,137,534 | 148,079 | 711,978 | 103,691 | 23,840 | 33,446 | 261,005 | 0 | 138,876 |
| Willamette Valley | 1,876,014 | 0 | 258,905 | 136,759 | 69,511 | 21,792 | 0 | 29,655 | 100,331 | 40,767 | 118,478 |
| | | | | | | | | | | | |
| Benton | 191,158 | 0 | 19,601 | 16,166 | 79,717 | 5,183 | 0 | 0 | 52,354 | 69,847 | 0 |
| Clackamas | 275,183 | 0 | 44,544 | 43,185 | 163,988 | 81,601 | 0 | 4,479 | 561,406 | 239 | 26,570 |
| Clatsop | 859 | 0 | 23,838 | 150,495 | 19,765 | 176,553 | 62,820 | 23,597 | 29,344 | 0 | 24,819 |
| Columbia | 115 | 0 | 11,239 | 96,915 | 0 | 197,143 | 5,512 | 20,944 | 52,776 | 0 | 37,346 |
| Coos | 170,022 | 0 | 116,846 | 0 | 305,564 | 103,476 | 40,108 | 15,327 | 258,609 | 0 | 12,079 |
| Curry | 263,549 | 0 | 258,979 | 0 | 320,976 | 0 | 0 | 7,068 | 185,981 | 0 | 0 |
| Douglas | 870,379 | 49,126 | 388,531 | 689,476 | 670,976 | 235,860 | 0 | 7,437 | 308,380 | 0 | 7,012 |
| Jackson | 499,582 | 0 | 681,868 | 264,290 | 161,407 | 35,395 | 0 | 38,270 | 103,402 | 0 | 4,561 |
| Josephine | 371,340 | 0 | 417,973 | 0 | 71,946 | 59,166 | 0 | 0 | 0 | 0 | 127,301 |
| Lane | 384,604 | 0 | 305,292 | 505,658 | 1,067,880 | 68,342 | 588 | 42,511 | 547,624 | 0 | 16,911 |
| Lincoln | 11,012 | 0 | 42,852 | 0 | 51,309 | 58,801 | 66,147 | 16,924 | 377,021 | 0 | 0 |
| Linn | 454,900 | 0 | 156,704 | 256,534 | 357,211 | 6,238 | 0 | 30,472 | 207,816 | 0 | 6,227 |
| Marion | 311,689 | 0 | 99,726 | 49,363 | 120,583 | 22,222 | 0 | 8,271 | 151,984 | 0 | 150 |
| Multnomah | 29,981 | 0 | 12,690 | 1,295 | 16,444 | 37,196 | 0 | 33,093 | 16,860 | 5,857 | 125,407 |
| Polk | 239,886 | 0 | 39,550 | 0 | 53,167 | 83,666 | 21,770 | 0 | 24,725 | 12,926 | 0 |
| Tillamook | 31,653 | 0 | 35,862 | 63,121 | 11,214 | 219,667 | 48,242 | 20,001 | 247,618 | 18,662 | 1,332 |
| Washington | 282,198 | 0 | 35,116 | 10,160 | 21,915 | 36,667 | 531 | 0 | 33,898 | 32,367 | 11,471 |
| Yamhill | 227,383 | 0 | 41,331 | 12,545 | 982 | 15,775 | 287 | 0 | 155,528 | 5,353 | 0 |

***Table 6. Acres per strata in the historic timber volume map (1900)*** Note: BM is board measure.

| Province/County | Non-Forested | 0-5,000 BM per acre | 5,000-10,000 BM per acre | 10,000-25,000 BM per acre | 25,000-50,000 BM per acre | >50,000 BM per acre | Water |
|---|---|---|---|---|---|---|---|
| Cascades | 35,692 | 204,563 | 269,576 | 2,157,446 | 3,910,751 | 389,865 | 50,514 |
| Coast Range | 116,406 | 194,241 | 418,220 | 3,431,818 | 1,604,833 | 349 | 26,822 |
| Klamath | 64,479 | 445,316 | 491,456 | 2,475,187 | 520,602 | 0 | 3,449 |
| Willamette Valley | 1,840,693 | 4,026 | 370,376 | 362,794 | 57,282 | 0 | 27,034 |
| | | | | | | | |
| Benton | 126,140 | 2,958 | 28,311 | 189,037 | 87,240 | 0 | 336 |
| Clackamas | 195,807 | 2,305 | 104,036 | 281,012 | 577,486 | 36,815 | 3,741 |
| Clatsop | 1,174 | 21,679 | 50,018 | 395,447 | 48,928 | 0 | 560 |
| Columbia | 33,219 | 28,072 | 100,514 | 245,669 | 12,585 | 0 | 2,830 |
| Coos | 20,916 | 51,043 | 90,861 | 620,711 | 240,892 | 0 | 3,841 |
| Curry | 6,813 | 24,145 | 95,685 | 752,560 | 162,484 | 0 | 745 |
| Douglas | 13,141 | 208,537 | 221,090 | 1,402,565 | 1,378,285 | 1,879 | 9,628 |
| Jackson | 56,741 | 328,979 | 269,971 | 935,266 | 190,168 | 0 | 8,955 |
| Josephine | 3,871 | 103,955 | 133,864 | 733,689 | 73,841 | 0 | 170 |
| Lane | 202,787 | 11,851 | 98,039 | 671,346 | 1,700,299 | 235,702 | 29,707 |
| Lincoln | 3,991 | 4,811 | 28,089 | 387,172 | 201,589 | 0 | 1,910 |
| Linn | 362,794 | 7,840 | 80,460 | 434,028 | 546,833 | 37,403 | 6,753 |
| Marion | 356,866 | 782 | 45,811 | 102,428 | 227,413 | 27,642 | 3,032 |
| Multnomah | 111,824 | 159 | 19,349 | 44,611 | 51,040 | 49,002 | 5,625 |
| Polk | 175,699 | 3,574 | 40,254 | 181,735 | 73,897 | 0 | 528 |
| Tillamook | 10,516 | 22,097 | 26,800 | 496,174 | 147,894 | 0 | 1,189 |
| Washington | 189,281 | 1,270 | 42,679 | 152,500 | 77,541 | 0 | 1,056 |
| Yamhill | 181,938 | 1,359 | 51,285 | 182,451 | 41,553 | 0 | 600 |

**Table 7. Acres per strata in the 1990s timber volume map** Note: BM is board measure.



Finally, the two maps were overlaid electronically and the degree of change in wood volume within each stratum was calculated. The degree of change was expressed in terms of how many volume classes' difference there was within a given area. For example, if the wood volume in a given area was zero-5,000 board measure units per acre in 1900 and 25,000-50,000 board measure units per acre in the 1990s, the volume in that area would have increased by three volume classes during the past century.

Figure 4 is a map showing the differences in wood volume in the forests of western Oregon, by number of volume classes, between 1900 and 2004. Table 9 shows the actual acres that changed within each volume class.

| | Historic Acres | Historic % | 1990s Acres | 1990s % |
|---|---|---|---|---|
| 0-5,000 BM per acre | 7,084,631 | 36.5% | 844,805 | 4.3% |
| 5,000-10,000 BM per acre | 2,320,587 | 12.0% | 1,547,186 | 8.0% |
| 10,000-25,000 BM per acre | 3,524,317 | 18.2% | 8,422,613 | 43.3% |
| 25,000 – 50,000 BM per acre | 1,452,183 | 7.5% | 6,093,186 | 31.3% |
| > 50,000 BM per acre | 246,003 | 1.3% | 390,202 | 2.0% |
| Non-forested | 4,785,321 | 24.7% | 2,145,548 | 11.0% |

***Table 8. Summary of Total Acres in Historic and 1990s Timber Volume Maps***
Note: BM is board measure.

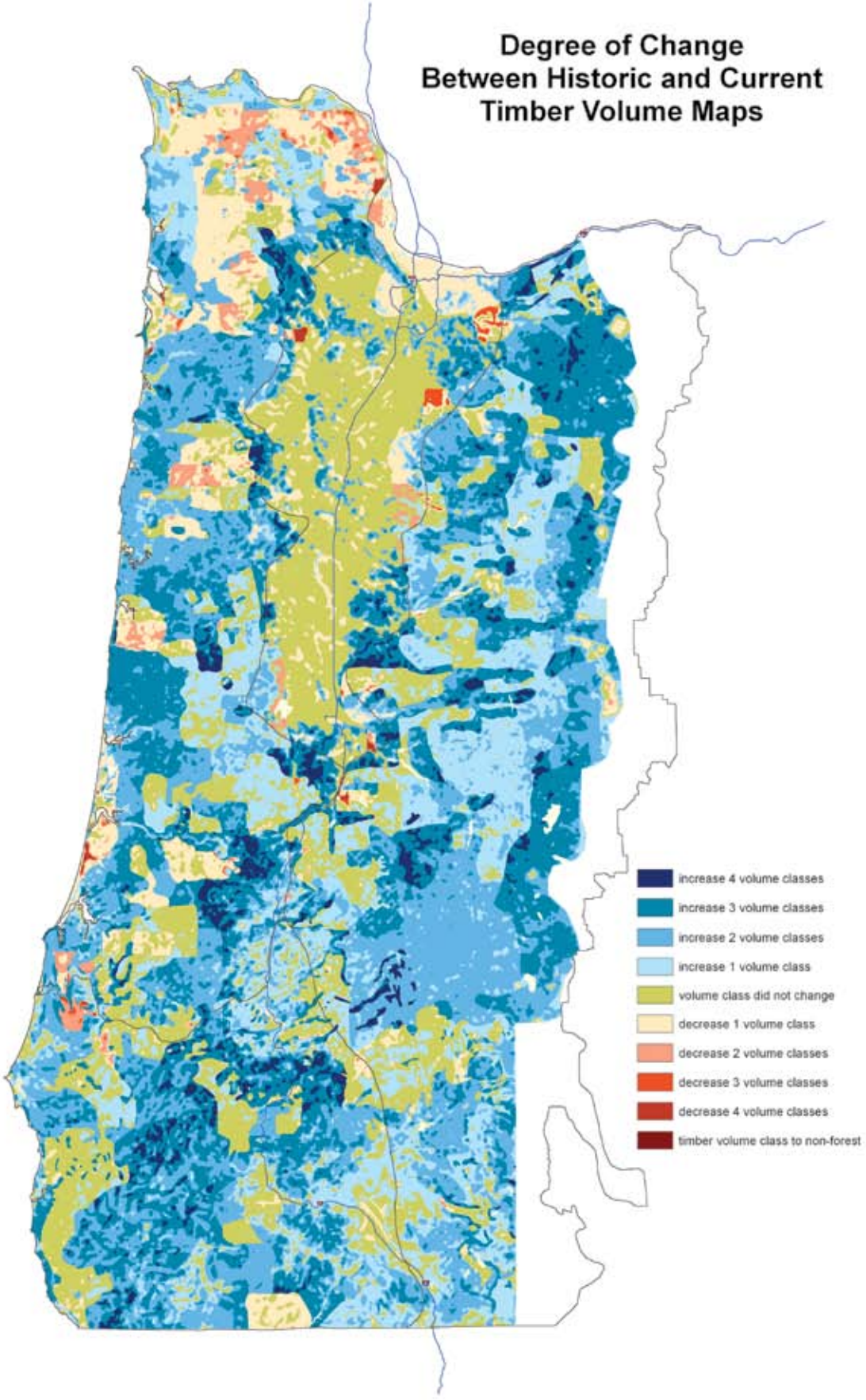


*Figure 4. Degree of change between historic and 1990s timber volume*

# Surprising differences

A comparison of the two maps shows that the volume of wood in western Oregon coniferous forests has increased during the last 100 years, even as the age structure and spatial distribution of these forests have changed. Of the total acres of such forests in western Oregon, 69 percent show an increase in wood volume since 1900. Volume on most of these acres has increased by a magnitude of two or more volume classes. In other words, about two-thirds of the coniferous forest acreage in western Oregon contains more wood volume than it did in 1900 – in some areas quite a bit more.

Moreover, the average wood volume per acre has shifted upward during the past century. In 1900, the dominant volume class (the one containing 36.5 percent of conifer-forested acres) was the lowest, zero-5,000 board measure units per acre. This is partly a reflection of the frequency of wildfires, which kept large areas of forest in relatively young ages. Today the dominant volume class is in the middle: 43.3 percent of conifer-forested acres contain 10,000 to 25,000 board measure units per acre.

| Degree of Change | Total Acreage Changed | Percent of Total Changed Acres |
|---|---|---|
| Percent of Total Acres that Increased in Volume | | 69.2% |
| Percent of Total Acres with No Change | | 21.0% |
| Percent of Total Acres that Decreased in Volume | | 9.8% |
| | | |
| Increase by 5 Volume Classes | 53 | < 0.1% |
| Increase by 4 Volume Classes | 577,537 | 3.0% |
| Increase by 3 Volume Classes | 4,045,815 | 20.9% |
| Increase by 2 Volume Classes | 5,239,614 | 27.1% |
| Increase by 1 Volume Class | 3,503,807 | 18.1% |
| No Change in Volume Class | 4,062,666 | 21.0% |
| Decrease by 1 Volume Class | 1,516,547 | 7.8% |
| Decrease by 2 Volume Classes | 310,845 | 1.6% |
| Decrease by 3 Volume Classes | 46,701 | 0.2% |
| Decrease by 4 Volume Classes | 21,848 | 0.1% |
| Decrease by 5 Volume Classes | 3 | < 0.1% |

*Table 9. Acres of change between classes in the historic and 1990s timber volume maps*

The distribution of wood volume across the landscape has also changed. Historically, forests of the higher volume classes were located mostly in the Coast Range. The historic map shows more than 200,000 acres in the Coast Range with wood volume greater than 50,000 board measure units; no acres of forest in that category are shown in the Cascade

Range. The 1990s map, in contrast, shows 348 high volume acres in the Coast Range and 389,000 acres in the Cascades. As can be seen on the map, much of the decrease in high volume acres in the Coast Range occurred in the northwestern area of the state and can be attributed to three factors: the large Tillamook fires in the 1930s and 1940s, historical logging of the easily accessible high volume timber stands along the Columbia River and population expansion and development in the Portland area.

The historic map did not depict the age of forests per se, but wood volume can be considered as a rough proxy. Some forests in 1900 contained more large, old trees than today's forests on average, because most of these acres had not yet been commercially logged. In contrast, on today's second- or third-growth managed forests, the volume of wood is contained in smaller, more numerous trees.

Even so, a significant quantity of the almost 400,000 acres of high volume forest in the Cascades today consists of federally managed forest under wilderness protection or other set-asides. In addition, as a matter of federal policy, there has been a steep reduction in logging on national forests since the early 1990s. As a result, many acres of reserved or otherwise unlogged forests in the Cascades are getting older. Barring wildfire or changes in their legal or administrative status, these forests will continue to grow into old forests.

## The management century

Management of western Oregon's forests during the past 150 years has added to the natural dynamics that shape forest landscapes. Today's forests are younger on average than those of 1900 but, as this comparison shows, Oregon's forests are alive and thriving, with more forested acres and volume than in 1900.

The 20th century might be called "the management century" with respect to American forests. The early 1900s marked a time when patterns of resource use shifted toward a conservation ethic. The era of progressive, scientific, publicly informed forest management was born.

This is not to say that all forest management has produced the best possible outcomes. Clearly some techniques are more effective and environmentally benign than others. Management of something as dynamic as a forest is a learn-by-doing proposition, and forest managers have learned much during the past century about how forest ecosystems respond to various disturbances. Forest practice laws and rules have generally kept up with the research – especially in Oregon, which regulates forest practices more strictly than most other states. Of the 50 states, only 13 have a forest practices act and statewide regulations. Oregon's forest practices act, enacted in 1971, was the nation's first, and it has been amended, updated and improved many times since then as new science has been brought to bear on forest practices.

Moreover, the goals of forest management have evolved through the decades to meet owners' objectives and also society's demands – whether for timber, watershed protection, wildlife or recreational and aesthetic values. Disputes about the proper objectives of forests have led to societal conflicts of values that even the best forest management cannot resolve.

Despite these conflicts and public misperceptions, the following conclusions can be drawn from a side-by-side comparison of the two maps of western Oregon's forests:

- There is more wood volume in Oregon's west side forests today than at the beginning of the 20th century.
- More land is covered by forests today than in 1900.
- Substantially more wood is growing than is being harvested.
- There is an estimated 2 million to 5 million acres of older forests in Oregon, most of it in federal forest reserves.
- Under current policies, the amount of older forests in Oregon will continue to increase over the next century.
- Oregon has science-based forest protection laws and practices that continue to evolve with emerging science and public values.
- Oregon's management ethic respects noncommercial values of forests, including wilderness and wildlife protection.

Oregonians can mark the state's sesquicentennial by celebrating the forests that helped make Oregon the land of empire builders. With appropriate management, they will keep on providing not only timber, but all of the natural resources we've come to expect and enjoy for another 150 years and beyond.


Rediscover Oregon's Forests

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